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British Association for the Advancement of
Science

BRISTOL MEETING, 1898

TWELFTH AND FINAL REPORT

ON THE

NORTH-WESTERN TRIBES OF CANADA

LONDON
OFFICES OF THE ASSOCIATION
BURLINGTON HOUSE, W.

Price 1s. 6d.

4

56

Adam

Canoe Creek

B.

58

mm.

1,640

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735

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The North-Western Tribes of Canada.—Twelfth and Final Report of the Committee, consisting of Professor E. B. TYLOR (Chairman), Sir CUTHBERT E. PEEK (Secretary), Dr. G. M. DAWSON, Mr. R. G. HALIBURTON, Mr. DAVID BOYLE, and Hon. G. W. ROSS, appointed to investigate the Physical Characters, Languages, and Industrial and Social Conditions of the North-Western Tribes of the Dominion of Canada.

	PAGE
I. <i>Physical Characteristics of the Tribes of British Columbia, by FRANZ BOAS and LIVINGSTON FARRAND</i>	1
II. <i>The Chilcotin, by LIVINGSTON FARRAND</i>	18
III. <i>The Social Organisation of the Haida, by FRANZ BOAS</i>	21
IV. <i>Linguistics, by FRANZ BOAS</i>	27
V. <i>Summary of the Work of the Committee in British Columbia, by FRANZ BOAS</i>	40
APPENDIX.— <i>Index to Reports, IV.—XII.</i>	57

THE following Report contains the results of field-work undertaken under the auspices of the Committee during the summer of 1897. The work was carried out by Messrs. Franz Boas and Livingston Farrand. A brief summary of the results of the work of the Committee has been drawn up by Dr. Boas, and forms part of this Report.

While the work of the Committee has materially advanced our knowledge of the tribes of British Columbia, the field of investigation is by no means exhausted. The languages are known only in outline. More detailed information on the physical types may clear up several points that have remained obscure, and a more detailed knowledge of the ethnology of the northern tribes seems desirable. Ethnological evidence has been collected bearing upon the history of development of the culture-area under consideration; but no archaeological investigations have been carried on which would help materially in solving these problems.

For these reasons it is a matter of congratulation to know that the ethnological investigation in British Columbia will not cease with the operations inaugurated by the Committee. Ethnological and archaeological work in the Province, in the adjoining States and Territories of the United States, and on the coast of Siberia is being carried on by expeditions the expense of which is borne by Mr. Morris K. Jesup, President of the American Museum of Natural History. It is hoped that these investigations may carry the work initiated by this Committee a step farther.

I. *Physical Characteristics of the Tribes of British Columbia.*
By FRANZ BOAS and LIVINGSTON FARRAND.

The anthropometric measurements made during the season of 1897 were carried out by both of us according to the system applied in the previous Reports of the Committee. Before entering into a discussion of the results

it is necessary to show that the measurements of the two observers are comparable. We have carried out this comparison for the head measurements in which the personal equation is liable to attain considerable value. We give here the averages of the various measurements taken on I., Stlēmqō'lēqumq men; II., Stlēmqō'lēqumq women; III., Chilcotin men. When we call A the averages and E the mean errors, we find:—

—	Length of Head		Breadth of Head		Height of Face	
	Boas A. E.	Farrand A. E.	Boas A. E.	Farrand A. E.	Boas A. E.	Farrand A. E.
I. . .	186.0 ± 0.9	187.1 ± 0.9	158.5 ± 0.8	157.9 ± 1.2	119.9 ± 1.0	121.5 ± 1.5
II. . .	179.6 ± 1.4	177.9 ± 1.4	149.8 ± 0.9	151.9 ± 1.1	114.5 ± 1.4	114.5 ± 1.4
III. . .	187.0 ± 1.0	186.1 ± 1.0	159.6 ± 1.2	157.9 ± 0.9	124.3 ± 1.4	124.3 ± 1.3

—	Breadth of Face		Height of Nose		Breadth of Nose	
	Boas A. E.	Farrand A. E.	Boas A. E.	Farrand A. E.	Boas A. E.	Farrand A. E.
I. . .	149.0 ± 0.8	148.8 ± 0.9	52.5 ± 0.6	50.9 ± 0.8	40.6 ± 0.5	39.4 ± 0.5
II. . .	138.0 ± 0.7	139.9 ± 1.2	49.1 ± 1.1	48.6 ± 0.9	35.5 ± 0.6	35.2 ± 0.6
III. . .	149.1 ± 0.7	147.2 ± 1.0	53.4 ± 0.6	52.9 ± 0.6	39.9 ± 0.5	38.7 ± 0.5

The differences between these averages are throughout slight. In order to show the comparability of the measurements still more clearly we give here the values of the differences and their errors, and the average difference and its error for each measurement which have been obtained by weighting the individual differences.

Differences between Measurements taken by Boas and Farrand and their Errors.

—	Length of Head	Breadth of Head	Height of Face	Breadth of Face	Height of Nose	Breadth of Nose
I. . .	+1.1 ± 1.3	-0.6 ± 1.4	+1.6 ± 1.8	-0.2 ± 1.1	-1.6 ± 1.0	-1.2 ± 0.7
II. . .	-1.7 ± 2.0	+2.1 ± 1.4	0.0 ± 2.0	+1.9 ± 1.4	-0.5 ± 1.4	-0.3 ± 0.8
III. . .	-0.9 ± 1.4	-1.7 ± 1.5	0.0 ± 1.9	-1.9 ± 1.2	-0.5 ± 0.8	-1.2 ± 0.7
Average.	+0.1 ± 0.8	-0.1 ± 0.8	+0.6 ± 1.1	-0.3 ± 0.7	-0.8 ± 0.5	-0.9 ± 0.4

It appears from this table that the measurements are strictly comparable, and that the personal equation may be neglected.

The tribes which were principally studied are the Northern Shuswap, the Lillooet, the Chilcotin, and the northern tribes of the coast. The Shuswap are divided into divisions in a manner similar to the divisions of the Ntlakya'pamuq. We have collected measurements of the Stlēmqō'lēqumq, the division of the tribe living on Fraser River, north of the town of Lillooet, of the Stl'atēmq of North Thompson River, of the Shuswap'ōe of Kamloops, and a few of the group inhabiting Buonaparte River. We have treated the Lillooet of Fraser River, who are mixed with Shuswap, and Ntlakya'pamuq separately from the purer groups of Seton and Anderson Lakes. Following are the tables of measurements:—

Length of Head of Men.

Tribe:	Mm.	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	Ave- rage	No. of Cases	
Haida																																					104.8	9
Nass River Indians																																					105.3	27
Tsimshian																																				105.4	16	
Bilqula																																				105.7	26	
Spuzum																																				108.3	12	
Ug'mik																																				106.7	18	
Niakapamuq'os																																				106.4	27	
Niamc'hemuq																																				106.8	28	
Harrison Lake																																				108.1	16	
Lilloet (Anderson Lake)	110																																			108.1	20	
Lilloet (Fraser River)																																				108.1	17	
Shung'ep'muq																																				108.1	17	
Shuswap (kamloops)																																				108.1	48	
Chitootin																																				106.0	36	

Length of Head of Women.

Tribe:	Mm.	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	Ave- rage	No. of Cases
Haida																																				182.0	4
Nass River Indians																																				186.2	21
Tsimshian																																			186.3	3	
Kwakwidi																																			186.9	7	
Spuzum																																			184.3	5	
Ug'mik																																			180.9	21	
Niakapamuq'os																																			178.6	88	
Niamc'hemuq																																			180.8	16	
Harrison Lake																																			178.0	12	
Lilloet (Anderson Lake)																																			178.7	21	
Lilloet (Fraser River)																																			179.2	22	
Shung'ep'muq																																			179.2	32	
Chitootin																																			177.2	22	

Breadth of Face of Men.

Tribe:	137	138	139	140	141	142	143	144	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	Average	Number of Cases	
Haida																																152.6	9
Nass River Indians																																155.8	27
Tsimshian																																156.7	15
Bilqula																																152.6	28
He'li'suk																																156.4	7
Aw'ky'ənōq																																152.0	9
Kwakiutl																																159.2	53
Delta of Fraser River																																159.9	7
Spuzzum																																148.7	13
U'á'm'k't																																148.7	18
Nlák'yapamú'ō'ō																																146.3	28
Nkamtel'nemúq																																147.1	23
Harrison Lake																																151.5	15
Lillooet (Anderson Lake)																																147.3	20
Lillooet (Fraser River)																																148.4	17
Sliemog'iqumq																																148.9	48
Shuswap (Kamloops)																																148.9	14
Chilcoot																																148.2	36

Breadth of Face of Women.

Tribe:	127	128	129	180	181	182	183	184	186	187	188	189	190	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	156	166	167	Average	Number of Cases	
Haida																																	149.2	4
Nass River Indians																																	141.2	21
Tsimshian																																	143.8	3
Bilqula																																	143.0	7
He'li'suk																																	148.0	7
Aw'ky'ənōq																																	145.9	12
Kwakiutl																																	143.2	40
Spuzzum																																	144.0	6
U'á'm'k't																																	150.9	21
Nlák'yapamú'ō'ō																																	136.7	38
Nkamtel'nemúq																																	137.6	16
Harrison Lake																																	140.3	13
Lillooet (Anderson Lake)																																	140.1	20
Lillooet (Fraser River)																																	141.1	22
Sliemog'iqumq																																	139.1	32
Chilcoot																																	141.3	22

56	Adam
58	B.
mm. 1,640	Canoe Creek
1,333	
735	
1,696	
807	
36	

Height of Nose of Men.

Mm.	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	Average	Number of Cases
<i>Tribe:</i>																					
Haida.			2	1	1		1			2		1	1							50.9	8
Nass River Indians		1	4	5	2	1	5	3	1	1		2	1	1						50.6	22
Tsimshian		1			4	1	1	4	2	3	1	5	2	2	2		1		2	54.0	15
Bilqula																				57.3	27
Hé'iltuk.					1	3		1	1		3	1								51.2	5
Aw'ky'endq								1	1			1								54.1	7
Kwakiutl			2	2		2	5	3	3	4	4	10	7	2	2	1		1		55.7	46
Nkamto'nenuq.																				52.0	16
Lillooet (Anderson L.)				2	1	1	3	2	1	2	1									50.7	12
Lillooet (Fraser R.)				1	4	1	1	1	1	2	1	3	2							53.9	12
Kamloops			1	4	2	6	6	4	2	7	3	2			2					55.5	14
Stlemq'iqumq		1	1	3	3	4	4	3	2	9	1	4				1				52.1	39
Chilcootin																				53.2	36

Height of Nose of Women.

Mm.	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	Average	Number of Cases	
<i>Tribe:</i>																											
Haida.											1	2														47.2	4
Tsimshian															1	1	1									50.0	3
Bilqula															1	1	1				1					53.9	7
Hé'iltuk.														1	1	1	1									48.8	5
Aw'ky'endq						1					1	3	1	1	5	5	2									49.1	11
Nlakapannuq'ie		1						1	1	2	3	4	3	1	1	2	2									47.3	33 ¹
Lillooet (Anderson L.)					1	1		1	1	3	1	2	1	1	2	1	2									47.1	19
Lillooet (Fraser R.)																										45.6	14
Stlemq'iqumq																										48.8	28
Chilcootin						1																				48.1	16

¹ In the corresponding table of the Tenth Report of the Committee (p. 16) there is a misprint. The average for the Uta'mukt must read 47.0, number of cases 17. For the Nlakapannuq'ie 47.3 and 29.

Breadth of Nose of Men.

Mm.	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Average	Number of Cases
<i>Tribe:</i>																		
Haïda						1	3	2	1	4	1				1		40.7	9
Nass River Indians			1	1	2	3	3	3	3	4	3			1			39.8	22
Tsimshian	1				1	3	2	1	4	1		1					39.4	14
Bilqula			3	4	2	5	1	5	2	3					1		39.8	26
Hé'itsuk									1	1	2	1					42.6	5
Aw'ky'énôq				1	1			2	2	1	1						39.7	7
Kwakwiltl			4	3	4	8	8	6	1	6	3	1		1			39.3	45
Nkaantel'nemûq			2	4	1	4	1	2	3	3							37.8	16
Lilloet (Anderson Lake)			1			3	1	3	1	3							39.6	12
Lilloet (Fraser River)		1	1			4	2	1	1	1	2						38.8	12
Kamloops						2	1	3	5	1	2						40.6	14
Stlémqo'lequmq			2		4	3	6	6	3	9	3	3					40.2	39
Chilcootin		1		3	3	7	5	4	7	4	1	1					39.3	36

Breadth of Nose of Women.

Mm.	30	31	32	33	34	35	36	37	38	39	40	41	42	43	Average	Number of Cases
<i>Tribe:</i>																
Haïda					1	1	1		1						35.7	4
Tsimshian				1	1	1	2			1			1		38.3	3
Bilqula			1	2											34.8	7
Hé'itsuk									1	1	1		1		39.5	4
Aw'ky'énôq				1		6	1	1	1						35.0	11
Ntlakypamûq'o'e		3	3	5	5	6	5	4	2						34.8	83
Lilloet (Anderson Lake)		1	3	2	3	1	3	4	4	2					36.2	19
Lilloet (Fraser River)			1	2	3	4	6	2	2						35.4	14
Stlémqo'lequmq			2	3	4	6	2	4	3	3					35.4	28
Chilcootin	1		1		1	2	4	3	2		1				36.1	16

	B.	Canoe Creek	Adam	56
m.m.	58			
1,640				
1,333				
735				
1,696				
807				

0, number of ones 17; for the Ntlakypamûq'o'e 47.3 and 29.

the average for the Uta/mkt must read

Facial Index of Men.

Per cent.	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	Average	Number of Cases.
<i>Tribe:</i>																										
Haida			1		2				1	1		1	1	1											80.6	9
Tsimshian			2		1	1		1	2	2	1		2	2		1									80.7	15
Lillooet (Anderson L.)		1			1			1	2		4	1	1												80.8	12
Lillooet (Fraser R.)					1			1	3	1			1	2		2	1								82.7	12
Shuswap (St'lemq'Inqumq)	1	1		1	1	2	1	3	7	8	4	1	2	2	1		1	1		1					81.3	39
Chilcotin	1			2		1			3	3	1	3	3	5	6	3	2		1		1			1	83.9	86

Facial Index of Women.

Per cent.	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	Average	Number of Cases	
<i>Tribe:</i>																				
Haida							1	1	1		1							80.7	4	
Tsimshian					1					1				1				81.7	3	
Lillooet (Anderson L.)	2	2	2		1	1		1	3	2	1	1	1	2				79.5	19	
Lillooet (Fraser R.)		1		2		1	1	3	1		2	2			1			80.4	14	
Shuswap (St'lemq'Inqumq)				1		1	2	4	2	5	4	2	3		1		3	82.6	28	
Chilcotin	1				1	2		2		2	2	2		2		1	1	82.1	16	

56	Adam
58	Canoe Creek
mm.	B.
1,640	
1,333	
735	
1,696	
807	

Index of Length of Arm of Men.

Per cent.	{ from to	40.5 40.9	41.0 41.4	41.5 41.9	42.0 42.4	42.5 42.9	43.0 43.4	43.5 43.9	44.0 44.4	44.5 44.9	45.0 45.4	45.5 45.9	46.0 46.4	46.5 46.9	47.0 47.4	47.5 47.9	48.0 48.4	Average	Number of Cases
<i>Tribe:</i>																			
	Lillooet (Anderson L.)			1	2	1	1	2	2	2	2	2	2	2	—	—	—	44.7	12
	Lillooet (Fraser R.)			—	2	1	—	2	3	3	1	—	1	—	—	—	—	44.4	11
	Shuswap (Stlemqo')		1	—	1	4	3	5	8	5	5	3	2	—	—	—	—	44.1	37
	Chilcotin	1	—	2	—	1	3	9	2	7	4	5	—	1	—	—	—	44.4	36

Index of Length of Arm of Women.

Per cent.	{ from to	39.0 39.4	39.5 39.9	40.0 40.4	40.5 40.9	41.0 41.4	41.5 41.9	42.0 42.4	42.5 42.9	43.0 43.4	43.5 43.9	44.0 44.4	44.5 44.9	45.0 45.4	45.5 45.9	46.0 46.4	46.5 46.9	47.0 47.4	47.5 47.9	48.0 48.4	Average	Number of Cases
<i>Tribe:</i>																						
	Lillooet (Anderson L.)	1	—	—	—	—	—	—	1	2	3	3	—	1	3	—	1	—	—	—	1	19
	Lillooet (Fraser R.)	—	—	—	—	—	2	1	1	—	3	2	2	1	3	—	—	—	—	—	—	14
	Shuswap (Stlem- qo'Iequmq)	—	—	—	—	1	—	2	—	2	8	3	—	5	2	3	—	1	1	—	1	28
	Chilcotin	—	—	—	—	—	—	—	2	2	2	3	1	1	1	1	—	1	—	—	—	15

Index of Height sitting of Men.

Per cent.	{ from to	48.0 48.4	48.5 48.9	49.0 49.4	49.5 49.9	50.0 50.4	50.5 50.9	51.0 51.4	51.5 51.9	52.0 52.4	52.5 52.9	53.0 53.4	53.5 53.9	54.0 54.4	54.5 54.9	55.0 55.4	Average	Number of Cases
<i>Tribe:</i>																		
	Lillooet (Anderson L.)	1	—	—	2	—	1	1	—	—	1	1	1	2	—	1	52.0	12
	Lillooet (Fraser R.)	—	—	—	—	—	1	—	2	2	2	2	1	1	1	1	52.9	12
	Shuswap (Stlem- qo'Iequmq)	—	—	—	1	2	3	2	2	6	5	6	2	5	—	2	52.4	38
	Chilcotin	—	—	—	—	—	2	2	2	6	4	5	3	2	4	—	52.5	33

807
1,696
735
1,333
1,640
mm.
58
B.
Canoë Creek
Adam
56

Index of Height sitting of Women.

Per cent.	from		to		50.5	51.0	51.5	52.0	52.5	53.0	53.5	54.0	54.5	55.0	Average	Number of Cases
	49.0	49.4	49.5	49.9	50.0	50.4	50.9	51.4	51.9	52.4	52.9	53.4	53.9	54.4		
<i>Tribe:</i>																
Lillooet (Anderson Lake)	1	—	1	—	1	2	—	3	—	2	—	1	—	1	51.8	19
Lillooet (Fraser River)	—	—	—	—	1	2	2	2	2	1	2	1	—	1	52.6	14
Shuswap (Stlémqó'lequmq)	—	—	—	—	2	2	6	8	3	1	3	1	1	—	52.8	28
Chilootin	—	—	—	—	1	3	—	2	—	2	—	—	—	1	52.4	14

Index of Finger-reach of Men.

Per cent.	98	99	100	101	102	103	104	105	106	107	108	109	110	Average	Number of Cases
	99	100	101	102	103	104	105	106	107	108	109	110			
<i>Tribe:</i>															
Lillooet (Anderson Lake)	—	—	—	—	—	—	2	2	3	1	1	—	1	105.6	12
Lillooet (Fraser River)	—	—	—	1	—	—	3	2	2	—	1	—	—	104.3	12
Shuswap (Stlémqó'lequmq)	2	—	2	1	3	6	9	3	5	3	1	1	1	104.1	37
Chilootin	—	—	3	—	3	3	10	5	8	1	1	—	1	104.4	36

Index of Finger-reach of Women.

Per cent.	99	100	101	102	103	104	105	106	107	108	Average	Number of Cases
	100	101	102	103	104	105	106	107	108			
<i>Tribe:</i>												
Lillooet (Anderson Lake)	—	2	4	1	4	3	2	—	1	2	103.3	19
Lillooet (Fraser River)	1	1	2	2	1	4	3	2	—	—	103.5	14
Shuswap (Stlémqó'lequmq)	1	3	3	2	8	1	6	1	2	1	103.3	28
Chilootin	—	2	3	2	2	2	1	2	1	—	103.0	15

A short analysis of the material contained in the preceding tables and in previous Reports of the Committee allows us to distinguish with certainty three distinct types of man among the natives of British Columbia. These are the northern type, embracing the Haida, Nass River Indians, and Tsimshian; the Kwakiutl type, embracing the Bilqula, Hē'iltuk, Aw'ky'enôq, and the tribes of the Kwakiutl; and the Thompson River type, embracing the Lillooet and Thompson River Indians. These types may be characterised by the following measurements:—

	Northern Type		wakiutl Type		Thompson River Type	
	Average	Mean Error	Average	Mean Error	Average	Mean Error
<i>I. Men.</i>						
Stature	mm. 1675	± 7.40	mm. 1645	± 5.90	mm. 1634	± 7.90
Length of Head	194.6	± 0.80	188.7	± 1.19	186.5	± 0.55
Breadth of Head	160.6	± 0.67	159.0	± 1.00	155.9	± 0.52
Breadth of Face	153.7	± 0.85	151.4	± 0.54	147.4	± 0.41
Height of Face	121.6	± 0.87	128.0	± 0.67	120.3	± 0.71
<i>II. Women.</i>						
Stature	1542	± 5.70	1537	± 5.90	1540	± 5.00
Length of Head	185.6	± 0.88	186.9	± 1.64	179.5	± 0.53
Breadth of Head	153.2	± 0.90	154.3	± 1.44	150.0	± 0.41
Breadth of Face	143.9	± 0.80	144.3	± 0.64	138.8	± 0.40
Height of Face	114.3	± 0.93	119.3	± 0.82	112.5	± 0.54

There are good indications of the existence of other types, but they cannot be distinguished with absolute certainty from the types enumerated here. It seems very probable that an examination of the Lillooet of Pemberton Meadows will establish beyond a doubt the existence of the peculiar type which in the Seventh and Tenth Reports of the Committee was named the Harrison Lake type, which is characterised by a very broad and very short head, small stature, large nose, and small face. Our measurements of the Lillooet were undertaken with a view of determining the existence of this type, but they did not extend far enough south. The characteristics of the Coast Salish of Washington and Southern British Columbia are doubtful, because the prevalent practice of deforming the head does not permit us to compare their head measurements with those of other tribes. Their faces show the same breadth as those of the other coast tribes, but their noses are much lower and flatter than those of the Kwakiutl. The Kamloops and other Shuswap tribes are closely allied to the Thompson River type, but it seems that the dimensions of their heads are a little larger, their statures a little higher. The Chilcotin resemble the Shuswap much, but their faces are flatter, their noses not so highly elevated over the face.

A study of the profiles of these types shows several important phenomena that are not elucidated in the tables of measurements. The northern type shows, on the whole, a rounded forehead; a nose which tends rather to be concave than convex, with the exception

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Adam

Canoe Creek

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Records of Sixteen Children, September 1891 to June 1897.

Names	I. Full-blood girls						II. Full-blood boys				III. Half-blood girls				IV. Half-blood boys						
	Age 1894	Marianne	Rosalie	Julia	Augustine	Kinnie	Julie	Lisette	George	Harry	Alexander	Bob	Margie	Palmerden	Aimee	Euzabeth	Andre	Basil	Palmerden	Alex	Leonard
S stature	1172	1376	1308	1340	1481	1487	1449	1257	1301	1300	1318	1408	1311	1218	1380	1427	1390	1300	1427	1318	1437
H eight of shoulder	+100	+108	+182	+116	+67	+113	+17	+108	+135	+78	+115	+64	+151	+142	+64	+151	+142	+64	+151	+142	+64
H eight of arm	+133	+102	+05	+78	+43	+86	+10	+07	+137	+78	+08	+72	+44	+103	+07	+44	+103	+07	+44	+103	+07
F inger-reach	+100	+66	+13	+60	+45	+13	+48	+48	+77	+51	+40	+37	+04	+117	+79	+04	+117	+79	+04	+117	+79
H eight sitting	+186	+94	+216	+133	+62	+70	+17	+110	+147	+94	+120	+50	+169	+143	+37	+148	+148	+37	+148	+143	+37
W idth of shoulders	+70	+48	+73	+65	+10	+63	+12	+9	+30	+4	+41	+38	+70	+25	+14	+78	+66	+14	+78	+66	+14
	+20	+36	+47	+42	+33	+27	+6	+19	+28	+8	+23	+15	+38	+38	+4	+307	+200	+307	+200	+38	+4
L ength of head	177	170	171	176	175	170	184	173	176	163	176	170	176	170	176	176	170	176	176	170	184
B readth of head	+4	+1	+4	+3	+3	+4	+1	+3	+147	+2	+2	+2	+2	+2	+2	+6	+4	+2	+6	+4	+6
H eight of face	+3	+0	+2	+4	+107	+118	+10	+102	+0	+2	+1	+2	+3	+8	+3	+8	+3	+2	+8	+3	+1
B readth of face	+6	+3	+11	+7	+106	+114	+4	+77	+13	+1	+3	+5	+9	+106	+2	+107	+98	+2	+107	+98	+2
H eight of nose	+5	+7	+4	+7	+129	+134	+134	+127	+124	+4	+124	+137	+182	+124	+2	+132	+125	+2	+132	+125	+2
B readth of nose	+3	+4	+4	+45	+46	+47	+43	+46	+45	+48	+41	+46	+39	+46	+3	+44	+44	+4	+44	+44	+4
	+31	+34	+1	+32	+33	+34	+31	+31	+25	+31	+34	+34	+34	+1	+33	+33	+1	+33	+33	+1	
	+1	+1	+5	+2	+4	+4	+2	+2	+4	+1	+0	+2	+2	+0	+1	+6	+1	+0	+6	+1	+6
L ength-breadth index	80.8	82.7	81.0	80.7	85.7	84.4	84.8	87.3	83.6	83.6	84.0	87.1	85.7	84.7	85.7	84.7	85.7	84.7	85.7	84.7	81.0
F acial index	+0.6	+0.5	+1.8	+0.8	+0.9	+0.8	+0.5	+0.4	+1.9	+0.2	+0.4	+0.2	+0.4	+0.2	+0.4	+0.3	+0.4	+0.1	+0.3	+0.4	+1.6
N asal index	+2.3	+5.5	+5.0	+2.2	+1.8	+0.3	+2.7	+2.8	+6.8	+1.9	+0.5	+1.9	+1.7	+78.2	+78.4	+86.2	+81.1	+0.5	+86.2	+81.1	+3.4
	+1.2	+3.9	+11.4	+1.3	+7.0	+8.7	+2.9	+4.2	+7.0	+2.1	+2.0	+3.3	+0.2	+78.9	+75.0	+73.3	+72.7	+0.5	+73.3	+72.7	+0.2
	+4.3	+4.5	—	+6.7	+4.7	+2.7	+4.2	+2.8	+2.9	+2.1	+2.0	+3.3	+0.2	+78.9	+75.0	+73.3	+72.7	+0.5	+73.3	+72.7	+0.2
I ndex of length of arm	+3.5	+1.4	—	+0.3	+1.2	+0.5	+4.2	+2.8	+2.9	+2.1	+2.0	+3.3	+0.2	+78.9	+75.0	+73.3	+72.7	+0.5	+73.3	+72.7	+0.2
I ndex of finger-reach	+0.7	+0.2	+0.4	+0.3	+1.2	+0.5	+4.2	+2.8	+2.9	+2.1	+2.0	+3.3	+0.2	+78.9	+75.0	+73.3	+72.7	+0.5	+73.3	+72.7	+0.2
I ndex of height sitting	+5.6	+1.9	+1.9	+0.9	+0.7	+2.8	+0.0	+0.2	+0.8	+1.2	+0.8	+0.1	+0.3	+10.9	+10.2	+10.4	+10.2	+2.8	+10.2	+10.4	+10.0
I ndex of width of shoulders	21.8	+0.4	+1.7	+0.1	+0.9	+0.8	+0.2	+3.8	+2.7	+2.9	+2.1	+2.0	+3.3	+0.2	+78.9	+75.0	+73.3	+72.7	+0.5	+73.3	+72.7
	—	+2.8	+0.4	+1.0	+1.3	+0.2	+2.4	+2.5	+2.8	+2.1	+2.0	+3.3	+0.2	+78.9	+75.0	+73.3	+72.7	+0.5	+73.3	+72.7	+0.2
	—	+0.9	+0.4	+1.0	+1.3	+0.2	+2.4	+2.5	+2.8	+2.1	+2.0	+3.3	+0.2	+78.9	+75.0	+73.3	+72.7	+0.5	+73.3	+72.7	+0.2

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Canoe Creek

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II. *The Chilcotin.* By LIVINGSTON FARRAND.

The Chilcotin tribe occupies a territory lying chiefly in the valley of the Chilcotin River. They are somewhat isolated in situation, though on the east they are only separated from the Shuswap by the Fraser River. Between these two tribes, however, there is little intercourse. Toward the north their nearest neighbours are the related Tinneh tribe of Carriers or Porteurs; and while distance prevents frequent communication, they regard each other as more or less akin, and the relations are cordial. On the west a pass leads over the coast range to Bella Coola; and, as many Chilcotin make annual expeditions to the coast, they are fairly familiar with the people of that region. Toward the south the only tribe at present with whom they come in contact is the Lillooet, and with them but seldom.

Intercourse with the coast Indians, and particularly with the Bella Coola, was formerly much more frequent than now, for the reason that the early seat of the Chilcotin was considerably farther west than at present, while the Bella Coola extended higher up the river of that name into the interior. The results of this early intercourse is seen very clearly in certain of their customs, and particularly in details of their traditions. In former times and down to within about thirty years the centre of territory and population of the Chilcotin was Anahem Lake, and from here they covered a considerable extent of country, the principal points of gathering beside the one mentioned being Tatlah, Puntze, and Chizaikut Lakes. They extended as far south as Chilco Lake, and at the time of the salmon fishing were accustomed to move in large numbers down to the Chilcotin River to a point near the present Anahem Reservation, always returning to their homes as soon as the fishing was over. More recently they have been brought to the eastward, and to-day the chief centres of the tribe are four reservations—Anahem, Stone, Risky Creek, and Alexandria—the first three in the valley of the Chilcotin, and the last named, consisting of but a few families, somewhat removed from the others, on the Fraser. Besides these there are a considerable number of families leading a semi-nomadic life on the old tribal territory in the woods and mountains to the westward. These latter, considerably less influenced by civilisation than their reservation relatives, are known by the whites as Stone Chilcotin or Stonies.

Although subjected to more or less intimate intercourse with the whites for a comparatively short period, the Chilcotin have assimilated the customs and ideas of their civilised neighbours so completely that their own have largely disappeared except possibly among the families still living in the mountains, whom it was not practicable to reach.

The following notes were obtained with considerable difficulty, but the information was for the most part confirmed by the independent testimony of different individuals.

As regards the social organisation, persistent inquiry failed to disclose any traces of a clan system. The family unit was the family in the contracted sense, viz., the parents and unmarried children. Marriage was ordinarily monogamous, but many men had two wives. Recognised blood relationship was and is always an absolute bar to marriage, and at present this recognition seems to extend no further than first cousins. There seem to have been no local preferences in contracting marriages. Marriage

with an individual of the same village was not regarded as more desirable than one with a person from another locality, nor *vice versa*.

Of laws of inheritance information is rather doubtful. It was stated that in former times upon the death of a man the widow received nothing, while his relatives as far as cousins divided the estate equally. It did not descend to the children alone. To-day if a man dies the widow inherits all, apparently in trust for the children, the sons, if there be such, managing the property. No information was obtained as to the procedure in case the widow remarries. The above change of custom, if true, strongly suggests missionary influence. If an unmarried man dies leaving property it is said that his relatives as far as cousins divide the estate. A man never married his brother's widow—she was still regarded as his own sister

Social ranks are not apparent at present, but there were formerly nobility, common people, and slaves, corresponding to a great extent to the system of the coast tribes. Wealth and the giving of feasts were the means of obtaining higher rank, and this seems to have been open to the lower class provided they had the means. Slaves were captives. From time immemorial, before the splitting up and settling upon the reservations, there seems to have been a head chief known as A'nahem, whose seat was at Anahem Lake, and whose influence extended over the whole tribe. The last great chief of that name died a few years ago, and his son is now the so-called chief of the Anahem Reservation.

Shamans, or medicine-men, are known by the term 'd'i'y'i'n,' which denotes any person of extraordinary powers who is supposed to have extra-human aid, and he becomes such by reason of some remarkable dream or experience. The deliberate candidate for such honours was accustomed to go away alone to the top of some mountain or other desolate place and there fast for several days, during which time the favourable dream might or might not come to him. The favourable dream was usually a vivid one of some animal or bird, and this became his protector and helper ever afterward. The d'i'y'i'n would then always wear some distinctive mark of his protector, such as teeth, claws, wings, feathers, &c. Aside from success in hunting and war, special powers were obtained in the cure of disease. The method of treatment was first the singing of the particular song of the d'i'y'i'n, which was his own property and used by no one else. The song was usually accompanied by dancing, but not always. Then followed the application of the hands to the body of the patient, and usually sucking through the hands placed over the diseased spot, thus drawing out the sickness. The hands were then held up in front of and above the face, and, being suddenly opened, the sickness would be sharply blown out into the air, and so expelled. Occasionally, after sucking the d'i'y'i'n would open his hands and show a grasshopper or other object, which he exhibited as the cause of the illness, and which had been thus removed. During such treatment the d'i'y'i'n usually carried a pouch containing certain charms, and, while wearing certain insignia as above stated, he did not dress in any particular robe as far as could be learned. Anyone might become d'i'y'i'n, even young boys and girls.

In former times the winter houses of the Chilcotin were the ordinary circular subterranean lodges, the excavation being about four feet in depth. There are none of these in existence to-day. The summer lodges were rectangular in shape, made of bark stretched over poles, and with only the roof and back covered, the front and two sides being thus left open. They

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were ordinarily built in pairs facing each other and with a common fire between. At the present time the winter houses are of logs, often very well built and in summer tents are used, canvas for the purpose being obtained from the whites.

It was said that formerly the canoes of this tribe were made of bark stretched over wooden ribs. Both bow and stern were sharp, and were not raised above the level of the rest of the canoe. The largest of these canoes would carry about ten men. Later and at the present time the canoes are dug-outs from single logs.

Cooking was done by roasting or boiling, the latter by means of hot stones in water-tight baskets of bark or woven fibre. The hot stones were manipulated by tongs of wood.

The weapons used in war were bows and arrows and war clubs, the latter made of a stout stick about the length of the arm with a stone head fastened by leather thongs. None of these weapons are now in existence apparently. Spears with points made of the horn of the mountain sheep were used in hunting, but not in war. The arrow points were of stone. Fishing spears with detachable heads of bone were formerly very common, but are now rarely seen, and a large bone hook fastened to a rod like a gaff was also sometimes used.

In war a sort of wooden armour was worn over the chest and back as far down as the waist. This protection, in shape like a sleeveless shirt, was made of tough sticks about an inch in diameter, fastened together with leather thongs, and was sufficient to turn arrows. The head was also protected by a thick leather cap covering the entire head except the face. According to the only obtainable account of war decorations, the upper part of the face was painted black and the lower part red. Besides the leather helmet, war head-dresses were worn of the skins of birds and of the heads of animals, so arranged that the beak or mouth came forward over the forehead. The most popular skin for such head-dresses was said to have been that of the raven. Any man who was a *di'yi'n* would wear the skin of his own protecting bird or animal.

Ear ornaments were formerly quite universally worn by both sexes, and usually in the form of small buttons of various materials attached to short strings and suspended from the lobes of the ears, which were pierced for the purpose. Older people are still found with pierced ears, but the pendants are seldom seen. Rings were also worn in the ears, but the Chilcotin say that this was a coast custom which they adopted, and was not so common as the other.

Nose ornaments of rings and straight bars inserted through the septum were also worn. One old man further described a lip ornament as a small straight bar piercing the upper lip, but this was not confirmed, and no description of labrets was obtained.

Tattooing appears to have been pretty universal, the face, chest, arms, and legs being the parts most favoured. Little information as to designs could be obtained, but it was asserted that there was no difference in the designs used by the two sexes. This is of course doubtful. The materials used in the tattooing process were bone needles and charcoal.

In general the decorative art of the Chilcotin was very slightly developed. They did not carve their weapons or utensils, and the basketry designs were and are of the simplest character.

It was said that in the old days cremation was used in the disposal of the dead, the ashes being afterwards buried. Since the arrival of the

missionaries ordinary burial has been practised, the graves being protected by a low fence of logs.

The traditions of the Chilcotin are particularly interesting as showing the influence of their coast and inland neighbours, details of foreign origin being clearly traceable. Their chief tradition is of *lëndix'teux*, a being half man and half dog, who came to the Chilcotin country from the north-west, and is their culture-hero. The story recites the adventures of *lëndix'teux* and his three sons on their journey through the land. These adventures are chiefly with animals who before that time had been dangerous to man, but who were now overcome and made harmless. Methods of hunting and various arts were then taught to the people who previously had been wretched and ignorant. The widespread conception of the culture-hero as a trickster is especially well exemplified in this tale.

In the other traditions obtained, none of which are as full nor as important as the *lëndix'teux* myth, but which cover a wide range of subjects, the raven is possibly the chief character, some of the stories in which he figures being identical with the raven tales of the coast, while others are apparently independent in origin. Few myths regarding natural phenomena were heard, and those which were told are of doubtful origin. The general impression was made of a not very rich independent mythology, but of surprising receptivity to foreign influences.

III. *The Social Organisation of the Haida.* By FRANZ BOAS.

In the Fifth Report of the Committee I briefly described the social organisation of the Haida according to information obtained from a few Indians from Skidegate. I pointed out (p. 27) that the tribe is divided into two phratries, each of which consists of a number of clans the members of which are connected by ties of consanguinity, not by an imaginary relationship through the totem. I also pointed out that the clans sometimes bear the names of the places at which their houses stand. Since this statement was made I have had opportunity to investigate the social organisation of the Tsimshian and of the Kwakiutl in greater detail. The result of these inquiries on the Tsimshians was published in the Tenth Report of the Committee, and of those on the Kwakiutl in the Report of the United States National Museum for 1895 (pp. 311-738). These investigations proved that among the southern tribes of the Pacific coast the village community was the primitive unit, and that clans originated through the coalition of village communities.

During the past summer I had an opportunity of investigating the social organisation of the Haida in somewhat greater detail, although not as thoroughly as might be desired. The information thus obtained corroborates the views expressed in the Fifth Report of the Committee, and emphasises the fact that the village community is the constituent element of the phratry.

In order to make this clear I will first of all give a list of the Haida families. The two Haida phratries are called *Gyit'ina'* and *K'oā'la*, and every family belongs either to the one or to the other group. Each family has a number of emblems which are commemorative of certain events in the earliest history of the family. The name of the chief of each family is hereditary. For purposes of comparison I give the list of villages recorded by Dr. G. M. Dawson in his Report on Queen Charlotte Islands (Report of Progress, Geological Survey of Canada, 1878-79, Montreal, 1880).

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KĀK-OH (Dawson, *l.c.*, p. 162 B).

Not in my list ; perhaps identical with Iā'k'ō ? (see below).

KY'IŪ'ST'A (Dawson : Kioo-sta, p. 162 B).

Gyit'ina' : Sta'stas or Saŋgatl lā'nas. Chief : Ē'densā (=glacier).
Crests : Frog, beaver, raven, eagle. Chief's grave : Frog.
An ancestor of the Sta'stas family met a giant frog in
Tsiqoa'gets. Girls when reaching maturity wear a hat
that is painted green (tlt'ē'ndadjang), the paint being
obtained in the river Naēde'n. Houses : 1, K'ēgēngē
nas. 2, K'ōē'kyitsgyit. 3, Kun nas. 4, Nakhodā'das.
5, Skyil nās. Skyil is the mistress of copper who endows
with wealth those who meet her. 6, Sk'ōlhahā'yut.
7, Naxa'was.

K'a'was. Chief : Ēltlenē'. Crests : Beaver, sgra'ngō, eagle.
The sgra'ngō is a man who was transformed into a monster
because he was living on raw fish and birds. He lives
in a cave. He has long ears and wears a high hat. He
carves birds as though they were large game and carries
the parts home separately. When he throws them down
it gives a loud noise. House : G'ōtnās.

K'a'nguatl lā'nai. Chief : Tāgyia'. Crests : Frog, eagle,
beaver.

Tōgyit'inai'. Chief : Kuns. Crest : Eagle.

K'ōā'la : Tōstlenglnagai'. Chief : Gwaisganengk'aiwa's. Crests :
Ts'iliā'las (killer whale with raven wings), killer whale,
bear, thunder bird.

(The two last named belong to the village Too of Dawson, p. 170 B.)

IĀ'K'Ō and DĀ'DENS (Dawson : Tartance, p. 162 B).

K'ōā'la : Yak' lā'nas. Chief : Gēsawa'k. Crests : Bear, moon, dog-
fish, killer whale, wolf, devilfish.

K'aok'ē'owai. Chief : G'atsō'ēn. Crests : Killer whale, owl,
bear, woodpecker.

K'ōē'tas. Chief : Hōtselē'ng. Crests : Bear, killer whale,
moon.

Gyit'ina' : Ts'ātl lā'nas. Chief : Gyit'ing'oda' and Kunkoya'n. Crests :
Halibut, eagle, beaver, land otter (the last said to have
been adopted recently).

S'ale'ndas. Chief : Īdzaanak'a'tlā. Crests : Frog, beaver,
starfish, evening sky.

NEAR DĀ'DENS.

K'ōā'la : Tās lā'nas. Chief : Sk'anā'l. Crests : Land otter, killer
whale, woodpecker, cirrus.

K'ANG (Dawson : Kung, p. 163 B).

Gyit'ina' : Sak'lā'nas. Chief : Gula'c. Crests : Eagle, sculpin, beaver.

K'ōā'la : Kyā'nusla. Chief : Hā'nsgyina'i. Crest : Killer whale.

WĪTS'A.

Gyit'ina': WĪts'a gyit'inai'. Chief: Ètlgyiga. } Crests: Eagle, hum-
 Tòtlgya gyit'inai'. Chief: Stétla. } ming-bird, beaver,
 Tséts gyit'inai'. Chief: Nasgá'tl. } sculpin, skate
 Dzós háedrai'. Chief: Gúnia'. } (ts'èt'ra).

These families have the same crests. They live short distances apart.

IA'AN (near WĪts'a. Dawson: Yān, p. 163 B).

K'oa'la: St'enge lā'nas. Chief: Nēnā'k'enas. Crests: Killer whale, hawk, bear.

Gyit'ina': (Tséts gyit'inai', moved to Ia'an from WĪts'a a few years ago).

G'AT'AIWA'S (Dawson: Ut-te-was, p. 163 B).

K'oa'la: Skyit'au'k'ō. Chief: Cigai'. Crests: Killer whale, grizzly bear, black bear.

Gyit'ina': Gyit'ins. Chief: Sk'a-ina'. Crests: Eagle, beaver, sculpin.

Sg'adzē'guatl lā'nas. Chief: Skyiltk'atsō. Crests: Eagle, beaver, sculpin.

K'oa'la: Sg'āga'ngsilai. Crests: Killer whale, bear.

HAI'TS'AU.

K'oa'la: G'anyakoilnagai. Chief: Kyilstlak'. Crests: Killer whale, bear.

K'AYA'NG (Dawson: Kā-yung, p. 163 B).

K'oa'la: Yāgun kunilnagai'. Chief: Skyilk'ie's. Crests: Bear, ts'em'ā's, killer whale.

Gyit'ina': Saqgu' gyit'inai'. Chief: Naok'adzō't. } Crests: Eagle,
 Ky'ia'ltoangas. Chief: K'odai'. } beaver, sculpin.

These two groups are considered branches of one family.

K'oa'la: T'ēs kunilnagai'. Chief: Yāt'ink'. } Crests: Bear,
 D'l'ia'len kunilnagai'. Chief: Sēna't. } ts'em'ā's, killer
 whale.

The three groups Kunilnagai' in K'aya'ng are branches of one family.

IA'GEN (about three miles north-east of Masset).

Gyit'ina': D'l'ia'len k'ōwai'. Chief: Hā'yas. Crests: Eagle, raven, sculpin, frog. Said to be related to the Sta'stas.

K'oa'la: Kun lā'nas. Chief: K'ogi's. Crests: Bear, ts'em'ā's, killer whale.

NAĒKU'N (Dawson: Nai-koon, p. 165 B).

Gyit'ina': Naēku'n stastaa'. Chief: Ts'ōn. Crests the same as those of the Sta'stas, of whom they are the branch from Naēku'n.

Tsiquā'gis stastaa'. Chief: Skyilā'ō. Crests the same as those of the Sta'stas, of whom they are the branch from the river Tsiquā'gis.

K'oa'la : qua'dös. Chief : tl'eä'ls. Crests : Bear, killer whale, hawk, rainbow, stratus. The Stl'enge lä'nas are considered a branch of the qua'dös, who are at present in Asegoa'n, Alaska. It is said that the qua'dös were in the habit of catching eagles in snares. One day a man caught a hawk in his snare. Another one stole it, leaving, however, one of the hawk's talons. This led to a quarrel, and a fight ensued, during which the family divided. Those who emigrated became the Stl'enge lä'nas. For this reason both use the hawk and also the same personal names.

(Dawson : A-se-guang, p. 165 B.)

K'oa'la : I was told that there was a branch of the qua'dös at the place who moved to Skidegate.

TLK'ÄGILT (Skidegate).

Gyit'ina' : Gyit'ins. Na yū'ans qā'edra ; Na s'ā'gas qā'edra. Chief : Sg'edegit's. Crests : Raven, wasq, dogfish, eagle, sculpin. Gyit'ingyits'ats. Chief : Sg'ā'nigyik'ē'do. Crests : Sculpin, eagle, wā'ts'at (a fabulous personage.) Tsāagwi' gyit'inai'. Chief : Winā'ts. Crests : Sculpin, eagle.

K'oa'la : Tsāagwisguatl'adegai'. Chief : Log'ō't. Crests : Killer whale, gyit'ra'lya (a fabulous being), ts'em'ā's. Tl'raio lä'nas. Chief : Dō'anā'. Crests the same as the preceding family. Tai'ōtl lä'nas. Chief : K'āaga'o. Crests : Black bear, killer whale. K'ōg'ā'ngas. Chief : K'oe'sgutneng'e'ndäls. Crests : Killer whale, ts'em'ā's.

TLG'Ä'IT (Gold Harbor ; Dawson : Skai-to, p. 168 B.)

K'oa'la : Tlg'ā'itgu lä'nas. Chief : Nēnkyilstla's. Crests : Moon, killer whale.

Gyit'ina' : Tlg'ā'it gyit'inai'. Chief : Ganā'i. Crests : Raven, eagle, sculpin.

K'oa'la : Stasausk'ē'owai : Chief : Sg'anayū'en. Crest : Ts'ilia'las (killer whale with raven wings).

Skoa'tl'adas. Chief : G'ōlentkyingā'ns. Crests : Sea-lion, killer whale, ts'em'ā's, thunder.

K'ÄI'S'UN (Dawson : Kai-shun, p. 168 B.)

Gyit'ina' : K'ai'atl lä'nas. Chief : Nanā'riskyilqō'es. Crests : Beaver, frog, eagle.

(Dawson : Cha-atl, p. 168 B.)

K'oa'la : tlg'ā'itgu lä'nas. (Same as above, under Tlg'ā'it.)

K'U'NA (Skidans, Dawson : Koonā, p. 169 B.)

K'oa'la : Tlk'inōtl lä'nas or K'agyalsk'ē'owai. Chief : Gudēk'a ingā'o. Crests : Bear, moon, mountain goat, killer whale, storm

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cloud, cirrus, rock slide. Part of this family is called Kyils qā'edrai. (Dawson : Tlkinool, p. 168 B.)

Gyit'ina' : K'unak'ē'owai. Chief : Gyitk'ō'n. Crests : Dogfish, eagle, frog, monster frog, beaver.

T'ANO' (Tlō, Dawson : Tanoo, p. 169 B.)

Gyit'ina' : K'unak'ē'owai (same as in K'u'na).
Tsēgoatl lā'nas or Laqski'yek.

K'oā'la : K'adas k'ē'owai. Chief : Gyaqkutsā'n. Crests : Killer whale, wolf, ts'em'ā's.

Sg'a'nguai (Nēnsti'ns, Dawson : Ninstance, p. 169 B.)

Gyit'ina' : Gyit'i'ns. Chief : Nēnsti'ns. Crests : Beaver, eagle.
K'oā'la. Qaldā'ngasal. Chief : Ts'ih'i'. Crests : Bear, killer whale, ts'em'ā's.

The villages on Hippah Island are not contained in my list.

A comparison of the list of families given here with that of the Skidegate families published in the Fifth Report of the Committee, p. 26, shows that the lists are fairly reliable. I give here both lists for purposes of comparison :—

Skidegate.

	(Fifth Report. Informant Johnny Swan)	Informant: E'densā of Masset	
Gyit'ina' :	Nayū'ans qā'etqa. Na'sā'yas qā'etqa. Djāaqui'gīt'ēnai'. Gyitingits'ats.	Gyit'i'ns { Na yū'ans qā'edra Na s'ā'gas qā'edra. Tsāagwī' gyit'inai'. Gyit'ingyits'ats.	
K'o'āla :	Naēkun k'erauā'i. Djāaqui'sk'uat'l'adagā'i. Tlqaiu lā'nas. K'āstak'ērauā'i. — —	Tsāagwisguatl'adegai'. Tl'g'āio lā'nas. — Taiōtl lā'nas. K'og'ā'ngas.	

It will be noticed that the Gyit'ina' families agree in both lists, while the K'oā'la show certain discrepancies. It may be that the Naēkun-k'erauai' are the family from Asegua'n referred to above as removed to Skidegate.

It will be noticed that a great many family names are town names. Such names are Sangatl lā'nas, K'a'nguatl lā'nas, Yak' lā'nas, Tl'g'āio lā'nas, &c. Others signify 'the gyit'ina' of a certain place'; for instance : Tō gyit'inai', Wits'a gyit'inai', Tsāagwī gyit'inai'. Still others seem to signify 'the k'oā'la of a certain place,' for instance : Tō stlengilnagai', Ya'gun kunilnagai, Dī'ia'lēn kunilnagai. Another series of names signify 'the people of a certain place,' or 'those born at a certain place,' such as Dī'ia'lēn k'ēowai', K'una k'ēowai', and Dzōs hāedrai'.

These facts indicate that each family formed originally a local unit, so that each village would seem to have been inhabited by one family only. The present more complex village communities originated through the

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Adam

Canoe Creek

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coalition of several families in one village, each retaining its own name and organisation. On the other hand, families divided, and are for this reason present in different villages. This is the case with the Sta'stas, whom we find under the name of Sta'stas at Ky'iu'st'a, as Naekun stastaa' in Naeku'n, and as Tsiquagis stastaa' in the same village. The Yak' la'nas are partly in their old village Da'dens, partly in Tlenk-oa'n (Klinquan, Alaska); the Ts'atl la'nas are partly in Da'dens, partly in G'augya'n (How-aguan, Alaska). Part of the Stastas have even drifted to the Stikink'oan of the Tlingit. The Yak' la'nas have a branch among the same tribe, where they have amalgamated with the Nanaa'ri family (Haida: Nan'a'ngi). A number of families left Queen Charlotte Islands in consequence of a quarrel, and form now the Kaigani. According to Dr. Dawson the event took place about 170 years ago (about 1730). The following families are said to have emigrated entirely: The S'ale'ndas to Sako'a'n (Shakan); the K'oe'tas to the same place; the K'aok'e'owai to G'augya'n (How-aguan); and the Tas la'nas to Kasaa'n.

It is clear, therefore, that the present arrangement of families is the result of a long historical development, and that in the original organisation of the tribe the village community was a much more important element than it is at present.

It is also instructive to investigate the distribution of totems among these families.

I. *Gyit'ina'* (18 distinct families).

Eagle	17 families	Starfish	1 family
Beaver	13 "	Humming-bird	1 "
Sculpin	9 "	Skate (?)	1 "
Frog	5 "	Monster-frog	1 "
Raven	3 "	Wa't's'at	1 "
Dogfish	2 "	Wasq	1 "
Halibut	1 family	Sg'a'ngo	1 "
Land-otter	1 "	Evening sky	1 "

II. *K'oa'la* (22 distinct families).

Killer whale	21 families	Devilfish	1 family
Black bear	14 "	Owl	1 "
Ts'em'a's	7 "	Land-otter	1 "
Moon	4 "	Grizzly bear	1 "
Woodpecker	2 "	Sea-lion	1 "
Tsilia'las	2 "	Mountain-goat	1 "
Thunder-bird	2 "	Gyitg'a'lya	1 "
Hawk	2 "	Rainbow	1 "
Wolf	2 "	Stratus cloud	1 "
Cirrus cloud	2 "	Storm cloud	1 "
Dogfish	1 family	Rock slide	1 "

This table shows a strong prevalence of two crests in each group: eagle and beaver among the *Gyit'ina'*, killer whale and black bear among the *K'oa'la*. The sculpin and *ts'em'a's*, which are next in importance, are not found among the tribes of the extreme north-western part of the islands. All the others occur only once or twice among the different families, and for this reason resemble in character the totems of the

Kwakiutl. Since the characteristic features of the traditions explaining the acquisition of these crests are also the same among the Tlingit, Haida, Tsimshian, and Kwakiutl, it is likely that they may have had the same origin. I have tried to show at another place ('Report United States National Museum for 1895,' p. 336) that among the Kwakiutl the crest is the hereditary manitou, and I am inclined to consider the isolated totems of the Haida and of the other northern tribes of similar origin. It is very doubtful if this theory holds good for the more frequent totems which evidently form the bond between the members of each group. It seems more likely that they represent the oldest totemic organisation of the tribe which may have antedated their settlement in their present locations. It is, however, worth remarking that one of the totems of secondary frequency, the ts'em'á's, is evidently of Tsimshian origin. The name is clearly a corrupted form of ts'em'a'ks=in the water, a fabulous monster, probably the personified snag. The four primary totems, eagle and beaver, and killer whale and bear, certainly represent the two oldest divisions of the tribe which split up in village communities that later on combined again in more complex groups.

IV. Linguistics. By FRANZ BOAS.

The Ntlakya'pamuq.

The material for the following sketch was obtained in part directly from Mr. James Teit, in part from Indians whose statements were interpreted by Mr. Teit. The writer is, however, alone responsible for the systematic presentation of the material.

GRAMMATICAL NOTES.

THE ARTICLE.

The Ntlakya'pamuq has an article which is similar in character to the one found in the dialects of the Coast Salish. In the Sixth Report of the Committee I briefly described the use of this article in the Bella Coola (p. 128). Its forms in other coast dialects are given in the following list:

	Masculine, <i>tí</i>	Feminine, <i>tsi</i>
Bilqula.	" <i>ta</i>	" <i>ila</i>
Çatló'ltq.	" <i>tí</i>	" <i>ila</i>
Pentlatc.	" <i>tí</i>	" <i>se</i>
Nanaimo.	" <i>tí</i>	" <i>se</i>
Sk-qó'mic.	" <i>te</i>	" <i>tle</i>
Lku'ngén.	" <i>tí</i>	" <i>si</i>
Tillamook.	" <i>ta</i>	" <i>ila</i>

The Calispelm has the article *flu*, which is used in the same manner. It is described by Mengarini in his 'Grammatica Linguae Selicæ,' 1861, p. 80.

The Ntlakya'pamuq has a number of articles.

ta is used for connecting adjectives and nouns:

- st'ep̄t̄ep̄ (1) *ta* (2) sp̄Ezu'zo (3), *a* (2) *black* (1) *bird* (3).
 aqa (1) k̄Es (2) *ta* (3) tlósk'a'yúq (4) kaq (5) pu'i'st̄emós (6), [*it is*] *that* (1) *bad* (2) *Indian* (4) *who* (5) *killed him* (6).

há and *a* seem to precede nouns that are not accompanied by attributes:

- há (1) chai'tken̄emuq (2) kaq (3) tla'k'at̄em (4), *the* (1) *Indians* (2) *who* (3) *have killed them* (4).
 há (1) Nkamtc̄i'n̄emuq (2) *ta* chai'tken̄emuq (3) kaq (4) tla'k'at̄em (5), *the* (1) *Nkamtc̄i'n̄emuq* (2) *Indians* (3) [*who* (4)] *killed them* (5).

56

Adam

Canoe Creek

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atla'kōs (1) ha (2) kō'kpi (3) akswā'watcip (4), *when (1) the (2) chief (3) comes (1), call-me (4).*
 a (1) sk'a'um (2) pū'ists (3) ha (4) ntlcask'a'qa (5), *the (1) wolf (2) killed (3) the (4) horse (5).*
 ha (1) ntlcask'a'qa (2) pū'ists (3) a (4) sk'a'um (5), *the (1) horse (2) killed (3) the (4) wolf (5).*
 a John pū'ists a Sam, *John struck Sam.*

tik seems to be more definite than *ha*, but the distinction between the two forms is by no means quite clear:

pui'zEna (1) ha (2) kō'kpi (3), *I killed (1) the (2) chief (3).*
 pui'zEna (1) aqa'tik (2) kō'kpi (3), *I killed (1) this (2) chief (3).*
 wa'zqEna (1) tik (2) stsuk' (3), *I showed him (1) the (2) picture (3).*
 na'qEna (1) tik (2) stsuk' (3), *I gave him (1) the (2) letter (3).*
 tā'we (1) aqa'tik (2) kō'kpi (3) tik (4) tlō'sk'a'yūq (5) | *what a (1, 2) chief (3) this (4) man (5) [is]!*

THE DISTRIBUTIVE.

The distributive form of the noun is formed by amplification of the stem, most frequently by reduplication. Irregular distributives of nouns are rare. Plurals of verbs are formed in the same way, but the verbal plural is frequently derived from a separate stem. The verbal plural seems to have had a distributive meaning originally, but in the intransitive verb particularly the distinction between distributive and plural is easily lost.

1. Distributives and verbal plurals formed by reduplication:

<i>house</i> , tcitQ	<i>distributive</i> , tcitci'tQ.
<i>tree</i> , cirā'p	" cipcirā'p.
<i>picture</i> , stsuk'	" stsutsu'k.
<i>stone</i> , cā'EnQ	" cEncū'EnQ.
<i>mountain</i> , sk'um	" sk'umk'u'm.
<i>ground</i> , tEmū'Q	" tEmutEmū'Q.
<i>dog</i> , sk'a'k'qa	" sk'ak'a'k'qa.
<i>cattle</i> , stEmā'lt	" stEmtEmā'lt.
<i>calf</i> , stEmāltitēit	" stEmtEmāltitēit.
<i>camp fire</i> , spam	" spEmpa'm.
<i>coyote</i> , snikia'p	" sniknikia'p.
<i>animal</i> , spEzō'	" spEzpezō'.
<i>bird</i> , spEzu'zō	" spEpezu'zō.
<i>friend</i> , snu'koa	" snukenu'koa.
<i>musk-rat</i> , skikela'Qoa	" skikikela'Qoa.
<i>man</i> , sk'ai'yūq	" sk'ai'k euq.
<i>male of animal</i> , sk'a'k'ayuq	" sk'ak'a'k'ayuq.
<i>sick</i> , kEnu'Q	<i>plural</i> kEnkenu'Q.
<i>crumpled</i> , skō'um	" skōumkō'um.
<i>to walk</i> , squasi't	" squasquasi't.

These examples show that the laws which reduplication follows are very irregular. On the whole we may say that the prefixed *s* which is found in a very large number of Salish words is not affected by reduplication. Very often the first syllable, including the first consonant following the first vowel, is repeated with shortened vowel. But there are many exceptions to this rule. Reduplicated words may be reduplicated a second time (see musk-rat, male of an animal, in the preceding list).

2. Many nouns have the same form for the absolute and the distributive. It seems that many names of animals belong to this class:

<i>beaver</i> , tlk'o'pa (<i>Utā'mkt dialect</i>).		
<i>beaver</i> , snū'ya (<i>Nkamtcī'nənuq dialect</i>).		
<i>wolf</i> , sk'a'ōm	"	"
<i>fox</i> , EcQua'yūq	"	"
<i>black bear</i> , spēē'tc	"	"

deer, cmé'its (*Nkamtē'nēmuc dialect*).

<i>elk</i> , stqat's	"	"
<i>caribou</i> , sĒquā'qan	"	"
<i>grizzly bear</i> , cuqcu'Q	"	"
<i>panther</i> , smō'a	"	"
<i>buffalo</i> , kō sp	"	"
<i>antelope</i> , stataā'luk	"	"
<i>porcupine</i> , cuti'a	"	"
<i>porcupine</i> , skwi	"	"
<i>rabbit</i> , sk'okii'ts	"	"
<i>river</i> , kowē'	"	"
<i>fire</i> , tukti'k	"	"
<i>water</i> , kōu	"	"
<i>star</i> , nkoku'cEN	"	"

3. Different stems are used for forming distributive, viz. plural and absolute forms:

<i>horse</i> , ntltcask'a'qa	Distributive
<i>Indian</i> , tlōsk'ai'yūq	sk'aqk'a'qa.
	s'ai'tkēnēmuc.
	Plural
<i>to weep</i> , wawī'iq	k'ōē'k t.
<i>to stand</i> , stē'dliq	tse'iq.
<i>to die</i> , zōk	Qō'it.
<i>to kill</i> , puī'stēm	tlē'k'ētēm.
<i>to lie down</i> , pū'it	nmē'Q'iq.

DIMINUTIVES.

Diminutives are also formed by means of reduplication. It seems that the prevailing form of reduplication consists in a repetition of the first syllable as far as the first vowel, with a tendency of throwing back the accent of the word to the reduplicated syllable.

<i>deer</i> , cmé'its	Diminutive
<i>black bear</i> , spcē'tc	cmē'mēits.
<i>friend</i> , snu'koa	spā'paats.
<i>bad</i> , kES	nu'nkoa.
<i>large</i> , qzu'm	kekeest.
<i>bird</i> , spEzu'zu	qEzu'zum.
	spEyu'zu.

NUMERALS.

There are three sets of numerals: simple cardinals used for counting inanimate objects; and two reduplicated series, one used for counting animals, the other for counting human beings.

Inanimate	Animate	Personal
1, pai'a, pé'ia	piā'a	pa'pea.
2, sé'ia	sē'sia	sisai'a.
3, k'aatlā's, k'ēak-tlā's	{ k'ēak-tlā's k'ēk'aak-tlā's	{ k'ak'aak-tlā's.
4, mūs	mō'ms	mū'smust.
5, tei'ikst	tei'tciEkst	tei'tciEkst.
6, tlā'k'amakst	{ tlā'k'amakst tlat'lā'k'amakst	{ tlat'lā'k'amakst.
7, teū'tk'a	{ teū'tek'a teuteū'tk'a	{ teū'teuk'a.
8, piō'ps(t)	{ piō'ps(t) pipiō'ps(t)	{ pipiō'ps(t).
9, tē'mēi pai'a	tē'mēi piā'a	tē'mēi pa'pea.
10, o'pēnakst	{ o'pēnakst op'o'pēnakst	{ op'o'pēnakst.
11, o'pēnakst Eī pé'ia	o'pēnakst Eī piā'a	op'o'pēnakst Eī pa'pea.

56

Adam

Canoe Creek

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20, sil o'pēnakst	} Same as inanimate.
30, k-āf o'pēnakst	
40, mūt o'pēnakst	
50, tci'ēks o'pēnakst	
60, tla'k-umakst o'pēnakst	
70, tci'k'al o'pēnakst	
80, piōpst o'pēnakst	
90, tēmet pē o'pēnakst	
temēl pi o'pēnakst	
100, qatst pē'k-ēnakst	
qatsl pē'k-ēnakst	
200, sā'as qatst pē'k-ēnakst	
300, k'ā'ak'ia's qatst pē'k-ēnakst	
400, mūs qatst pē'k-ēnakst	

The numerals five, six, ten, one hundred, are clearly compounds of *-akst*, hand. I presume five is a compound of the stem *tea*, which is found in the numeral one in Siciatl *netciā'le*, Snanaimuq *ne'tsa*, Sk-qō'mic *ntō'ō'i*, Lku'ngēn *nr'tsa*; so that *tci'akst* would mean one hand. Nine may be translated literally 'less one.'

The same classification that is used in the cardinal numbers is used in indefinite numerals; for instance—

	Inanimate	Animate	Personal
<i>few</i>	kwē'niq	kwī'kwineq	kwē'nkwinq.

DISTRIBUTIVE NUMERALS.

Distributive numerals are formed from the cardinals by means of reduplication. They have the same three classes that were found in the cardinal series.

	Inanimate	Animate	Personal
1 to each	paapai'a	pēapai'a	papā'pia.
2 "	sēasai'a	asiase'sea	siasā'ia.
3 "	{ k'aak'aatlā's k'aatlā's }	k'aak'aatlā's	k aak'aatlā's.
4 "	musemū's	moamō'ms	musmū'smust.
5 "	tciatci'Ekst		
6 "	tlaatlā'kamakst		
7 "	tcūatcū'tlk'a		
8 "	pepiō'pst		
9 "	tē'mēt pēapai'a		
10 "	ōpēō'pēnakst		

} Same as inanimate.

THE PRONOUN.

PERSONAL PRONOUN.

I	Independent	Dependent
thou	ntcā'wa	--(k)En.
he	awē'	--(k)", Q.
we	tcin'tl	—
ye	ēnēmē'mutl	--kt.
they	piā'pst	--p or --mp.
	tcinku'st	—

POSSESSIVE PRONOUN.

The possessive pronoun has a number of forms analogous to those of the Shuswap. Their use has not become clear to me. I give here the various forms and a few examples of their use.

<i>my</i>	n—	tlen—	len—	qen—
<i>thy</i>	a—	tla—	la—	qa—
<i>his</i>	--s			q—s
<i>our</i>	--kt,—nt			
<i>your</i>	--p,—mp			
<i>their</i>	--ēqs			

Examples: ncu'tEM, *my object.*
 nski'qaza, *my mother.*
 ntcitQ, *my house.*
 aqa'a tla kamu't, *this is thy hat.*
 io'a la kamu't, *that is thy hat.*
 kEnu'Q tlen ska'qa, *my horse is sick.*
 kEnu'Q nska'qa, *my horse is sick.*

The two plural forms in *-ht* and in *-ut* are not exclusive and inclusive.

ska'tsont, *our father.*
 ska'tsakt, *our father.*
 tci'tqut aqa', *that is our house.*

I am inclined to consider the prefixes *tl*, *l*, and *q*- which appear combined with the possessive pronoun as verbal particles. The close relation between possessive pronoun and intransitive verb becomes clear in the imperfect sense, in which the object possessed is incorporated between the verb and the pronominal suffix:

but kEnu'Qska'qakEn, *my horse was sick = sick horse I.*
 kEnu'Q tlen ska'qa, *my horse is sick.*
 kEnu'Qska'qak^a, *thy horse was sick = sick horse thou.*
but kEnu'Q tla ska'qa.
or kEnu'Q a ska'qa, *thy horse is sick.*

These constructions may be compared with the inflexion of the adverb that accompanies the verb (see below).

The prefix *q*- seems to indicate the relation to the indirect object of the sentence:

piPHI'tsen qa kamu't, *I lost it for thee thy hat.*
 pipsta'na nkamu't, *I lost my hat.*

But I found also:

tla skā'qa pu'istQtcems tlen katsk, *thy horse killed for me my elder brother.*

INTRANSITIVE VERB.

The intransitive verb may be inflected by means of suffixes or by means of auxiliary verbs, which latter form various tenses.

<p>Aorist</p> <p>kEnu'QkEn, <i>I am sick.</i> kEnu'Qk^a, <i>thou art sick.</i> kEnu'Q, <i>he is sick.</i> kEnu'kt kenkEnu'Qkt. } <i>we are sick.</i> kEnu'Qp, <i>ye are sick.</i> kenkEnu'Q (tcinku'st) kEnu'Q tcinku'st } <i>they are sick.</i></p>	<p>Present</p> <p>(o)aqkEn kEnu'Q, <i>I am sick.</i> (o)aqk^a kEnu'Q, <i>thou art sick.</i> (o)aq kEnu'q, <i>he is sick.</i> (o)aqkt (kEn)kEnu'q, <i>we are sick.</i> (o)aqp (kEn)kEnu'q, <i>ye are sick.</i> (o)ax kenkEnu'q, <i>they are sick.</i></p>
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Future I.

hwi'kEn(tcā)rā'it, *I shall sleep.*
 hwiq(tcā)rā'it, *thou wilt sleep.*
 &c.

Future II.

rā'itkEn hwi, *I shall sleep*
 rāitk^a hwi, *thou wilt sleep.*
 &c.

Imperfect

oa'qkEn tlen tlahā'ns, *I was eating.* &c.

When the intransitive verb is accompanied by an adverb the latter takes the pronominal ending, being treated like an auxiliary verb.

tlakamē'Q(k)En skEnu'Q, *I am always sick.*
 tlakamē'Q(k)a skEnu'Q, *thou art always sick.*
 tlakamē'Q(k) skEnu'Qs, *he is always sick.*
 tlakamē'Qekt skEnu'Q, *we are always sick.*
 tlakamē'Q(k)ap skEnu'Q, *ye are always sick.*
 tlakamē'Q(k) skEnkEnu'Qs, *they are always sick.*

56

Adam

Canoe Creek

B.

58

mm.
1,640

1,333

735

1,696

807

6

56

The verb with negative is treated in the same manner :

ta/a'kEN skENu'Q, *I am not sick.* &c.

The conditional mode is characterised by the prefix *a-* and the suffix *-u*.

tcu'kteen, *to finish eating (= to finish with mouth).*

atcu'kctENuEN, *if I finish eating.*

atcu'kctENuQ, *if thou finishest eating.*

atcu'kctENus, *if he finishes eating.*

atcu'kctENut, *if we finish eating.*

atcu'kctENup, *if ye finish eating.*

atcuktcu'kctENus, *if they finish eating.*

The negative conditional present is formed in the following way :

ate'mös(ta)kEN skENu'Q, *if I am not sick.*

ate'mös(ta)ka skENu'Q, *if thou art not sick.*

ate'mös(ta)k skENu'Qs, *if he is not sick.*

ate'möskakt skENu'Q, *if we are not sick.*

ate'moskap skENu'Q, *if ye are not sick.*

ate'mos(tä)ks kenkENu'Qs, *if they are not sick.*

The negative conditional past :

taskEta'kEN skENu'Q, *if I had not been sick.*

The interrogative is formed by the suffix *-EN* :

kENu'QkENEN, *am I sick?*

kENu'Qkoan, *art thou sick?*

kENu'QEN, *is he sick?*

kENu'Qkten, *are we sick?*

kENu'Qp'EN, *are ye sick?*

kenkENu'QEN, *are they sick?*

A periphrastic interrogative is formed by the dubitative particle *ska* :

skaka skENu'Q, *perhaps thou art sick.*

skaak skENu'Qs, *perhaps he is sick.*

skagap skENu'Q, *perhaps ye are sick.*

It will be noticed that wherever the verb appears with an adverb or a particle it has the prefix *s-*, which makes verbal nouns, and that the third person has the suffix *-s*, which corresponds to the possessive pronoun. These forms are therefore identical with possessive nominal forms.

TRANSITIVE VERB.

The transitive verb incorporates the pronominal object as follows :

to see.

Object	Subject					
	I	thou	he	we	ye	they
me	—	wi'kctEmuQ	wi'kctEmS	—	wi'kctEp	wikté'qsftcina
thee	wi'kctEN	—	wiktst	wiktst	—	wikté'qsetst
him	wi'kctEN	wiktQ	wiktS	wi'kctEM	wiktP	wikté'qsetEM
us	—	?	wi'ktis	—	wi'ktip (?)	wikté'qsetEis
ye	wi'ktimen	—	wi'ktimes	wi'ktimet	—	wikté'qsetEmis
them	wikté'qSEnE	wikté'qSEmuQ	{ wiktS wikté'iqsetEM }	wité'qsetEM	wiktP	wikté'qsetEM

Verbs which have the accent on the last syllable form the following series :

k'oiencū't, to talk to someone.

Object	Subject				
	I	thou	he	we	ye
me	—	k'oiencē'muq	k'oiencē'ms	—	k'oiencē'p
thee	k'oiencē'n	—	k'oiencē's	k'oiencē't	—
him	k'oiencē'na	k'oiencē'uq	k'oiencē's	k'oiencē'm	k'oiencē'p
us	—	k'oiencē'ip	{ k'oiencē'is k'oiencē'it	—	k'oiencē'ip
ye	k'oiencē'imēn	—	k'oiencē'imās	k'oiencē'imet	—
them	k'oiencē'qsēma	k'oiencē'qsēmuq	k'oiencē's	k'oiencē'qsētcm	k'oiencē'p

An analysis of these forms shows that most of them originate by composition, the pronominal object following the verb, the pronominal subject following the pronominal object. The pronominal object suffixes seem to have the following forms :

me, —tēM
thee, —tē
him, —

us, —ti
ye, —tim (for —tip)
them, —tēqs

The pronominal subject suffixes have the following forms :

I, —ēN
thou, —Q
he, —s

we, —t
ye, —p
they, —s

But they are much more irregular than the objective suffixes.

The conditional is formed in the same manner as that of the intransitive verb by means of the prefix *a-* and the suffix *-us* :

awik'tēNus, if I see thee.
awiktīpus, if thou seest us.

awiktē'qsēNōus, if I see them.

PASSIVE PARTICIPLE.

īou'm, to stab.
nī'kēM, to cut.

īōt, stabbed.
nīkt, cut.

From this participle the passive is formed :

oāq īōt, he has been stabbed.

IMPERATIVE.

The imperative of the transitive and intransitive verbs are formed in the same manner, second person singular by *-a*, second person plural by *-ōsa* :

tlaha'nza, eat!
tlaha'nzōsa, eat ye!

ō'pita, eat it!
ō'pitōza, eat ye it!

The future serves as an exhortative :

qwik'tlaha'ns, let us eat! or, we shall eat.

The Ntlakya'pamuq distinguishes between the transitive verb with determined object and without object. The latter is derived from the stem of the transitive verb by the ending *-ēM* :

aqkēn tēū'm, I am working.
aqkēn pē'qēM, I am hunting.
qwē'im, he is looking.
tī'ēmō'pēM, to chop.
mē'qīma, kick!
ē'tīēM, to sing.
pū'istēM, to kill (one).
qōstē'm, to love.

aq tēuta'na, I work at it.
aq pē'qēna ksmē'its, I am hunting deer.
qwē'ēs, he is looking for it.
aq tī'ēmō'pēna, I chop it.
mē'qīta, kick it!
ē'tīēna, I sing it.
pū'istēna, I kill it.
aqōstē'na, I love it.

The relation to the indirect object is expressed by the suffix -Q, which precedes the pronominal ending :

na'qTEM, to give.	na'qENA, I give it.	na'qtQENA, I give it to him.
k'óientcú't, to talk.	k'óientcú'tEMst, he talks about thee.	k'óientcú'tEMQst, he talks in thy behalf.
e'tLEM, to sing.	aq e'tLENA, I sing it.	aq e'tLEQNA, I sing it for him.
		aq e'tLEMQNA, I sing for him.
pú'istEM, to kill.	pú'istENA, I kill it.	pú'isQENA, I kill it for somebody.
qui tsuk'hé'tcEMuQ, write me a letter.	qui tsuk'Qé'tcEMuQ, write a letter for me.	
pú'ists sk'á'k'qas, he kills his own dog.	pú'istQts sk'á'k'qas, he kills his (another man's) dog (= he kills his dog for him).	

DERIVATIVES.

I recorded the following derivatives :

Quotative	—okó	kENU'Q'okó, it is said he is sick.
Putative	—nka	kENU'Qnka, he may be sick.
Dubitative	—nuk	kENU'Qnuk, he is sick, I think.
Affirmative	—n	kENU'QEN, indeed, he is sick.
		piá'psten, indeed, it is ye!
Exhortative	—matl	quitamatl, do lie down!
Causative	—s	pú'it, to lie down.
		pú'itsENA, I lay it down.
Inchoative	—wiq	nká'iq, to swim.
		nká'iqsENA, I swim a horse.
		snuyawí'iq, to become possessed of money.
		kistEWí'iq
		kestuwé'EQ } to turn bad.
		iawí'iq, to turn good.
		qinuwi'iq, it begins to be a long time.
Durative	—miq	kENUQEMí'QKEN, I am always sick.
Frequentative: Reduplication		skENkENU'Q, one who is repeatedly sick.
		k'éak'ea'ap, one who is repeatedly indisposed.
		oaq nikení'KENA, I cut it repeatedly.
		íchoata'na, I stabbed him repeatedly.
		qaquatsta'na, I tie it repeatedly.
Potential	—z'a	hai'mz'akEN, I might do the same.
Facultative	—ENwatLEN	tcu'umz'akEN, I might work, I ought to work.
		tlahansenwatLEN, to be able to eat.
		róitENwa'tLEN, to be able to sleep.
Desiderative	—mamen	tlahansma'mENKEN, I desire to eat.
		ró'itma'mENKEN, I desire to sleep.
Intensive	—ap	stlahans'a'p, to eat much.
Copulative	—a-us	nmanqEMA'p, to smoke much.
		stlk'a'us, together.
		cinzia'us, brothers.
		snukua'us, friends.
		qamana'us, enemies.
Reciprocal	—tuaQ	ktQuá'uses, he breaks it in two (= he halves it).
		qatstua'Q, tied to each other.
		puistua'Q, to kill one another.
		tlá'k'tuaQ, to kill each other.
		iamintua'Q, to have friendly feelings towards one another.
Reflexive	—tcut	stlk'auzEMtua'Q, to put together.
		MEQETcú't, to kick oneself (also to kick without hitting anything).
		wikENTcú'tKEN, I see myself.
		nikENTcú'tKEN, I cut myself.

The reflexive is sometimes used as a simulative :

nikiapENTcú't, to make oneself like a coyote = to act foolishly.
kENUQstcú't, to make oneself sick, or to act like a sick person.

PREPOSITIONS.

u, uł, *towards, to.*
tu, tuł, *from.*

Examples: uā'a, *towards here, this way.*

ułqEN uł teitQ, *I go into the house.*
uł stkaml'ps ané'soan, (*when*) *I went to Kamloops.*
tū'a kakā'o awi'kena-us, (*when*) *I saw it from far away.*
tuqai'a, tukai'a, *from here.*
tutci'a, tuktc'i'a, *from there.*
tulo'a, tuklo'a, *from there.*
tla'KEN tuł Nkamtc'i'n, *I came from Spences Bridge.*
ktei'qEN tuł Nkamtc'i'n, *I departed from Spences Bridge.*
tlak-tuł estciQ, *I came from the house.*
tlak tua teitQ, *I came from a house.*

CONJUNCTIONS.

peł, *and, connecting words designating persons:*

snukua'us (1) aē't (2) a (3) SEQUā'pamuQ (4) peł (5) ha (6) Psqū'qENEm (7),
Friends together (1) now (2) the (3) Shuswap (4) and (5) the (6) Chilcotin (7).

El, *and, connecting all words not designating persons:*

sqā'its El cāENq, *wood and stone.*

SUBSTANTIVALS.

I designate by the term substantivals nominal suffixes, which are used for specifying adjectives, substantives, and verbs:

—k'ēn, *head.*
—us, *face.*
—ane, *ear.*

—aks, *nose.*
—tcin, *mouth, language.*

—anz, *tooth.*
—iapsam, *neck.*

—āqEN, *upper part of arm.*

—āqKEN, *body.*

—ikEN, *back.*
—akst, *hand.*

—ist, *stone.*
—uciap, *fire.*
—kō, —atkō, *water.*

—ūimuQ, *land.*

qazumk'ē'n, *big-headed.*
ihus, *pretty.*
qazuma'ne, *big ear.*
k'oa'nētEm, *he has piercing pains in his ear.*
tcīawa'ks, *nose bleeds.*
ntlakypamuqtci'n, *Ntlakypamuq language.*
teuktcin, *to finish with mouth, i.e., to finish eating.*
peatci'n, *one word.*
kliqutlci'n, *another language.*

zaqiapsa'm, *long neck.*
nzaqiapsa'm, *long-necked.*
kāupa'qEN, *broken arm.*
tska'qEN, *wing, armpit.*
zaqa'qEN, *long-armed.*
qzumā'qKEN, *big body.*
piā'qKEN, *one body.*
mitcaki'ken, *to sit on back.*
pāuta'kst, *swollen hand.*
tcumēna'kstEN, *to point with hand.*
kāupa'kstKEN, *I have broken my hand.*
piē'ist, *one stone.*
piu'ciap, *one fire.*
nkui'skō, *to fall into water.*
qazuma'tkō, *great lake.*
nza'qkō, *long lake.*
ntlk'a'tkō, *wide lake.*
ksū'imuQ, *bad land.*
ihū'imuQ, *nice land.*
kaqū'imuQ, *dry land.*
piū'imuQ, *one country.*

—atIQ, *house*.

—aus, *trail*.

—äiuk, *tree*.

—tlp, *species of trees and bushes*.

—atldziQ, *bush*.

—zanz, *driftwood*.

—qans, *board, plank*.

—alks, *clothing for upper part of body*.

—itsa, *covering for body*.

—autl, *canoe*.

—als, *knife*.

—lEmuq, *sack, bottle, box*.

—ka, *spoon, cup, bucket, pail*.

—aken, *bag, bundle*.

—äiqen, *rope*.

—fim, *hollow thing*.

—uza, *round thing*.

—uzEM, *group of*.

—aski, *song*.

—mën, *instrument*.

qazuma'tIQ, *large house*.

öepä'tIQ, *house burns down*.

Eniämina'us, *trail for hauling = waggon-road*.
tcutlquä'usenuq, *thou pointest out the way to him*.

ihä'iuk, *a nice tree*.

kunEQä'iuk, *how many trees?*

mitcak'a'iuk, *sitting on a tree*.

ok'ona'yuk, *rotten tree, wood*.

k'aya'yuk, *green wood*.

k'e'giuk, *hard wood tree*.

za'qiaik, *long tree*.

s'atk'tlp, *yellow pine*.

sk'atlp, *fir*.

pea'tldziQ, *one bush*.

kunEQa'tldziQ, *how many bushes?*

k'unEQa'ns, *how many planks?*

smütlat'sa'lks, *woman's gown*.

spek'i'tsa, *white blanket*.

ntltsask'aqai'tsa, *horse skin*.

pak'ui'tsa, *to shiver with fear*.

qzuma'utl, *big canoe*.

pia'utl, *one canoe*.

spëia'ls, *one knife*.

qzuma'ls, *large knife*.

tilina'tlEmuq, *birch bark vessel*.

pia'ka, *one spoon*.

pia'ken, *one bag*.

piä'iqen, *one rope*.

ntsikti'm, *empty vessel*.

piu'za, *one round thing*.

spek'ö'za, *white round thing*.

piu'zEM, *one group of things*.

stläea'ski, *dancing song*.

tsuk'më'n, *pencil*.

niamë'n, *tool for hauling*.

Substantivals sometimes appear in combination :

—tcinatIQ *door = mouth of house*.
nkamtcinä'tIQ, *entrance of house*.
mitcaktcinä'tIQ, *to sit in the doorway*.

Some of the substantivals are developing into classificatory terms, such as are found in the Tsimshian :—

—aks *nose ; point of a horizontal pole*.
mitcak'a'ks, *to sit on a point*.
—k'ën *head ; top of a long, upright object*.
mitcak'k'ën, *to sit on top of*.
—iken *back ; middle of long thing*.
mitcak'i'ken, *to sit in middle of a long thing*.
—aiuk *tree, long thing*.
pia'i'uk' tik sqëts, *one (long thing) salmon*.
pia'i'uk' tik tinQ, *one (long thing) rein*.
—a-itQ *flat thing*.
pia'itQ stsuk', *one sheet of paper*.
pia'itQ ma'nta, *one piece of canvas (manta, Spanish)*.
—k'ën *head, round thing*.
piak'é'in tkau'za, *one (round thing) egg*.

Vocabulary of the Chilcotin Language.

The Chilcotin form a branch of the Tinneh stock. The following vocabulary is designed on the lines of the vocabularies given in the Sixth and Tenth Reports of the Committee. Since I am not familiar with the grammatical structure of the language, the vocabulary must be held subject to revision :

English	Chilcotin	English	Chilcotin
man	tinnē, ta'yañ.	all houses	kaunētlañ k'hō.
woman	tsē'k'ē.	kettle	nōsai'.
boy	kyenl.	bow	atithē'n, datsa'nk'a.
my girl	ēsk'ē tsē'k'ē (= female child).	arrow	k'a.
		axe	tshēntl.
father	ā'pa	knife	palā'.
thy mother	f'nkul.	jack-knife	gyi'nalki'k.
my husband	sak'a'n.	canoe	ts'ē.
my wife	saa't.	moccasins	k'e.
my child	sEsk'ē'i.	pipe	k'a'tsai,
my elder brother	sō'nar.	wooden pipe	titchēn k'a'tsai.
my younger brother	sik'i'l.	tobacco	tsrilyo'.
my elder sister	sā'tē.	glove	bāt.
my younger sister	sit'z.	sky	yē'ta.
Indian	tēntl'kōtē'n.	sun	sha.
my people	sēiltē's.	moon	a'fdzi.
my head	sERTsE'.	star	sEñ.
my hair	sERTsa'ra.	cloud	k'ōs.
my face	sENē'm.	smoke	tlit.
my forehead	SETSēEku'tl.	day	k'aatsi'n.
my ear	hētsa'ra (?).	night	ētli'.
my eye	sENa'ra.	morning	k'apēna'q.
my nose	sētsi'ñih'.	evening	ngaratlra'tl.
my mouth	sERō'.	noon	sātsana's.
my tongue	sERTsōill.	midnight	sōtēzni'.
my tooth	sERō'.	spring	Erotlts'e'n.
my beard	SETA'ra.	summer	dan.
my neck	sEK'ō's.	autumn	d'Enk'ī'z'.
my arm	sEKa'n.	winter	qa'i.
my hand	sEla'.	wind	nē'nts'E.
my fingers	sēlats'ē'i.	thunder	ē'ndī.
thy fingers	nēlats'ē'i.	lightning	tōu'c.
my thumb	sēlatchōr.	rain	nagutli'x'.
my first finger	sēlāskE't.	snow	nā-ljō's.
my second finger	sēlanē'.	fire	k'ōn.
my third finger	sēlāra'.	water	thō.
my fourth finger	sēlāstE't.	ice	ku'dlu.
finger nail	lak'E'n.	earth	nēn.
my body	sENē's.	sea	ya thō.
my chest	sēdzī'y.	river	tsirē'nli, yik'ō'.
my belly	sEBE't.	lake	pēi.
my breasts	SETS'ō'r.	snow mountain	tsatl.
my leg	SETS'ē'n.	hill	tētiku'tl.
my foot	sEK'ē'.	island	nnu.
big toe	k'ēlatchō'r.	salt	lesā'l (Chinook jar-gon).
toe nail	k'ēlak'E'n.		tshē.
my bone	sEKu't.	stone	titi'ñ.
my heart	SETSī'y (? see chest).	tree	teinti' (?).
my blood	seti'l.	black pine	titchingā'ts'ēi.
chief	nēt'cill'y'n.	all trees	tsēz.
house	k'hō.	fuel	

¹ This 'z' is exceedingly weak, so much so that part of the breath escapes laterally, giving it a decided 'l' tinge.

English	Chilcotin	English	Chilcotin
tail	kye.	cold	gēzk'a'z.
dog	tlēn.	warm	gōzē'lgun.
black bear	sēs, tāyē's.	I	s'i't.
deer, buck	nēsī'ny.	thou	nē'in.
fly	asts'e'z.	he	gū'yīn.
mosquito	ts'ih.	we two	nantini'ltē (?).
snake	tlarāsē'n.	we	kaqonētla'n.
bird	pē (?).	all	kāts'ē'i.
feather	tcus.	many	tlāā'tla.
wing	pēt'a', pēt'sē'n.	far	tlāagose't.
tail of bird	pekye'.	near	intitidyil.
foot of bird.	pek'ē'.	below	kūgyaq.
foolhen	dih.	to-day	k'andzi'n.
goose	qaq.	to-morrow	k'āpē'n.
duck	nāt'ē'i.	yesterday	at'lqatldā'.
loon	dāndzē'n.	he speaks the truth	at'l'risēn.
teal duck	nād'atsē'l.	yes	ha'a.
bald-headed eagle	dā'kih.	no	qā'tada'.
young eagle	shaiky.	nothing	dāq.
fish	tlū'i.	one	ēntli'y.
salmon	kyērs.	two	nā'k'ē.
trout	dēk'a'l.	three	tha'i.
fish tail	pekyilarai't.	four	dē'i.
white	tlēyē'l.	five	āskōnla'.
black	tlēt'ē's.	six	tlgyanthai'.
red	dildi'l.	seven	gyēt'lqatlgyanē'lt'ā.
blue	dētltsa'.	eight	k'āhinē'lt'ā.
yellow, green	dēltsō'r.	nine	tlgyalagōntanē'lt.
large	intcā'.	ten	tl't'a'una.
large river	kuntcak-ō.	twenty	nāt'l'a'una.
small	ntsōdl.	thirty	thatlya'una.
small lake	pēngō ntsōdl.	forty	dētlyanna.
small creek	tcarenligo ntōdl.	one hundred	nēlagau'nēldētl'auna.
strong	nadent'i'.	to eat	ats'iyē'.
old man	dagōldhin.	to drink	thatsētē.
young	k'a'nēralitl (?).	I walk	sētrasts'a'tl.
good	tlāagō'su.	to dance	tsēnadai'h.
bad	pēkunidyit'.	to sing	tsīgydē'n.
a bad man	dēnē'tla ātltsē'n.	I want to sleep	ntāstHē'tl.
dead	daltsha'n.	I sleep	satlagaitlqē'n (?).
sick	dēnēita'.	to speak	iāzētld'i'ky.

In the Tenth Report of the Committee (p. 33) I have compiled the known words of the Tinneh dialect that in former times was spoken in the Nicola Valley. I have compared these words with Chilcotin and Nētcā'ut'in words, first by asking for the equivalents of the English words, then by pronouncing the Nicola Valley words. In a number of cases I obtained equivalents which showed close correspondence.

English	Nicola Valley	Chilcotin	Nētcā'ut'in
woman	tsik'hi, tsē-akai'	tsē'k'ē	ts'ē'ku
black bear	sass, sus, sas	sēs	sas
ram of mountain sheep	sisia'ni	cicia'n	sriya'n
ewe of mountain sheep	tpai	çōpai'	spai'a
mountain sheep	ti-pi	tē'pi	—
lake trout	sipai'i	sā'pai	sapai'
snake	tlosho'	tlarāsē'n	tlage's
bear berry	ti'NEH	tī'niH	ten'iH
horn	(atē)	atē'	atē
arrow	k'e	k'a	k'a
child	(qe)	k'ēi	—
take it!	ēlitcōt (I may give you)	ēntlcū't	yīgē'itlcut.

These words agree very closely on the Nicola Valley dialect and in Chilcotin. Only three among these twelve words differ in a manner which cannot well be explained by difference of perception and transcription. They are the following:

<i>ewe of mountain sheep</i>	Nicola: tpaɪ	Chilcotin: ɕɔpai'	Nētcā'ut'in: spai'a.
<i>snake</i>	tlosho'	tlarase'n	tlage's.
<i>lake trout</i>	sipai'i	sā'pai	sapai'.

Since three words were collected from more than one individual, and by three different collectors, it seems likely that there existed an actual difference between these dialects in regard to these words.

The following words of the Nicola Valley dialect was not understood by either Chilcotin or Nētcā'ut'in when read by me. In a number of cases I obtained the equivalents of the English words in the two last-named dialects.

Nicola Valley	English	Chilcotin	Nētcā'ut'in
t-haeh	<i>man</i>	tinnē, ta'yañ	tine'
tet'-hutz	<i>man</i>	—	—
thate	<i>man</i>	—	—
nootl	<i>man</i>	—	—
hūlhūtu'tāi	<i>a fish</i>	—	—
taki'nktoicin	<i>a fish</i>	—	—
zūlke'ke	<i>ground-hog</i>	tēti'ny	tētni'
tsho	<i>buck of deer</i>	nēsī'ny	yēs'ts'ētine'
tEq'otz	<i>soap-berry</i>	nō'ruc	nawa'c
notl-ta-ha't-se			
notlqa'tzi	} <i>wild currant</i>	tqaltsE'l (?)	—
qtlona'zi			
ta-ta-ney'	} <i>knife</i>	palá'	ali's
tēt-ta-ā-nē'			
ta-a'-ni			
tsaē	<i>spoon</i>	k-ā'niH	sE'nts'atl
ska-kil-ih-kane	<i>rush mat</i>	gultli's	hutle's
naltsi'tse	<i>arrow-head</i>	dūntai'	nū'ntai
tlutl	<i>packing line</i>	qētla'nt'iy	qētla't'iy
ti-li-tsa-in	<i>give me the spoon!</i>	nnañ tē k-ā'niH	—
n-shote	<i>give it to me!</i>	nna	te
pin-a-lē-ēl-i-itz	<i>take care!</i>	sōtsēlnē'tlē	wō'ni
a'we qe	<i>come here, child</i>	—	—

I have omitted the numerals in the comparison, because I suspect that those recorded by Mr. Mackay (*l.c.*, p. 33) are not numerals, but various words which the informant enumerated as known to him. I think that this is the case, because many of them agree nearly or quite accurately with other words of our list. Mr. James Teit, who collected a number of words from the Indians, first called my attention to this fact. The following list shows these agreements:

Numerals	Other words
<i>one, sa-pe</i>	<i>sa-pie, trout.</i>
<i>two, tun-ih</i>	<i>tin-ih, bear-berry.</i>
<i>three, tloh</i>	<i>tlotl, packing line (Teit).</i>
<i>four, na-hla-wa</i>	—
<i>five, e-na-tlē</i>	—
<i>six, hite-na-ke</i>	—
<i>seven, ne-shote</i>	<i>n-shote, give it to me!</i>
<i>eight, k-pae</i>	<i>t-pae, ewe of mountain sheep.</i>
<i>nine, sas</i>	<i>sas, bear.</i>

These agreements and the fundamental differences between these numerals and those of all other Tinnē dialects make the series more than doubtful.

Although the apparent differences of a small vocabulary like the present have no great weight, I am inclined to think that there was a difference between the Chilcotin and the Nicola Valley dialect. The language was, however, evidently very closely related to the Chilcotin, while it differed considerably from the Carrier dialects.

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V. *Summary of the Work of the Committee in British Columbia.*
By FRANZ BOAS.

At the time when the Committee instituted their investigations, the inhabitants of the Pacific coast of Canada were less known than those of any other part of the North American Continent, with the exception, perhaps, of the tribes of California. What little we knew was based on the brief descriptions of early travellers, or on indirect information obtained from investigators who had been working in the regions to the north and to the south. The only noteworthy work done in recent times was that by Dr. G. M. Dawson during his frequent geological expeditions to British Columbia. But three important problems remained to be solved; the numerous languages of the coast were still unclassified, and the number of their dialects was not definitely known; the physical characteristics of the tribes had never been investigated; it was not known if they represented one homogeneous type, or if several types were found in the Province. Finally, the study of the customs of the various tribes offered a number of difficult problems in regard to the origin and significance of several phenomena.

Material advance has been made by the efforts of the Committee in all these directions. The number of languages and dialects is now known, and it does not seem likely that additional ones will be discovered. The following languages are spoken in British Columbia:—Athapaskan or Tinnéh in eight dialects; Tsimshian in three dialects; Haida in two dialects; Wakashan in two divisions, the Kwakiutl with three dialects, and the Nootka with two dialects; the Salish in four main divisions with eleven dialects, and the Kootenay. In this enumeration, dialects which may be classed as well developed and pronounced provincialisms have not been counted, but only such dialects as show distinct differences in vocabulary and grammar, so that intercommunication between the tribes speaking them is, even in the case of the most closely affiliated dialects, not easy. We count, therefore, in all, thirty dialects, which have been here classed, according to their affinities, under six linguistic stocks. Grammatical sketches of all these dialects have been obtained; but a few only are known tolerably well. These are the Kwakiutl and the Tsimshian. All the others require much fuller investigation than they have heretofore received.

While the present state of our knowledge of these languages does not permit us to assume that the number of stocks to which they belong is smaller than the number given above, we may call attention at this place to the morphological relations of some of these languages, which suggest the desirability of further inquiries into their early history.

Haida and Tlingit—which latter is spoken in southern Alaska—have a number of morphological traits in common. While all the other languages of the North Pacific coast use reduplication for grammatical purposes, no trace of reduplication is found in these two languages. There is no gender, and no well-defined form for a plural or distributive. Compound nouns are very numerous, the composition being effected by juxtaposition. Words of two, three, and more components, which do not modify each other, occur. Local adverbs, which always retain their independent forms, frequently enter into compound words of this kind. In both languages there are four forms of the personal pronoun. In the

independent pronoun, the selective and the ordinary forms may be distinguished. The pronoun of the transitive verb differs from that of intransitive verbs, the latter being identical with the objective form of the former. In this respect there is a close analogy between the Haida and Tlingit, and the Siouan languages.

The Tsimshian presents an entirely different type of language. We find a plural based largely on reduplication. The pronouns are suffixed to the verb. Words are formed almost exclusively by means of prefixes. The system of numerals is very complex, as there are different sets of numerals for various classes of objects.

The southern group of languages—the Kwakiutl, Salish, and Chemakum (which last is spoken in the northern part of the State of Washington)—have a series of very peculiar traits in common. Most prominent among these is the occurrence of what Trumbull has called 'substantivals,' which play so important a part in the Algonkin languages. Such are, primarily, parts of the body; furthermore, designations of localities, of fire, water, road, blanket, domesticated animals (*i.e.*, in olden times, the dog), and many others. These substantivals do not occur in any other northern language, and must be considered one of the most important characteristics of the languages in question. All these languages use reduplication and diæresis for forming collective forms and plurals of verbs. The demonstrative pronoun is used very extensively, and serves for distinguishing locations of object or action according to the three forms of the personal pronoun; namely, such as are located near the first, second, or third person. Besides these, a great many locative suffixes are used. Whenever an adverb accompanies the verb, the former is inflected, while the verb remains unchanged. When a transitive verb is accompanied by an adverb, the latter always takes the suffix of the pronominal subject, while the verb takes that of the pronominal object.

The Kootenay presents still another type of language. It incorporates the object in the same way as the Mexican does, the noun itself being embodied in the verb. It has very few substantivals, if any, but forms compounds by verbal composition, like the Tinneh (Athapascan) and Siouan. While in the preceding class we find, for instance, compounds expressing states of the hand, of water, fire, &c., we find here compounds expressing actions done with the hand, the foot, or other instrumentalities; and in the water, the fire, or in other localities. It seems that there is no reduplication.

It is worth remarking that these types of language are characterised by a few very general features that they have in common, and that distinguish them from the other groups that are found in contiguous areas. The Haida and Tsimshian are spoken in the extreme north; the Kwakiutl, Salish, Chemakum, in the whole southern portion of the Province, and they adjoin the Algonkin, with whom they have a few peculiarities in common. The Kootenay is not far separated from the Shoshonean languages, which resemble it in several particulars. We may therefore well say that the languages of the North Pacific coast belong to several morphological groups, each of which occupies a continuous area.

The investigation of the physical characteristics of the Indians of British Columbia has resulted in establishing the fact that the people are by no means homogeneous. As compared to the Indians east of the Rocky Mountains and farther south, they have in common a lighter complexion and lighter hair; but the shapes of their heads and faces differ

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considerably. Three types may easily be distinguished—the northern type, represented by the Haida, the Indians of Nass River, and the Tsimshian; the Kwakiutl type; and the Thompson River type.

These types may be characterised by the following measurements:—

	Northern Type		Kwakiutl Type		Thompson River Type	
	Average	Mean Error	Average	Mean Error	Average	Mean Error
<i>I. Men.</i>						
	mm.		mm.		mm.	
Stature	1675	± 7.40	1645	± 5.90	1634	± 7.90
Length of head	194.6	± 0.80	188.7	± 1.19	186.5	± 0.55
Breadth of head	160.6	± 0.67	159.0	± 1.00	155.9	± 0.52
Breadth of face	153.7	± 0.85	151.4	± 0.54	147.4	± 0.41
Height of face	121.6	± 0.87	128.0	± 0.67	120.3	± 0.71
<i>II. Women.</i>						
Stature	1542	± 5.70	1537	± 5.90	1540	± 5.00
Length of head	185.6	± 0.88	186.9	± 1.64	179.5	± 0.53
Breadth of head	153.2	± 0.90	154.3	± 1.44	150.0	± 0.41
Breadth of face	143.9	± 0.80	144.3	± 0.64	138.8	± 0.40
Height of face	114.3	± 0.93	119.3	± 0.82	112.5	± 0.54

They may be described as follows: All these types are of medium stature, and their arms are relatively long, their bodies short. Among the northern type we find a very large head. The transversal diameter is very great. The same may be said of the face, which has an enormous breadth. The height of the face is moderate, and therefore its form appears decidedly low. The nose is often concave or straight, seldom convex. The noses of the women are decidedly concave. Its elevation over the face is slight. The point of the nose is short.

The dimensions of the head of the Kwakiutl are similar to those of the northern types, but the head seems to be slightly smaller. The face shows a remarkably different type, which distinguishes it fundamentally from the faces of all the other groups. The breadth of face is nearly the same as that of the northern type, but its height is enormous. The same may be said of the nose, which is very high and comparatively narrow. The point of the nose is short: its elevation is also very great. The nasal bones are strongly developed, and form a steep arch, their lower ends rising high above the face. For this reason convex noses are found very frequently among this type. Convex noses also prevail among the women, and for this reason the difference between the female form of the Kwakiutl and the female form of the northern type is very great.

The Thompson River type is characterised by a very small head, both diameters being much shorter than those found on the coast, while the proportions are nearly the same. The transversal diameter of the face is much shorter than that of the coast Indians, being nearly the same as that found among the Indians on the plains. The face is much lower than that of the Kwakiutl type, and also slightly lower than that of the northern type. The nose is convex and heavy. Its point is much longer and heavier than the point of the noses of the coast types.

There are good indications of the existence of a few other types, but they cannot be distinguished with certainty from the types enumerated

here. It is probable that further measurements will show that the tribes of Harrison Lake and the Gulf of Georgia represent a fourth type.

The distribution of the types of man in British Columbia has an important bearing upon the much discussed question of the classification of mankind; while some anthropologists have maintained that all classification must be based upon considerations of language, others maintain as rigorously that the main consideration must be that of physical type. The data collected by the Committee show clearly that neither of these contentions is entirely correct. We have seen that certain tribes—such as the Bilqula, who linguistically belong to the Salish group—physically belong to another group. This shows that the two phenomena do not go hand in hand, but that they constantly overlap. The classification of mankind according to physical characteristics takes into consideration only the effects of heredity and environment upon the physical type of man. Race mixture, isolation, and effect of environment will be reflected in the results of these classifications. But there are evidently cases in which a slow infiltration of foreign blood takes place, while language and customs remain unaltered or changed to but a slight extent. The Bilqula branched off from the Coast Salish at an early time, and retain the Salish language; but there has been an infiltration of Kwakiutl blood and of Athapaskan blood, which has entirely changed the physical features of the tribe. With this infiltration of foreign blood came foreign words and foreign cultural elements, but they were not sufficiently powerful to change the original speech of the people.

It is clear, from these considerations, that the three methods of classifying mankind—that according to physical characters, according to language, and according to culture—all reflect the historical development of races from different standpoints; and that the results of the three classifications are not comparable, because the historical facts do not affect the three classes of phenomena equally. A consideration of all these classes of facts is needed when we endeavour to reconstruct the early history of the races of mankind.

It will be sufficient to point out in this place a few of the more general results of the studies conducted by the Committee on the cultures of the primitive people of British Columbia. In the Reports of the Committee only brief abstracts were given of the mythologies and traditions of the tribes, but full collections were made; and a comparison of these has led to the following results:—The culture of the coast tribes of the Province is quite uniform. It has reached its highest development in the district extending from Queen Charlotte Islands to northern Vancouver Island. As we depart from this region, a gradual change in arts and customs takes place, and together with it we find a gradual diminution in the number of myths which the distant tribes have in common with the people of British Columbia. At the same time a gradual change in the incidents and general character of the legends takes place.

We can in this manner trace what we might call a dwindling-down of an elaborate cycle of myths to mere adventures, or even to incidents of adventures, and we can follow the process step by step. Wherever this distribution can be traced, we have a clear and undoubted example of the gradual dissemination of a myth over neighbouring tribes. The phenomena of distribution can be explained only by the theory that the tales have been carried from one tribe to its neighbours, and by the tribe which has newly acquired them in turn to its own neighbours. It is not

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necessary that this dissemination should always follow one direction ; it may have proceeded either way. In this manner a complex tale may dwindle down by gradual dissemination, but new elements may also be embodied in it.

It may be well to give an example of this phenomenon. The most popular tradition of the North Pacific coast is that of the raven. Its most characteristic form is found among the Tlingit, Tsimshian, and Haida. As we go southward, the connection between the adventures becomes looser, and their number less. It appears that the traditions are preserved quite fully as far south as the north end of Vancouver Island. Farther south the number of raven-tales which are known to the Indians diminishes very much. At Nahwitti, near the north point of Vancouver Island, thirteen tales out of a whole of eighteen exist. The Comox have only eight, the Nootka six, and the Coast Salish only three. Furthermore, the traditions are found at Nahwitti in the same connection as farther north, while farther south they are very much modified. The tale of the origin of daylight, which was liberated by the raven, may serve as an instance. He had taken the shape of the leaf of a cedar, was swallowed by the daughter of the owner of the daylight, and then born again ; afterwards he broke the box in which the daylight was kept. Among the Nootka, only the transformation into the leaf of a cedar, which is swallowed by a girl and then born again, remains. Among the Coast Salish the more important passages survive, telling how the raven by a ruse compelled the owner of the daylight to let it out of the box in which he kept it. The same story is found as far south as Grey's Harbour in Washington. The adventure of the pitch, which the raven kills by exposing it to the sunshine, intending to use it for calking his canoe, is found far south, but in an entirely new connection, embodied in the tradition of the origin of sun and moon.

But there are also certain adventures embodied in the raven myths of the north, which probably had their origin in other parts of America. Among these may be mentioned the tale of how the raven was invited and reciprocated. The seal puts his hands near the fire, and grease drips out of them into a dish, which he gives to the raven. Then the latter tries to imitate him, but burns his hands, &c. This tale is found, in one or the other form, all over North America, and there is no proof that it originally belonged to the raven myth of Alaska. Other examples may be found in the collection of traditions published by F. Boas.¹

The proposition that dissemination has taken place among neighbouring tribes will probably not encounter any opposition. Starting from this point of view, we may advance the following considerations :—

If we have a full collection of the tales and myths of all the tribes of a certain region, and then tabulate the number of incidents which all the collections from each tribe have in common with any selected tribe, the number of common incidents will be the larger the more intimate the relation of the two tribes, and the nearer they live together. This is what we observe in a tabulation of the material collected on the North Pacific coast. On the whole, the nearer the people, the greater the number of common elements of traditions ; the farther apart, the less their number.

¹ *Indianische Sagen von der Nord-Pacifischen Küste Amerikas*, pp. vi-363. Berlin, 1895.

But it is not the geographical location alone which influences the distribution of tales. In some cases, numerous tales which are common to a certain territory stop short at a certain point, and are found beyond it in slight fragments only. These limits do not by any means coincide with the linguistic divisions. An example of this kind is the raven legend, to which reference has been made. It is found in substantially the same form from Alaska to northern Vancouver Island; then it suddenly disappears almost entirely, and is not found among the southern tribes of Kwakiutl lineage, nor on the west coast of Vancouver Island, although the northern tribes, who speak the Kwakiutl language, have it. Only fragments of these legends have strayed farther south, and their number diminishes with increasing distance. There must be a cause for such a remarkable break. A statistical inquiry shows that the northern traditions are in close accord with the tales of the tribes as far south as the central part of Vancouver Island, where a tribe of Salish lineage is found; but farther they do not go. The closely allied tribes immediately south do not possess them. Only one explanation of this fact is possible, viz., lack of assimilation, which may be due to a difference of character, to continued hostilities, or to recent changes in the location of the tribes, which has not allowed the slow process of assimilation to exert its deep-acting influence. The last may be considered the most probable cause. The reason for this opinion is, that the Bilqula, another Salish tribe, who have become separated from the people speaking related languages, and who live in the far north, still show in their mythologies close relations to the southern Salish tribes, with whom they have many more traits in common than their neighbours to the north and to the south. If their removal had taken place very long ago, this similarity in mythologies would probably not have persisted, but they would have been quite amalgamated with their new neighbours.

We may also extend our comparisons beyond the immediate neighbours of the tribes under consideration by comparing the mythologies of the tribes of the plateaus in the interior, and even of those farther to the east, with those of the coast. Unfortunately, the available material from these regions is very scanty. Fairly good collections exist from the Athapaskan tribes, from the tribes of Columbia River, and—east of the mountains—from the Omaha, and from some Algonkin tribes. When comparing the mythologies and traditions which belong to far-distant regions, we find that the number of incidents which they have in common is greater than might have been expected; but some of those incidents are so general that we may assume that they have no connection, and may have arisen independently. There is, however, one very characteristic feature which proves beyond cavil that this is not the sole cause of the similarity of tales and incidents. We know that in the region under discussion two important trade routes reached the Pacific coast—one along the Columbia River, which connected the region inhabited by Shoshonean tribes with the coast, and indirectly led to territories occupied by Siouan and Algonkin tribes; another one which led from Athapaskan territory to the country of the Bilqula. A route of minor importance led down Fraser River. A study of the traditions shows that along these routes the points of contact of mythologies are strongest, and rapidly diminish with increasing distances from these routes. On Columbia River the points of contact are with the Algonkin and Sioux; among the Bilqula they are with the Athapaskan. This phenomenon can hardly

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be explained in any other way than by assuming that the myths followed the line of travel of the tribes, and that there has been dissemination of tales all over the continent. The tabulations which have been made include the Micmac of Nova Scotia, the Eskimo of Greenland, the Ponca of the Mississippi Basin, and the Athapaskan of Mackenzie River; and the results give the clearest evidence of extensive borrowing.

The identity of a great many tales in geographically contiguous areas has led to the assumption that, wherever a great similarity between two tales is found in North America, it is more likely that it is due to dissemination than to independent origin.

But without extending these theories beyond the clearly demonstrated truths of transmission of tales between neighbouring tribes, we may reach some further conclusions. When we compare, for instance, the legend of the culture hero of the Chinook, and that of the origin of the whole religious ceremonial of the Kwakiutl Indians, we find a very far-reaching resemblance in certain parts of the legends, which makes it certain that these parts are derived from the same source. The grandmother of the divinity of the Chinook, when a child, was carried away by a monster. Their child became the mother of the culture-hero, and by her help the monster was slain. In a legend from Vancouver Island a monster, the cannibal spirit, carries away a girl, and is finally slain by her help. Their child becomes later on the new cannibal spirit. There are certain intermediate stages of these stories which prove their identity beyond doubt. The important point in this case is that the myths in question are perhaps the most fundamental ones in the mythologies of these two tribes. Nevertheless, they are not of native growth, but—partly at least—borrowed. A great many other important legends prove to be of foreign origin, being grafted upon mythologies of various tribes. This being the case, it follows that the mythologies of the various tribes as we find them now are not organic growths, but have gradually developed and obtained their present form by accretion of foreign material. Much of this material must have been adopted ready made, and has been adapted and changed in form according to the genius of the people who borrowed it. The proofs of this process are so ample that there is no reason to doubt the fact. We are therefore led to the opinion that, from mythologies in their present form, it is impossible to derive the conclusion that they are mythological explanations of phenomena of nature observed by the people to whom the myths belong, but that many of them, at the places where we find them now, never had such a meaning. If we acknowledge this conclusion as correct, we must give up the attempts at offhand explanation of myths as fanciful, and we must admit that also explanations given by the Indians themselves are often secondary, and do not reflect the true origin of the myths.

It may be well to explain this point of view a little more fully. Certainly the phenomena of nature are the foundation of numerous myths, else we should not find that the sun, moon, clouds, thunderstorm, the sea, and the land play so important a part in all mythologies. But it seems that the specific myth cannot be simply interpreted as the result of observation of natural phenomena. Its growth is much too complex. In most cases the present form has undergone material change by disintegration and by accretion of foreign material, so that the original idea is at best much obscured.

Perhaps the objection might be raised to this argument that the simi-

larities of mythologies are due, not only to borrowing, but also to the fact that, under similar conditions which prevail in a limited area, the human mind creates similar products. While there is a certain truth in this argument, so far as elementary forms of human thought are concerned, it seems quite incredible that the same complex product should originate twice in a limited territory. The very complexity of the tales and their gradual dwindling down, to which reference has already been made, cannot possibly be explained by any other theory than by that of dissemination. Wherever geographical continuity of the area of distribution of a complex ethnographical phenomenon is found, the laws of probability exclude the theory that in this continuous area the complex phenomenon has arisen independently in various places; but they compel us to assume that the distribution of this phenomenon in its present complex form is due to dissemination, while its composing elements may have originated here and there.

In the Old World, wherever investigations on mythologies of neighbouring tribes have been made, the philological proof has been considered the weightiest; that is to say, the proof of borrowing has been considered the most satisfactory whenever, together with the stories, the names of the actors have also been borrowed. We cannot expect to find such borrowing of names to prevail to a great extent in America. Even in Asia the borrowed names are often translated from one language into the other, so that their phonetic resemblance is entirely destroyed. The same phenomenon is observed in America. In many cases the heroes of myths are animals, whose names are introduced in the myths. In other cases, names are translated, or so much changed, according to the phonetic laws of various languages, that they can hardly be recognised. Cases of transmission of names are, however, by no means rare. We will give only a few examples from the North Pacific coast.

Almost all the names of the Bilqula mythology are borrowed from the Kwakiutl language. A portion of the great religious ceremony of the Kwakiutl has the name 'tlōkoa'la.' This name, which is also closely connected with a certain series of myths, has spread northward and southward over a considerable distance. Southward we find it as far as the Columbia River, while to the north it ceases with the Tsimshian; but still farther north another name of a part of the ceremonial of the Kwakiutl is substituted, viz., 'nō'ntlēm.' This name, as designating the ceremonial, is found far into Alaska. But these are exceptions; on the whole, the custom of translating names and of introducing names of animals excludes the application of the linguistic method of investigating the borrowing of myths and customs.

We will next consider the social organisations of the coast tribes in connection with certain peculiar customs which have been described in the Reports of the Committee, viz., the secret societies.

The northern tribes have maternal institutions, and are divided into a number of clans, which have animal totems. The clans are not considered descendants of the totem animal, but claim that the ancestor of each clan had a meeting with the totem animal, in which the latter became his friend and helper. The Kwakiutl are divided into a number of clans, most of which have animals for their totems. Most of these totems are explained in the same manner as those of the northern tribes, while others are considered direct descendants of the totem animal. Among the

Kwakiutl we find a mixture of paternal and maternal institutions, but the son is not allowed to use his father's totem; he acquires the right to his totem by marriage, receiving at that time the totem of his wife's father. When, later on, his daughter marries, the right to the totem descends upon her husband. In this manner the totem descends in the maternal line, although indirectly. Each clan has a certain limited number of names. Each individual has only one name at a time. The bearers of these names form the nobility of the tribe. When a man receives the totem of his father-in-law, he at the same time receives his name, while the father-in-law gives up the name, and takes what is called 'an old man's name,' which does not belong to the names constituting the nobility of the tribe.

Among the Kwakiutl and Bilqula this social organisation holds good during the summer, while during the winter ceremonials it is suspended. During this time the secret societies take the place of the clans. According to tradition, these societies have originated in the same manner as the clan originated. One of the ancestors of the clan met the presiding spirit of one of the societies, and was initiated by him. This seems to be the general form of tradition explaining the origin of secret societies among all North American tribes. All those who have been initiated by the same spirit, and who have received from him the name, privileges, and secrets of the ceremonial, form a secret society. The most important among the societies on the North Pacific coast are those of the cannibals, the bears, the fools, and the warriors. The number of names composing a secret society is limited in the same manner as the number of names composing the clan. Membership in a secret society may be obtained in two ways: by marriage, in the same way as the acquisition of the totem; and by killing the owner of a certain name. Totem and secret society are not connected inseparably; but the one may be transferred to one person, the other to another.

In order to understand this curious system clearly we must remember that the Salish tribes which are found south of the Kwakiutl are divided into village communities; while their northern neighbours—the Tsimshian, the Haida, and the Tlingit—are divided into maternal clans. The Kwakiutl have been strongly influenced from both sides.

The traditions explaining the totems and the secret societies refer, as stated before, to the initiation of the ancestor of the clan. They are analogous to the traditions of the acquisition of the Manitou. All the tales referring to this subject have approximately the following incident: A youth undergoes a ceremonial fasting and purification, and thus acquires the faculty of seeing a spirit, who becomes his protector. The traditions of the coast tribes explaining the origin of clans have the same contents. There is only one difference: the protecting spirit has appeared to the ancestor of the clan, and is now inherited by their descendants without personal initiation. In this respect the similarity between the traditions of the secret societies and those referring to the Manitou is much closer, since it is necessary that each new member be initiated by the presiding spirit of the society. Therefore every new member has to undergo the same ceremonies which other Indians undergo at the time of reaching puberty. The beliefs of the Chinooks of Columbia River are similar to those of the northern tribes, although among them the idea of the acquisition of the totem has been more clearly preserved. They believe that a man can acquire only that spirit who belonged to his ancestors in the paternal line, but the relation

of this spirit to the individual is identical with that of the Manitou to the eastern Indian.

It can be clearly shown that the development of the family Manitou into the family totem has taken place owing to the influence of the northern tribes. In order to make this clear, it is necessary to consider for a moment the clans of the Kwakiutl somewhat closely. In examining the names of the tribes, it will be seen that very often the name of the tribe is the collective form of the name of its ancestor. At the same time a subdivision of the tribe, one of its clans, may have the name 'The Family of the Ancestor,' while the other clans have different names. It seems that this proves that the first clan formed the original stock of the tribe, and that the other clans joined it later on. This theory is strengthened by two considerations: first, it is stated that each clan originally had its village at a certain place, which it left later on in order to join others. Almost all these places can be proved to be ancient village sites. Secondly, many clans have names which may be translated, as 'Inhabitants of such and such a place,' while nowadays they live with the rest of the tribe in the same village, and have no distinct claims to the territory the name of which they bear. This seems to prove that the present social organisation of the tribe is a late development, and that originally the Kwakiutl were in the same stage of development as their southern neighbours, among whom the social unit is the village community, and who have no crests.

The northern tribes have clearly defined totems, which are inherited in the maternal line, and which have animal names and animal crests. While among these tribes the totem of the whole clan is founded on the tradition belonging to the whole clan, the subdivisions of the latter are explained in exactly the same manner as those of the Kwakiutl clans. The artistic bent of these people has taken hold of these traditions, and has thus formed the crest for the clan and for its subdivisions. There is little doubt that the plastic art of the northern tribes was a most important factor in developing their social system. In the south, where this art begins to disappear, the village community takes the place of the clan with animal totem, while among the tribes located between these two groups, among whom the plastic art is well developed, although not as highly as in the north, there is an intermediate form of social system. It is therefore likely that the development of the social system discussed here has taken place in the northern part of British Columbia.

The northern tribes of Kwakiutl lineage show clearly that their ideas have been influenced by the animal totem of the northern tribes. They have adopted to a great extent the maternal descent and the division into animal totems of the northern tribes. The social organisation of the Hé'iltuk, one of the most northern tribes of Kwakiutl lineage, is similar to that of the Tsimshian, while their southern neighbours, the inhabitants of Rivers Inlet, who speak the same dialect, retain the more complex organisation of the Kwakiutl; but they have mainly maternal descent.

It is an interesting fact that a great many of the clan legends of the Kwakiutl are very insignificant, while others have important mythical bearings by which they are closely connected with the mythological concepts of the people. It seems probable that clan legends first found their way to the Kwakiutl by marriages with women of northern tribes, whose traditions, according to the customs of the northern region, were inherited by the woman's children. This must have given an important

impulse to acquiring or inventing similar traditions on the part of other clans, since their possession was undoubtedly considered a prestige. Probably the fastings of young men and the subsequent hallucinations have furnished the greater part of the material for these legends.

It is necessary to consider at this place a few characteristic traditions which belong to the cannibal society of the tribes of the northern and central parts of the coast. The most widely diffused tradition on this subject seems to have originated among the Hē'iltuk, but it has spread southward to the Kwakiutl. It is told that a young girl was carried away by the cannibal spirit. Her four brothers searched for her, and with difficulty escaped the pursuing cannibal spirit. Finally, they succeeded in killing him, and his ashes were transformed into mosquitoes. In the course of their visit to their sister the brothers learned the songs and secrets of the cannibal society. This tradition is given in most cases as the origin of the secret society. A number of other members were initiated in other ways, one by stealing the cedar-bark ornaments of the bathing cannibal spirit, another one by ascending the sky and obtaining the secrets of the society.

These customs have also spread to the northern neighbours of the Hē'iltuk, the Tsimshian. They have the following tradition in regard to the origin of the society:—A hunter pursued a bear, which finally led him into the interior of a rock. Inside he saw people performing the ceremonies of the society, and he was instructed by their chief to repeat the same ceremonies at home. In all the traditions of the Kwakiutl the cannibal spirit presides over the society, while he does not appear in the Tsimshian tradition. This shows that different traditions are used for explaining the same ceremonial.

In connection with these facts we will consider the conclusions which were drawn from a consideration of the mythologies of the tribes of British Columbia. We saw that none of these could be considered as the product of a single tribe. All the traditions were full of foreign elements, which it was possible to trace over wide areas. If, therefore, the same ritual is explained by different traditions, we may conclude that the ritual preceded the tradition; that the former is the primary phenomenon, the latter the secondary.

It seems that the development of the ritual, as well as of the traditions connected with it, is founded in the prestige given by membership in a secret society. There must have developed a desire to become a member of a society, which led, wherever the number of societies was insufficient for the tribe, to the establishment of new ones. It is not meant, of course, that the Indians intentionally invented new traditions, but that the desire stimulated their fancy and excited their mind, and that in this manner, after proper fastings, occasion was given for hallucinations, the material of which was naturally taken from the ideas found among the tribe and its neighbours. Similar phenomena have been treated, from a systematic point of view, by Stoll in his book on Suggestion, and by Tarde in his book on the Laws of Imitation.

It is easily understood how the exciting ceremonial of the cannibal society may have given rise to hallucinations in which a young man thought to see the same spirit under new conditions, and that after his return from the solitude he told his visions. Since the opinion prevailed that the spirit which appeared in this manner had a tendency to reappear to the descendants of the person to whom it once appeared,

opportunity was given for the formation of a new place in the secret societies. We may assume, therefore, that, psychologically, the development of the complex system of membership in the secret societies must be explained as due to the combined action of the social system and the method of acquiring guardian spirits.

While these considerations may explain the variety of form of the secret societies, and show that the myths on which a ritual is founded are probably secondary, they do not explain the origin of the societies themselves and of the peculiar customs connected with them. There are, however, indications which lead to the opinion that these societies developed from methods of warfare. First of all, it is important to note that the deity Winā'lagyilis of the Kwakiutl presides over the whole ceremonial. This name means 'the one who makes war upon the whole world,' and his spirit controls the mind of the Indians also during the time of war. For this reason the secret societies are in action also on war expeditions, no matter at what season of the year they may occur. All the oldest songs of the secret societies refer to war. The cannibal, as well as the bear dancers and the fool dancers of the Kwakiutl, are considered warriors, and go into ecstasies as soon as an enemy has been killed. All this indicates that originally the secret societies were closely connected with war expeditions.

One thing more must be considered. The customs which we observe to-day are evidently the modern development of ancient forms. It is known that the ceremonial cannibalism, which nowadays is the principal part of the whole ceremonial, has been introduced very recently among all the tribes. The Kwakiutl state that this custom was introduced among them not longer than sixty years ago, and that it originated among the Hé'iltuk. We also know that the custom spread from the Hé'iltuk to the Tsimshian not longer than a hundred and fifty years ago. Therefore there is no doubt that the custom was originally confined to the small territory of the Hé'iltuk. Among the southern tribes the cannibals originally confined themselves to holding with their teeth the heads of enemies which had been cut off.

The form in which the cannibalism spread from the Hé'iltuk is mainly the following:—A slave was killed by his owner, then he was torn to pieces and eaten by the cannibals; or pieces of flesh were bitten out of the arms and the chest of people; or, finally, corpses which had been prepared in a particular way were devoured by the cannibals. The first of these customs clearly bears some relation to war. A slave was obtained in war by the relative of a cannibal, and by killing him the owner celebrated the victory before the assembled tribe. It is not possible to prove definitely that the secret societies developed in this manner from customs related to war expeditions, but the close relationship of the two cannot be doubted.

We may say, therefore, that the investigations of the Committee have proved that dissemination of cultural elements has taken place all along the North Pacific coast, and also that the most distant parts of the American continent, and probably even parts of the Old World, have contributed to the growth of the culture of the Indians of British Columbia. This fact shows that we cannot accept the sweeping assertion that sameness of ethnical phenomena is *always* due to the sameness of the working of the human mind, but that it is necessary to consider in all

anthropological investigations the important element of dissemination of cultural elements.

The decorative art of the Indians of the North Pacific coast differs from the arts of other primitive people in that the process of conventionalisation has not led to the development of geometric designs, but that the ornaments mostly represent animals. It is generally assumed that all the animal representations found on totem poles or on decorations of household utensils and of wearing apparel represent the totems of the various clans. While it is certainly true that in most cases the artists decorate the objects with the totem of the owner, there are a number of cases in which the reason for applying certain animal designs is founded on other considerations. This is very evident in the case of the fish-club, which is used in despatching halibut and other fish before they are hauled into the canoe. Almost all the clubs that I have seen represent the sea-lion or the killer-whale—the two sea animals which are most feared by the Indians, and which kill those animals that are to be killed by means of the club. The idea of giving the club the design of the sea-lion or killer-whale is therefore rather to give it a form appropriate to its function, and perhaps, secondarily, to give it by means of its form great efficiency.

Another instance in which a close relation exists between the function of the object and its design is that of the grease dish. Small grease dishes have almost invariably the shape of the seal, or sometimes that of the sea-lion; that is, of those animals which furnish a vast amount of blubber. Grease of sea animals is considered a sign of wealth. In many cases abundance of food is described by saying that the sea near the houses was covered with the grease of the seal, the sea-lion, and whales. Thus the form of the seal seems to symbolise affluence.

Other grease dishes and food dishes have the form of canoes, and here, I believe, a similar idea has given rise to the form. The canoe symbolises that a canoe load of food is presented to the guests, and that this view is probably correct is indicated by the fact that in his speeches the host often refers to the canoe filled with food which he gives to his guests. The canoe form is often modified, and a whole series of types can be established forming the transition between canoe dishes and ordinary trays. Dishes of this sort always bear a conventionalised face at each short end, while the middle part is not decorated. This is analogous to the style of the decoration of the canoe. The design represents almost always the hawk. I am not certain what has given origin to the prevalence of this design. On the whole, the decoration of the canoe is totemistic. It may be that it is only the peculiar manner in which the beak of the hawk is represented which has given rise to the prevalence of this decoration. The upper jaw of the hawk is always shown so that its point reaches the lower jaw and turns back into the mouth. When painted or carved in front view, the beak is indicated by a narrow wedge-shaped strip in the middle of the face, the point of which touches the lower margin of the chin. The sharp bow and stern of a canoe with a profile of a face on each side, when represented on a level or slightly rounded surface, would assume the same shape. Therefore it may be that originally the middle line was not the beak of the hawk, but the foreshortened bow or stern of the canoe. This decoration is so uniform that the explanation given here seems to be very probable.

On halibut hooks we find very often decorations representing the squid. The reason for selecting this motive must be looked for in the fact that the squid is used for baiting the hooks.

I am not quite certain if the decoration of armour and weapons is totemistic or symbolic. Remarkably many helmets represent the sea-lion, many daggers the bear, eagle, wolf, and raven, while I have not seen one that represents the killer-whale, although it is one of the ornaments that are most frequently shown on totemistic designs.

I presume this phenomenon may be accounted for by a consideration of the ease with which the conventionalised forms lend themselves to decorating certain parts of implements. It is difficult to imagine how the killer-whale could be represented on the handle of a dagger without impairing its usefulness. On the other hand, the long thin handles of ladders made of the horn of the big horn sheep generally terminate with the head of a raven or of a crane, the beak being the end of the handle. This form was evidently suggested by the slender tip of the horn, which is easily carved in this shape. The same seems to be true in the cases of lances or knives, the blades of which are represented as the long, protruding tongues of animals; but it may be that in this case there is a complex action of a belief in the supernatural power of the tongue, and in the suggestions which the decorator received from the shape of the object he desired to decorate.

To sum up, it seems that there are a great number of cases of decoration which cannot be considered totemistic, but which are either symbolic or suggested by the shape of the object to be decorated. It seems likely that totemism was the most powerful incentive in developing the art of the natives of the North Pacific coast; but the desire to decorate in certain conventional forms once established, these forms were applied in cases in which there was no reason and no intention of using the totemistic mark. The thoughts of the artists were influenced by considerations foreign to the idea of totemism. This is one of the numerous ethnological phenomena which, although apparently simple, cannot be explained psychologically from a single cause, but are due to several factors.

The treatment of the animal design is very peculiar. We may distinguish two principles which govern the form of representation: First, the animal is characterised by a number of symbols; secondly, the artist does not endeavour to render a perspective view of the animal, but rather to show the whole animal.

The first of these principles is probably founded largely on the difficulty encountered in designing realistic representations of various animals which would be clearly recognised as specific animals. For this reason the most characteristic peculiarities of each species become the symbols by which it is recognised. Thus the beaver is always symbolised by two large incisors and a scaly tail; the dog-fish, by an elongated forehead, a mouth with depressed corners, and five curved lines (the gills) on each cheek; the killer-whale, by its tail, flippers, and its large dorsal fin; the sculpin, by two spines which rise over the forehead; the hawk, by a large beak, which is turned backward so that it touches the chin. Probably all these symbols were originally applied to characterise a portion of a quadruped, bird, or fish; but in course of time they came to be considered as sufficient to call to mind the form of the whole animal. We find, therefore, that gradually the symbols were to a great extent substituted

for representations of the whole animal. A dorsal fin worn on the blanket of a dancer, or painted on his face, indicates that the person so decorated personates the killer-whale. A strongly curved beak painted on a gambling-stick symbolises that the stick is meant to represent the thunder-bird. A protruding tongue painted on the chin symbolises the bear.

The second principle seems to be quite opposed to the first one. When the artist decorates any object with the representation of an animal, he distorts and dissects the animal in such a way as to show the whole body on the decorative field; but a closer examination of this tendency proves that it originates mainly in the necessity felt by the artist of introducing all the symbols, which are distributed over the whole body of the animal, in the decoration. To give a few instances, bracelets are decorated in such a way that the animal is split along its back, and then represented in such a manner as to make it appear as though the arm were pushed through the opening. On tattooings the animals are shown as split through along their backs or along their chests, and then flattened out, so that a symmetrical design results. Carvings on totem poles must be interpreted in the same way, the animal being represented as bisected along the rear side of the totem pole, and extended so that the two margins of the cut appear on the borders of the carved portion of the pole. The distortion and section of animals is nowhere carried further than in representations on boxes, on slate dishes, and on Chilcat blankets; but in all these decorations we recognise the endeavour to bring such forms of the animal into view as are essential for an understanding of the design—that is to say, all those parts of the animal are represented which serve as its symbols.

So far as I am aware, the process of conventionalising has not led to the formation of geometrical designs, which are exceedingly rare on decorated objects from the North Pacific coast. They are found only in certain kinds of basket work and in mattings.

Finally, it may be well to add a brief explanation of the economic system prevailing among these Indians, which was fully set forth in the Fifth Report of the Committee. This system finds its expression in the so-called 'potlatch.' The meaning of this custom has been much misunderstood, and the recent enactment of a law making the potlatch a criminal offence is probably in great measure due to a misconception in regard to its meaning.

The economic system of the Indians of British Columbia is largely based on credit, just as much as that of civilised communities. In all his undertakings the Indian relies on the help of his friends. He promises to pay them for this help at a later date. If the help furnished consisted in valuables, which are measured by the Indians by blankets as we measure them by money, he promises to repay the amount so loaned with interest. The Indian has no system of writing, and therefore, in order to give security to the transaction, it is performed publicly. The contracting of debts, on the one hand, and the paying of debts, on the other, is the potlatch. This economic system has developed to such an extent that the capital possessed by all the individuals of the tribe combined exceeds many times the actual amount of cash that exists; that is to say, the conditions are quite analogous to those prevailing in our community: if we want to call in all our outstanding debts, it is found that there is not

by any means money enough in existence to pay them, and the result of an attempt of all the creditors to call in their loans results in disastrous panic, from which it takes the community a long time to recover.

It must be clearly understood that an Indian who invites all his friends and neighbours to a great potlatch, and apparently squanders all the accumulated results of long years of labour, has two things in his mind which we cannot but acknowledge as wise and worthy of praise. His first object is to pay his debts. This is done publicly and with much ceremony, as a matter of record. His second object is to invest the fruits of his labour so that the greatest benefit will accrue from them for himself as well as for his children. The recipients of gifts at this festival receive these as loans, which they utilise in their present undertakings, but after the lapse of several years they must repay them with interest to the giver or to his heir. Thus the potlatch comes to be considered by the Indians as a means of insuring the well-being of their children if they should be left orphans while still young. It is, we might say, their life insurance.

The sudden abolition of this system—which in all its intricacies is very difficult to understand, but the main points of which were set forth in the preceding remarks—destroys therefore all the accumulated capital of the Indians. It undoes the carefully planned life-work of the present generation, exposes them to need in their old age, and leaves the orphans unprovided for. What wonder that it should be resisted with vigour by the best class of Indians, and that only the lazy should support it, because it relieves them of the duty of paying their debts?

But it will be said that the cruel ceremonies connected with some of the festivals make their discontinuance necessary. An intimate knowledge of the Indian character leads me to consider that any interference with these very ceremonials is unadvisable. They are so intimately connected with all that is sacred to the Indian that their forced discontinuance will tend to destroy what moral steadiness is left to him. It was during these ceremonies that I heard the old men of the tribe exhort the young to mend their ways; that they held up to reprobation the young women who had gone to Victoria to lead a life of shame; and that they earnestly discussed the question of requesting the Indian Agents to help them in their endeavour to bring the young back to the good, moral life of old.

And the cruelty of the ceremonial exists alone in the fancy of those who know of it only by the exaggerated descriptions of travellers. In olden times it was a war ceremony, and captives were killed and even devoured; but with the encroachment of civilisation the horrors of the old ceremonies have died out. An old chief has been heard addressing his people thus: 'How lovely is our time! No longer do we go in fear of each other; peace is everywhere. No longer is there the strife of battle; we only try to outdo each other in the potlatch,' meaning that each tries to invest his property in the most profitable manner, and particularly that they vie with each other in honourably repaying their debts.

The ceremony of the present day is no more and no less than a time of general amusement, which is expected with much pleasure by young and old. But enough of its old sacredness remains to give the Indian, during the time of its celebration, an aspect of dignity which he lacks at other times. The lingering survivals of the old ceremonies will die out quickly, and the remainder is a harmless amusement that we should be slow to take away from the native, who is struggling against the over-powerful influence of civilisation.

Papers based largely on Investigations carried on for the Committee on the North-Western Tribes of Canada.

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INDEX TO REPORTS, IV.-XII.

- Adoption among Kootenay, viii. 14.
 Awik'yenôq: Physical characteristics, xii. table.
- Beliefs: Bilqula, vii. 15; Kwakiutl, vi. 61, xi. 10; Shuswap, vi. 92; Songish, vi. 25; tribes of Lower Fraser River, ix. 11.
- Bilqula: Birth, v. 41, vii. 11; current beliefs, vii. 15; death, vii. 13; houses, vii. 4; linguistics, vi. 127; marriage, vii. 12; maturity, v. 42, vii. 12; medicine, vii. 17; potlatch, vii. 6; mythology, iv. 8, vii. 6, 13; physical characteristics, v. 12, vii. table 3; religion, vii. 14; secret societies, vii. 6; shamanism, vii. 15; social organisation, vii. 3; tribes, vii. 2; wars, vii. 15.
- Birth: Bilqula, v. 41, vii. 11; Coast Salish, v. 44; Kwakiutl, v. 42, vi. 58, xi. 5; Nootka, vi. 39; Shuswap, vi. 89; Songish, vi. 20; Tlingit, v. 40; Ts'ets'ä'ut, x. 45; Tsimshian, v. 40.
- BOAS (F.): Report on Indians of British Columbia, iv. 1-10, v. 5-97 and 6 plates, vi. 10-163, vii. 2-43, ix. 1-11, x. 2-71, xi. 1-23, xii. 1-17, 27-56; social organisation of Haida, xii. 21-27.
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- Canoes, Chilcotin, xii. 20; Kootenay, viii. 22; Songish, vi. 14.
- Carrier: Physical characteristics, xii. table 8.
- CHAMBERLAIN (A. F.) on Kootenay, viii. 5-71.
- Charms of Kootenay, viii. 25.
- Chilcotin: L. Farrand, xii. 18; armour, xii. 20; canoes, xii. 20; death, xii. 20; dress, xii. 20; houses, xii. 19; industries, xii. 18; inheritance, xii. 19; location, xii. 18; marriage, xii. 18; mythology, xii. 21; physical characteristics, xii. table 9; shamanism, xii. 19; social organisation, xii. 18; vocabulary, xii. 37.
- Childhood of Kootenay, viii. 13.
- Children, growth of Indian, xi. 15.
- Clothing of Ts'ets'ä'ut, x. 39.
- Coast Salish: Birth, v. 41; death, v. 45; houses, v. 22; marriage, v. 44; religion, v. 51; shamanism, v. 59; social organisation, v. 32.
- Colour perception of Kootenay, viii. 11.
- Columbia River: Physical characteristics of tribes, vii. 24.
- Comox: Physical characteristics, v. 17, xi. 16.
- Comparative vocabulary, vi. 140, x. 68.
- Crania from North Pacific coast, deformed, vi. 95.
- Crime among Kootenay, viii. 14.
- Customs of Sarcees, iv. 12.
- Death: Bilqula, vii. 13; Chilcotin xii. 20; Coast Salish, v. 45; Héiltsuk, vi. 58; Kootenay, v. 46, viii. 16; Kwakiutl, v. 43, vi. 58, xi. 7; Niska'a', x. 52; Nootka, vi. 43; Sarcees, iv. 15; Shuswap, vi. 91; Songish, vi. 23; tribes of lower Fraser River, ix. 5; Ts'ets'ä'ut, x. 46; Tsimshian, v. 41.
- Deformed crania from North Pacific coast, vi. 95.
- Dress: Chilcotin, xii. 20; Kootenay, viii. 24.
- Ethnology, linguistic, Horatio Hale on, viii. 1-5; of British Columbia, Horatio Hale on, v. 1-5, vi. 1-10.
- FARRAND (L.) and F. BOAS, Physical characteristics of tribes of British Columbia, xii. 1-17.
- FARRAND (L.), Ethnology of Chilcotin, xii. 18-21.
- Festivals of Niska'a', x. 52.
- Fishing: Kootenay, viii. 20; Songish, vi. 16; tribes of lower Fraser River, ix. 7.
- Food: Indians of British Columbia, v. 19; Kootenay, viii. 27; Shuswap, vi. 85; Songish, vi. 15.
- Future life among Tlingit, v. 46.
- Gambling: Sarcees, iv. 14; Songish, vi. 19.
- Games: Kwakiutl, xi. 10; Niska'a', x. 61; Nootka, vi. 38; Shuswap, vi. 89; Ts'ets'ä'ut, x. 47.
- Genealogies of tribes of lower Fraser River, ix. 3, table i.
- Gitamat: Physical characteristics of, vii. 20.

Government and law among Indians of British Columbia, v. 34.
Government of Shuswap, vi. 86.

Haida: Houses, v. 22; linguistics, v. 71; mythology, iv. 7; physical characteristics, v. 12, 15, vii. 20, xii. 15, 42, table 11; secret societies, v. 58, vii. 48; shamanism, v. 58; social organisation, iv. 4, v. 23, 26; worship and prayers, iv. 9.

HALE (Horatio), Introductory letter, iv. 1-4; ethnology of British Columbia, v. 1-5, vi. 1-10; linguistic ethnology, viii. 1-5; Sarcees, iv. 21, 23.

Harrison Lake: Physical characteristics of tribes, vii. table 5.

Heiltsuk: Death, vi. 58; physical characteristics, xii. table 11; social organisation, iv. 5, v. 23, 29.

History of Ts'ets'a'ut, x. 35.

Houses: Bilqula, vii. 4; Chilcotin xii. 19; Coast Salish, v. 22; Haida, v. 22; Kootenay, viii. 22; Kwakiutl, v. 22; Nisk'a', xi. 12; Nootka, v. 22; Shuswap, vi. 80; Songish, vi. 11; Tlingit, v. 22; Ts'ets'a'ut, x. 40; Tsimshian, v. 22, xi. 12.

Hunting and fishing in British Columbia, v. 19.

Hunting: Kootenay, viii. 19; tribes of lower Fraser River, ix. 7; Ts'ets'a'ut, x. 41.

Implements of Indians of British Columbia, v. 19.

Indian children, growth of, xi. 15.

Indian words, transcription of, iv. 4, vi. 10, vii. 2, x. 2, xii. 38.

Indians of British Columbia, reports on, iv. 1-10, v. 5-97 and 6 plates, vi. 10-163, vii. 2-43, viii. 5-71, ix. 1-11, x. 2-71, xi. 1-23, xii. 1-61.

Industries: Chilcotin, xii. 18; Shuswap, vi. 83.

Inheritance: Chilcotin, xii. 19; Kootenay, viii. 14.

Introduction to report of Committee, by Sir Daniel Wilson, vii. 1.

Kootenay: Adoption, viii. 14; canoes, viii. 22; charms, viii. 25; childhood, viii. 13; colour perception, viii. 11; crime, viii. 14; death, v. 46, viii. 16; dress, viii. 24; fishing, viii. 20; food, viii. 27; houses, viii. 22; hunting, viii. 19; linguistics, v. 93, viii. 45; manufactures, viii. 23; marriage, v. 46, 13; maturity, v. 45; medicine, viii. 29; music, viii. 17; mythology, iv. 9, viii. 31; ornaments, viii. 25; painting, viii.

16; physical characteristics, viii. 38; property and inheritance, viii. 14; religion, viii. 15; report of A. F. Chamberlain, viii. 5-71; senses and mental character, viii. 8; shamanism, v. 59, viii. 15; sign language, viii. 36; social organisation, iv. 6, viii. 12; tattooing, viii. 16; terms of relationship, viii. 12; tribes, viii. 6; worship and prayers, iv. 10.

Kwakiutl: Birth, v. 42, vi. 58, xi. 5; current beliefs, vi. 61, xi. 10; death, v. 43, xi. 58, xi. 7; games, xi. 10; houses, v. 22; linguistics, vi. 103, xi. 17; marriage, v. 42; mythology, iv. 7; physical characteristics, v. 12, 15, vii. 21, x. tables 3, 4, 5; xii. table 12; religion, v. 51, vi. 58; secret societies, v. 52, vi. 62; shamanism, vi. 59, xi. 2; social organisation, v. 29, 33, vi. 56; tribes, vi. 52; worship and prayers, iv. 9.

Kwakiutl type, xii. 16.

Languages spoken in British Columbia, comparative vocabulary of, vi. 140.

Linguistic stocks, iv. 4.

Linguistics: Bilqula, vi. 127; Haida, v. 71; Kootenay, v. 93, viii. 45; Kwakiutl, vi. 103, xi. 17; Nlakya'pamuq, xii. 27; Nisk'a', x. 62, xi. 18; Nootka, vi. 116; Okanagon, vi. 135; Salish languages, vi. 127; Sarcees, iv. 17; Shuswap, vi. 131; Snanaimuq, vi. 128; Stla'tlumh, vi. 133; Tlingit, v. 60; Ts'ets'a'ut, x. 66; Tsimshian, v. 81.

Lku'ngen. See Songish.

Location: Chilcotin, xii. 18; Sarcees, iv. 10; Shuswap, vi. 80; Ts'ets'a'ut, x. 34.

Lower Fraser River: Physical characteristics of tribes, vii. 22; tribes, ix. 1.

Lytton, Physical characteristics of Indians of, v. 18.

Manufactures: Kootenay, viii. 23; Songish, vi. 14.

Marriages: Bilqula, vii. 12; Chilcotin, xii. 18; Coast Salish, v. 44; Kootenay, v. 46, viii. 13; Kwakiutl, v. 42; Nisk'a', x. 54; Nootka, vi. 42; Sarcees, iv. 14; Shuswap, vi. 90; Songish, vi. 23; tribes of lower Fraser River, ix. 4; Ts'ets'a'ut, x. 45; Tsimshian, v. 40.

Maturity: Bilqula, v. 42, vii. 12; Kootenay, v. 45; Nootka, vi. 40; Shuswap, vi. 89; Songish, vi. 22; Ts'ets'a'ut, x. 45; Tsimshian, v. 40.

Medicine: Bilqula, vii. 17; Kootenay, viii. 29; Songish, vi. 24.

Mental character: Indians of British Columbia, v. 18; Kootenay, viii. 8.

- viii. 38; 4; reli-hamber-mental, v. 59; ; social ttooning, viii. 12; prayers, 5; cur-eath, v. houses, 7; mar-physi-i. 21, x. gion, v. , vi. 62; organi-vi. 52;
- umbia, 40.
- a, v. 71; utl, vi. ii. 27; i. 116; uages, ap, vi. 'lumh, 'ut, x.
- ees, iv. x. 34. acter-. 1. idians
- Song-
- cotin, enay, 'ska', v. 14; tribes 's'ut,
- Koo-swap. at, x. , viii. i Co-
- Music:** Kootenay, viii. 17; Nisk'a', x. 50, 51; Nootka, vi. 36-38, 41, 44, 46, 48-50; Ts'ets'a'ut, x. 46.
- Mythology:** Bilqula, iv. 8, vii. 6, 13; Chilcotin, xii. 21; Haida, iv. 7; Kootenay, iv. 9, viii. 31; Kwakiutl, iv. 7; Nisk'a', x. 50; Nootka, iv. 8, vi. 43; Ntlakya'pamuq, iv. 8; Salish, iv. 8; Songish, vi. 27; Tlingit, iv. 6; tribes of British Columbia, iv. 6; tribes of lower Fraser River, ix. 9; Ts'ets'a'ut, x. 47; Tsimshian, iv. 7.
- Nasal index of skulls,** xi. 16.
- Nicola Valley, Tinneh tribe of,** x. 30-34, xii. 18, 38.
- Nisk'a':** Death, x. 52; festivals, x. 52; games, x. 61; houses, xi. 12; linguistics, x. 62, xi. 18; marriage, x. 54; music, x. 50, 51; mythology, x. 50; physical characteristics, x. tables 1, 2; xii. table 11; religion, x. 61; secret societies, x. 54; shamanism, x. 59; social organisation, x. 48; totem poles, x. 52.
- Nootka:** Birth, vi. 39; death, vi. 43; games, vi. 38; houses, v. 22; linguistics, vi. 116; marriage, vi. 42; maturity, vi. 40; music, vi. 36-38, 41, 44, 46, 48-50; mythology, iv. 8, vi. 43; omens relative to birth of twins, vi. 39; paintings, vi. 35, 40; physical characteristics, v. 12, 15, vii. 21; potlatch, vi. 36; religion, vi. 43; secret societies, vi. 47; shamanism, vi. 44; social organisation, vi. 32; tattooing, vi. 38; tribes, vi. 31. Northern type, xii. 15, 42.
- North Pacific Coast:** Deformed crania, vi. 95; physical characteristics of tribes, vii. 18, x. 3.
- Northern Oregon:** Physical characteristics of tribes, vii. 26.
- Ntlakya'pamuq:** Linguistics, xii. 27; mythology, iv. 8; physical characteristics, x. tables, 7-11, xii. table 10.
- Okanagon:** Linguistics, vi. 135; physical characteristics, x. table 11.
- Ornamentation,** Ts'ets'a'ut, x. 43.
- Ornaments,** Kootenay, viii. 25.
- Painting:** Kootenay, viii. 16; Nootka, vi. 35, 40; preliminary notes, iv. 5.
- Physical characteristics:** Bilqula, v. 12, vii. table 3; Chilcotin, xii. table 9; coast tribes of British Columbia, v. 11; Comox, v. 17; Gitamat, vii. 20; Haida, v. 12, 15, vii. 20, xii. table 11; Indians of Lytton, v. 18; Kootenay, viii. 38; Kwakiutl, v. 12, 15, vii. 21, x. tables 3-5; Nisk'a', x. tables 1, 2; Nootka, v. 12, 15, vii. 21; Ntlakya'pamuq, x. tables 7-11; Oregonian Tinneh, vii. table 9; Sanitch, v. 17; Sarcees, iv. 16; Shuswap, viii. 71, x. table 11; Sishiatl, x. table 5; Songish, v. 17; Ts'ets'a'ut, x. table 1; Tsimshian, v. 12, 15, vii. 20.
- Physical characteristics of tribes:** Coast of Washington, vii. table 6; Columbia River, vii. 24; Harrison Lake, vii. table 5; Lower Fraser River, vii. 22, x. table 6; North Pacific coast, vii. 18, x. 3; Northern Oregon, vii. 26; Southern Oregon, vii. 28.
- Potlatch:** Bilqula, vii. 6; British Columbia, v. 38; Nootka, vi. 36.
- Preliminary notes on mythology:** Bilqula, iv. 8; British Columbia, iv. 6; Haida, iv. 7; Kootenay, iv. 9; Kwakiutl, iv. 7; Nootka, iv. 8; Ntlakya'pamuq, iv. 8; Salish, iv. 8; Tlingit, iv. 6; Tsimshian, iv. 7.
- Preliminary notes on painting,** iv. 5.
- Preliminary notes on social organisation:** Haida, iv. 4; Heiltsuk, iv. 5; Kootenay, iv. 6; Salish, iv. 5; Tlingit, iv. 5.
- Preliminary notes on tattooing,** iv. 5.
- Preliminary notes on worship and prayers:** Haida, iv. 9; Kootenay, iv. 10; Kwakiutl, iv. 9; Salish, iv. 10; Tlingit, iv. 9; Tsimshian, iv. 9.
- Preliminary report by F. Boas,** iv. 1-10.
- Property among Kootenay,** viii. 14.
- Relationship:** Kootenay, terms of, viii. 12; Salish languages, terms of, vi. 136.
- Religion:** Bilqula, vii. 14; Coast Salish, v. 51; Kootenay, viii. 15; Kwakiutl, v. 51, vi. 58; Nisk'a', x. 61; Nootka, vi. 43; Shuswap, vi. 93; Songish, vi. 28; tribes of Lower Fraser River, ix. 9; Ts'ets'a'ut, x. 46; Tsimshian, v. 49.
- Reports on Indians of British Columbia,** iv. 1-10, v. 5-97 and 6 plates, vi. 10-163, vii. 2-43, x. 2-71, xi. 1-23, xii. 1-61.
- Salish languages:** Linguistics, vi. 127; terms of relationship, vi. 136.
- Salish:** Mythology, iv. 8; social organisation, iv. 5; worship and prayers, iv. 10.
- Sanitch:** Physical characteristics, v. 17.
- Sarcees:** Customs, iv. 12; death, iv. 15; gambling, iv. 14; linguistics, iv. 17; location, iv. 10; marriage, iv. 14; origin, iv. 11; physical characteristics, iv. 16; remarks by Horatio Hale, iv. 21-23; report by E. F. Wilson, iv. 10-21; shamanism, iv. 15; traditions, iv. 12.

- Secret societies: Bilqula, vii. 6; Haida, v. 58; Kwakiutl, v. 52, vi. 62; Nisk'a', x. 54; Nootka, vi. 47; Songish, vi. 26; Tsimshian, v. 56.
- Senses and mental character: Indians of British Columbia, v. 18; Kootenay, viii. 8.
- Shamanism, Bilqula: vii. 15; Chilcotin, xii. 19; Coast Salish, v. 59; Haida, v. 58; Kootenay, v. 59, viii. 15; Kwakiutl, vi. 59, xi. 2; Nisk'a', x. 59; Nootka, vi. 44; Sarcees, iv. 15; Shuswap, vi. 93; Songish, vi. 28; Tlingit, v. 58; tribes of lower Fraser River, ix. 9; Ts'ets'a'ut, x. 45; Tsimshian, v. 58.
- Shuswap: Birth, vi. 89; current beliefs, vi. 92; death, vi. 91; food, vi. 85; games, vi. 89; government, vi. 86; houses, vi. 80, industries, vi. 83; linguistics, vi. 131; location, vi. 80; marriage, vi. 90; maturity, vi. 89; physical characteristics, viii. 71, x. table 11, xii. table 7; religion, vi. 93; shamanism, vi. 93; sign language, vi. 87; social organisation, vi. 85; war, 86.
- Sign language: Kootenay, viii. 36; Shuswap, vi. 87; Songish, vi. 25.
- Sishiatl, physical characteristics, x. table 5.
- Skulls, nasal index, xi. 16.
- Slaves of Chilcotin, xii. 19.
- Snanaimuq: Linguistics, vi. 128.
- Social organisation: Bilqula, vii. 3; Chilcotin, xii. 18; Coast Salish, v. 32; Haida, iv. 4, v. 23, 26; Heiltsuk, iv. 5, v. 23, 29; Kootenay, iv. 6, viii. 12; Kwakiutl, v. 29, 33, vi. 56; Nisk'a', x. 48; Nootka, vi. 32; Salish, iv. 5; Shuswap, vi. 85; Songish, vi. 17; Tlingit, iv. 5, v. 23, 25; tribes of lower Fraser River, ix. 3; Ts'ets'a'ut, x. 44; Tsimshian, v. 23, 24, 27.
- Songish: Birth, vi. 20; canoes, vi. 14; current beliefs, vi. 25; death, vi. 23; fishing, vi. 16; food, vi. 15; gambling, vi. 19; houses, vi. 11; manufactures, vi. 14; marriage, vi. 23; maturity, vi. 22; medicine, vi. 24; mythology, vi. 22; omens relative to birth of twins, vi. 22; physical characteristics, v. 17; religion, vi. 28; secret societies, vi. 26; shamanism, vi. 28; sign language, vi. 25; social organisation, vi. 17; tattooing, vi. 22.
- Southern Oregon: Physical characteristics of tribes, vii. 28.
- Sti'atEmQ: Physical characteristics, xii. table 6.
- StlätlumH: Linguistics, vi. 133; physical characteristics, xii. tables 1, 2, 3.
- StlEmqo'lEqumQ: Physical characteristics, xii. tables 4, 5, 6.
- Summary of the work of the Committee, xii. 40-56.
- Tattooing: Kootenay, viii. 16; Nootka, vi. 38; Songish, vi. 22; preliminary notes, iv. 5.
- TEIT (James): Tinneh of Nicola Valley, x. 31-33
- Terms of relationship: Kootenay, viii. 12; Salish languages, vi. 136.
- Thompson River type, xii. 15, 42.
- Tinneh of Nicola Valley, x. 30-34; James Teit on, x. 31-33.
- Tinneh, Oregonian: Physical characteristics, vii. table 9.
- Tlingit: Birth, v. 40; future life, v. 46; houses, v. 22; linguistics, v. 60; mythology, iv. 6; shamanism, v. 58; social organisation, iv. 5, v. 23, 25; worship and prayers, iv. 9.
- Totem poles of Nisk'a', x. 52.
- Traditions of Sarcees, iv. 12.
- Transcription of Indian words, iv. 4, vi. 10, vii. 2, x. 2, xii. 38.
- Tribes: Bilqula, vii. 2; coast of Washington, physical characteristics, vii. table 6; Columbia River, physical characteristics, vii. 24; Harrison Lake, physical characteristics, vii. table 5; Kootenay, viii. 6; Kwakiutl, vi. 52; Nootka, vi. 31; Northern Oregon, physical characteristics, vii. 26; Southern Oregon, physical characteristics, vii. 28.
- Tribes of Lower Fraser River, ix. 1; current beliefs, ix. 11; death, ix. 5; fishing, ix. 7; genealogies, ix. table 1; hunting, ix. 7; marriage, ix. 4; mythology, ix. 9; physical characteristics, vii. 22, x. table 6; religion, ix. 9; shamanism, ix. 9; social organisation, ix. 3.
- Ts'ets'a'ut: Birth, x. 45; clothing, x. 39; death, x. 46; games, x. 47; history, x. 35; houses, x. 40; hunting, x. 41; linguistics, x. 66; location, x. 34; marriage, x. 45; maturity, x. 45; music, x. 46; mythology, x. 47; ornamentation, x. 43; physical characteristics, x. table 1; religion, x. 46; shamanism, x. 45; social organisation, x. 44; villages, x. 39.
- Tsimshian: Birth, v. 40; death, v. 41; houses, v. 22, xi. 12; linguistics, v. 81; marriage, v. 40; maturity, v. 40; mythology, iv. 7; physical characteristics, v. 12, 15, vii. 20, xii. table; religion, v. 49; secret societies, v. 56; shamanism, v. 58; social organisation, v. 23, 24, 27; worship and prayers, iv. 9.
- Twins: Omens relative to birth, Nootka, vi. 39; Songish, vi. 22.

Village of Ts'ets'a'ut, x. 39.
 Vocabulary of Chilcotin, xii. 37.
 — comparative, x. 68; languages
 spoken in British Columbia, vi. 140.

War of Shuswap, vi. 86.
 Wars: Bilqula, vii. 15; Indians of British
 Columbia, v. 39.
 Washington: Physical characteristics of
 tribes of coast, vii. table 6.

WILSON (E. F.), Report by, on Sarcees,
 iv. 10-21.
 WILSON (Sir Daniel), Introduction by, to
 Report of Committee, vii. 1.
 Words in language of Tinneh of Nicola
 Valley, x. 33, xii. 38.
 Worship and prayers, Haida, iv. 9;
 Kootenay, iv. 10; Kwakiutl, iv. 9;
 Salish, iv. 10; Tlingit, iv. 9; Tsim-
 shian, iv. 9.

Committee,

; Nootka,
 preliminary

a Valley,

ay, viii.

2.

4; James

character-

le, v. 46;

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worship

v. 4, vi.

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Oregon,

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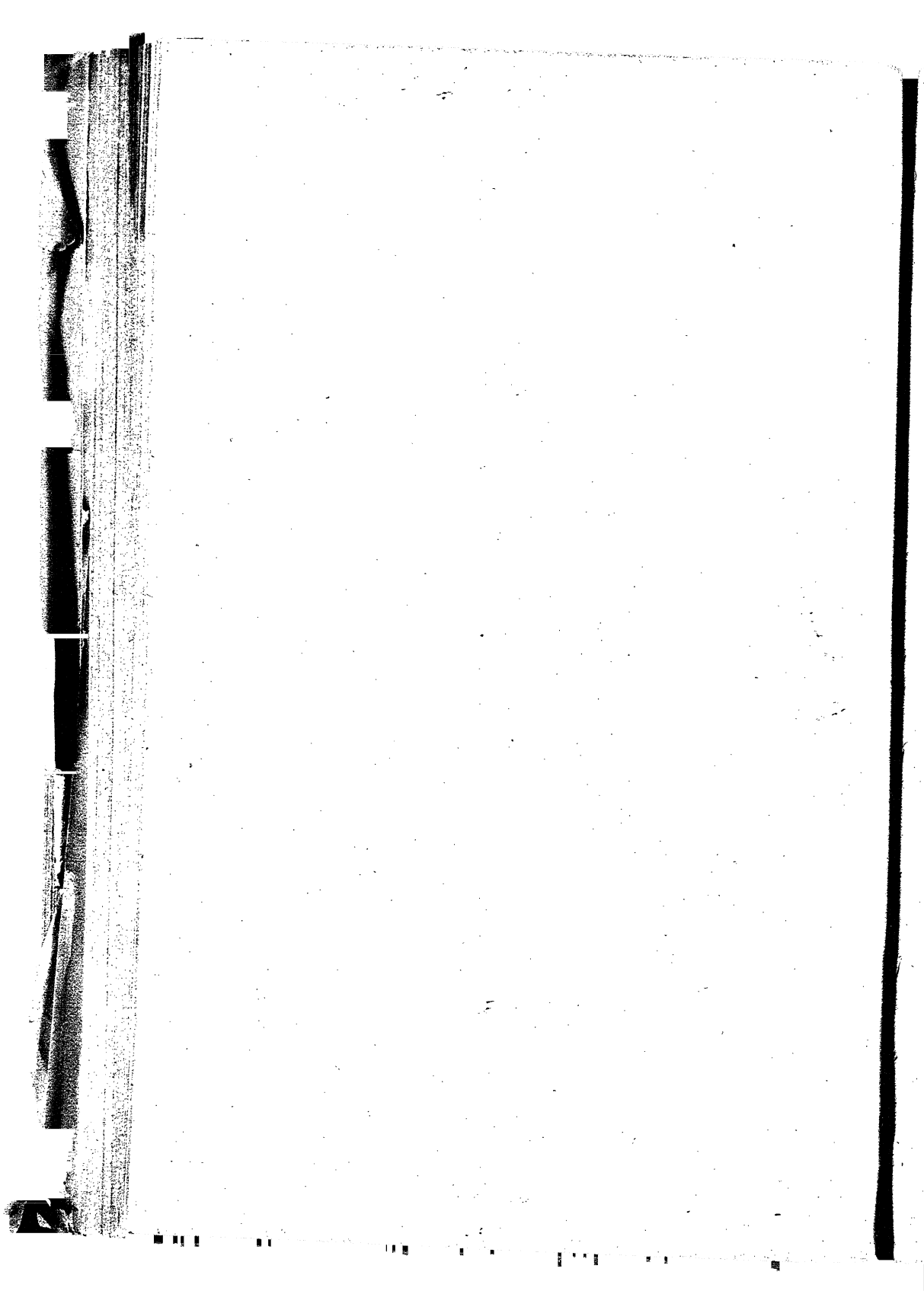
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I. Males

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	Shimo	Achille	Joseph Ball	Patrick	Joseph	Michel	Joseph	Jean Baurian (?)	Jimmy	Johnnie	Tommy Jack	Joseph	Adam
	Seton Lake	Seton Lake	Anderson Lake, Nk'a'it	Seton Lake	Anderson Lake, Nk'a'it	Seton Lake (?)	Pemberton Meadows	Seton Lake	Anderson Lake, Nk'a'it	Anderson Lake	Anderson Lake	Anderson Lake	Canoe Creek
	F.	F.	F.	F.	F.	F.	F.	F.	F.	F.	F.	F.	B.
	14	18	19	20	20	25	25	27	30	30	30	34	58
m.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.
48	1,466	1,654	1,770	1,747	1,580	1,604	1,650	1,636	1,598	1,570	1,581	1,602	1,640
82	1,183	1,353	1,437	1,452	1,282	1,302	1,338	1,322	1,296	1,270	1,330	1,310	1,333
30	550	658	672	658	624	576	620	596	595	554	604	611	735
78	1,527	1,692	1,859	1,849	1,640	1,714	1,692	1,705	1,673	1,725	1,710	1,655	1,696
38	751	849	874	844	848	830	894	819	798	835	854	881	807
12	328	390	408	406	382	400	395	386	372	390	368	381	361
177	178	183	189	183	176	177	184	182	183	185.5	182	181	181
157	161	157	157	165	163	156	158	157	152	162	164	151	151
08	110	118	116	120	118	115	119	121	121	127	120	111	111
36	141	149	145	146	144	145	143	148	147	148	150	141	141
44	49	55	48	56	50	52	49	50	53	53	47	51	51
34	36	39	36	38	40	41	40	42	40	35	42	38	38
87	90.5	85.8	83.1	90.2	92.6	88.1	85.9	86.3	83.1	87.6	90.1	84.1	84.1
94	78.0	79.2	80.0	82.2	81.9	79.3	83.2	81.8	82.3	85.8	80.0	80.0	80.0
73	73.5	70.9	75.0	67.9	80.0	78.8	81.6	84.0	75.5	66.0	89.4	74.1	74.1
50	43.1	42.1	43.2	45.4	41.6	45.4	43.5	44.3	43.8	45.6	46.0	43.1	43.1
21	104.1	102.3	105.0	105.8	103.8	106.2	102.5	104.2	104.7	109.9	108.3	103.1	103.1
09	51.1	51.5	49.4	48.2	53.7	51.9	54.2	49.9	49.9	53.2	54.0	55.1	55.1
15	22.3	23.6	23.0	23.2	24.2	25.0	23.9	23.5	23.2	24.8	23.3	23.1	23.1

* Son of No. 16; measured with shoes on spruce boughs.

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		97	98	99	100	101	102	103	104	105		
		Stuwitka'tkkoa	Anne	Annie	Adle	K'stoni'nek	Elizabeth	Sa'tkkoa	Aline	Caroline		
BRIDGE RIVER		Bridge River	Bridge River	Fountain	Fountain	Fountain	Fountain	Fountain	Lilloet	Lilloet	CANTON COLUMBIA	
B.		B.	F.	B.	B.	B.	B.	B.	F.	B.	B.	
60		40	60	60	60	60	65	65	70	70	58	
mm.		mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	
586	0	1,570	1,328	1,487	1,517	1,563	1,480	1,492	1,480	—	1,640	
322	7	1,274	1,056	1,205	1,241	1,281	1,226	1,229	1,194	—	1,333	
748	4	662	584	675	671	667	634	654	676	—	735	
733	11	1,560	1,375	1,571	1,555	1,560	1,456	1,508	1,545	—	1,696	
815	5	866	708	764	793	792	760	746	720	—	807	
369	4	372	295	340	319	348	313	336	332	—	369	
195	6	186	164	176	183	190	178	182	180	189	178	
158	9	150	153	151	148	159	153	155	148	154	155	
119	9	118	101	109	114	113	126	114	113	109	118	
153	19	142	133	140	140	150	144	141	143	144	148	
54	51	45	45	52	45	54	54	52	48	50	53	
44	32	37	36	35	33	44	37	38	41	40	42	
81.0	5	80.6	93.3	85.8	80.9	83.7	86.0	85.2	82.2	81.5	87.0	
77.8	9	83.1	75.9	77.9	81.4	75.3	87.5	80.9	79.0	75.7	79.7	
81.5	7	82.2	80.0	67.3	73.3	81.5	68.5	73.1	85.4	80.0	79.2	
47.1	5	42.2	43.9	45.3	44.1	42.8	42.8	43.9	45.7	—	44.9	
109.2	0	99.4	103.6	105.6	102.5	100.0	—	101.1	104.4	—	103.4	
51.3	9	55.2	53.2	51.3	52.2	50.8	51.4	50.1	48.6	—	49.2	
23.2	2	23.7	22.2	22.8	21.0	22.3	21.1	22.6	22.4	—	22.5	

No.

Mother of No. 56

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m.
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Tri

I

Andres

F. Stal'tiumH

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II. Females

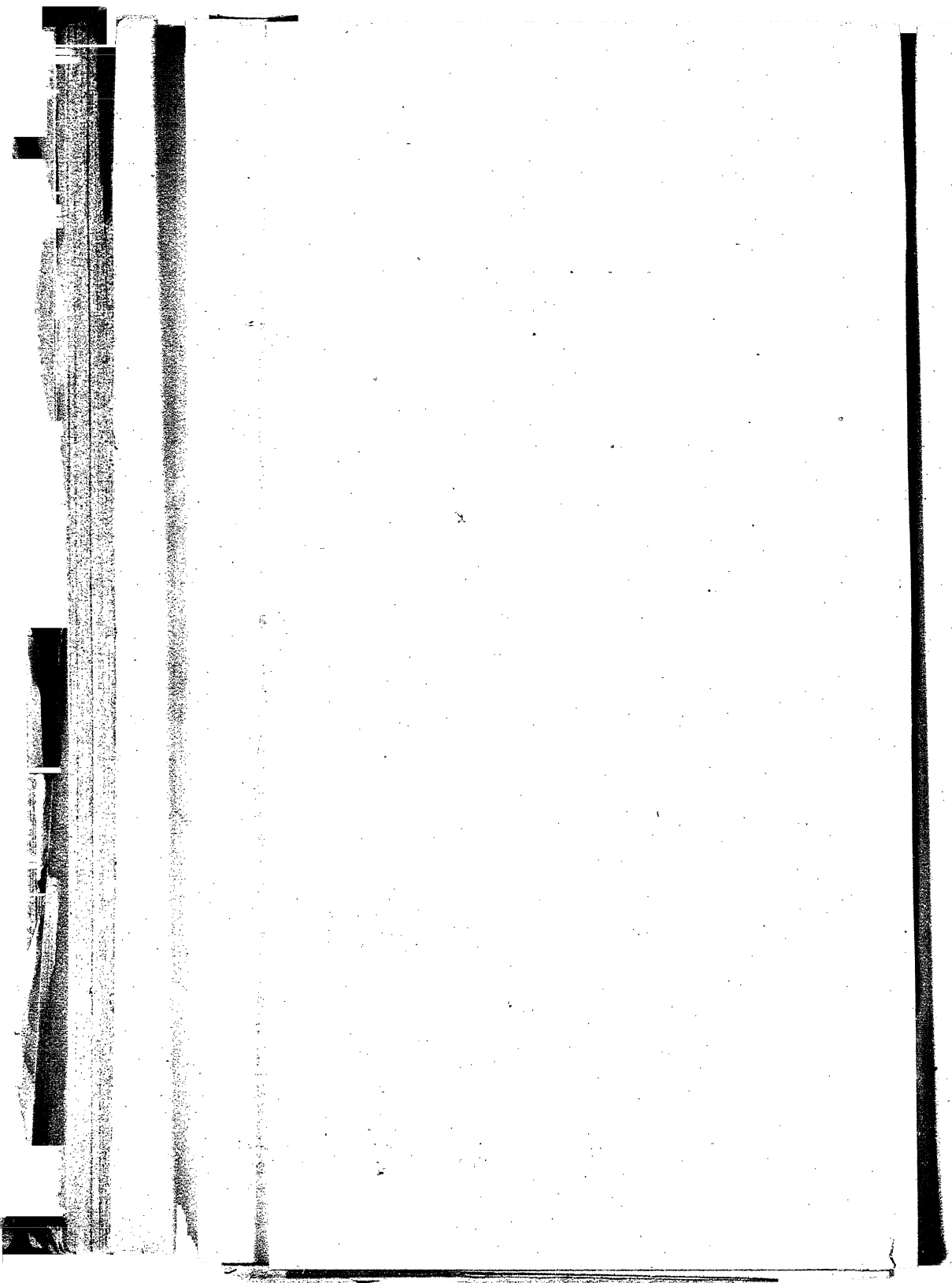
11	12	13	14	15	16
Andresi	Athanasie	Christine	K'ëqpa'tkoa	Kultsi'Qa	Nicapa'tko
F. Sliá'tliumH M. Sliqá'yuc	F. St'á'tliumH M. NlákayapamuQ'ó'e	F. Shuswap M. Sliá'tliumH	F. Shuswap M. Sliá'tliumH	F. $\frac{1}{2}$ Shuswap $\frac{1}{2}$ Sliá'tliumH M. Sliá'tliumH	F. $\frac{1}{2}$ Sliá'tliumH $\frac{1}{2}$ Sliemqó'lequmq $\frac{1}{2}$ M. Sliá'tliumH
B.	B.		B.	B.	B.
11	19	23	40	45	55
mm. 1,343	mm. 1,587	mm. 1,553	mm. 1,612	mm. 1,503	mm. 1,592
1,080	1,285	1,263	1,360	1,220	1,310
586	682	690	681	672	662
1,373	1,643	1,625	1,618	1,612	1,605
711	786	794	860	800	793
284	372	332	328	337	354
170	174	174	174	186	185
149	147	147	143	148	157
107	116	114	120	103	106
128	136	133	137	141	145
45	48	48	54	47	46
29	34	34	41	36	36
87.6	84.5	84.5	82.1	79.6	84.8
83.6	85.3	85.7	87.6	73.0	73.1
64.4	70.8	70.8	75.9	76.6	78.3
43.7	42.9	44.5	42.3	44.8	41.6
102.2	103.5	104.6	100.4	107.3	100.8
53.1	49.4	51.2	53.4	53.3	49.9
21.2	23.4	21.4	20.4	22.5	22.3

54	55	56
John	Joe	Adam
Williams Lake	Williams Lake	Canoe Creek
F.	F.	B.
55	55	58
mm. 1,639	mm. 1,578	mm. 1,640
1,351	1,254	1,333
704	703	735
704	1,666	1,696
850	846	807
375	353	369
179	190	178
161	158	155
110	120	118
152	147	148
49	51	53
42	43	42
89.9	83.1	87.0
2.4	81.6	79.7
5.7	84.3	79.2
2.9	44.5	44.9
4.0	105.6	103.4
1.8	53.5	49.2
2.9	22.3	22.5

Number.	Males		I. Males										II. Females					
	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Name.	Dick Terry	Louis	Duncan	Peter	Linéz	Johnnie Edward	Daniel	Saul	Billy Bones	Harry	Michel	Qa'tea	Andresí	Athanasie	Christine	K'ëppá'tkoa	Kultsi'qa	Nicapa'tko
Tribe.	F. English M. Stlá'tliumH	F. (C) M. Stlá'tliumH	F. Stlá'tliumH M. Carrier	F. Stlá'tliumH M. $\frac{1}{2}$ Shuswap $\frac{1}{2}$ Stlá'tliumH	F. Shuswap M. Stlá'tliumH	F. $\frac{1}{2}$ Shuswap $\frac{1}{2}$ Stlá'tliumH M. $\frac{1}{2}$ Shuswap	F. Shuswap M. Stlá'tliumH	F. Shuswap M. Stlá'tliumH	F. Shuswap M. Stlá'tliumH	F. Shuswap M. Stlá'tliumH	F. Shuswap M. Stlá'tliumH	F. Shuswap M. Stlá'tliumH	F. Stlá'tliumH M. Stlaqá'yoo	F. Stlá'tliumH M. Ntlakyapamuq'ó'c	F. Shuswap M. Stlá'tliumH	F. Shuswap M. Stlá'tliumH	F. $\frac{1}{2}$ Shuswap $\frac{1}{2}$ Stlá'tliumH M. Stlá'tliumH	F. $\frac{1}{2}$ Stlá'tliumH $\frac{1}{2}$ Stlenq'ó'lequinq $\frac{1}{2}$ M. Stlá'tliumH
Observer	F.	F.	B.	B.	B.	B.	B.	B.	B.	B.	B.	B.	B.	B.		B.	B.	B.
Age	7	25	9	11	15	20	24	30	30	40	65	70	11	19	23	40	45	55
Height standing	mm. 1,146 ¹	mm. 1,592	mm. 1,240	mm. 1,347	mm. 1,582	mm. 1,702	mm. 1,771	mm. 1,679	mm. 1,603	mm. 1,609	mm. —	mm. 1,495 ²	mm. 1,343	mm. 1,587	mm. 1,553	mm. 1,612	mm. 1,503	mm. 1,592
Height of shoulder	901	1,298	—	1,098	1,294	1,398	1,462	1,390	1,290	1,293	—	1,222	1,080	1,285	1,263	1,360	1,220	1,310
Length of arm	471	671	—	604	704	718	759	765	682	677	—	686	586	682	690	681	672	662
Finger-reach	1,160	1,606	—	1,390	1,659	1,750	1,834	1,764	1,627	1,645	—	1,586	1,373	1,643	1,625	1,618	1,612	1,605
Height sitting	636	864	635	704	830	900	940	864	880	873	—	783	711	786	794	860	800	793
Width of shoulders	253	392	274	297	377	378	410	394	382	385	350	350	284	372	332	328	337	354
Length of head	176	184	170	177	185	182	191	186	185	191	187	186	170	174	174	174	186	185
Breadth of head	145	165	151	158	156	164	157	160	163	157	156	156	149	147	147	143	148	157
Height of face	91	117	96	105	114	116	122	123	131	119	132	111	107	116	114	120	103	106
Breadth of face	122	147	127	138	139	151	149	149	145	145	150	146	128	136	133	137	141	145
Height of nose	35	52	44	43	45	46	49	53	55	51	53	51	45	48	48	54	47	46
Breadth of nose	31	35	33	31	40	43	39	39	35	39	39	38	29	34	34	41	36	36
Length-breadth index	82.4	89.7	88.8	89.3	84.3	90.1	82.2	86.0	88.1	82.2	83.4	83.9	87.6	84.5	84.5	82.1	79.6	84.8
Facial index	74.6	79.6	75.6	76.1	82.0	76.8	81.9	82.6	90.3	82.1	88.0	76.0	83.6	85.3	85.7	87.6	73.0	73.1
Nasal index	88.6	67.3	75.0	72.1	88.9	93.5	79.6	73.6	63.6	76.5	73.6	74.5	64.4	70.8	70.8	75.9	76.6	78.3
Index of arm	41.0	42.2	—	44.7	44.6	42.2	42.9	45.5	42.6	42.0	—	46.0	43.7	42.9	44.5	42.3	44.8	41.6
Index of finger-reach	101.2	100.9	—	103.2	104.9	102.8	103.6	105.1	101.5	102.2	—	106.1	102.2	103.5	104.6	100.4	107.3	100.8
Index of height sitting	55.3	54.3	51.2	52.1	52.5	53.0	53.1	51.4	55.0	54.2	—	52.6	53.1	49.4	51.2	53.4	53.3	49.9
Index of width of shoulders	22.0	24.7	22.1	22.0	23.9	22.2	23.2	23.5	23.9	23.9	—	23.5	21.2	23.4	21.4	20.4	22.5	22.3

¹ Son of No. 37 (I. a).

² Father of No. 91 (I. b).



20	44	45	46	47	48	49	50	51	52	53	54	55	56
Felix	Samson	Chief William	Tea	Stanislas	Charlie	Jim Pelyon	Alexis	William	Maurice	Abraham	John	Joe	Adam
Pavilion	Alkali Lake	Soda Creek	Canoe Creek	Canoe Creek	Alkali Lake	F. Dog Creek M. Alkali Lake	Soda Creek	Canoe Creek	High Bar	Canoe Creek	Williams Lake	Williams Lake	Canoe Creek
B.	B.	F.	F.	B.	F.	B.	F.	F.	B.	B.	F.	F.	B.
20	48	50	50	50	50	50	55	55	55	55	55	55	58
mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.
1,703	544	1,683 ¹⁰	1,648 ¹¹	1,668	1,640	1,633	1,690	1,662	1,630	1,638	1,639	1,578	1,640
1,375	238	1,354	1,333	1,377	1,319	1,340	1,336	1,361	1,336	1,320	1,351	1,254	1,333
747	683	740	718	746	741	722	764	771	707	700	704	703	735
1,755	607	1,752	1,708	1,717	1,744	1,718	1,647	1,774	1,680	1,600	1,704	1,666	1,696
894	831	838	846	846	830	864	852	863	854	822	850	846	807
402	373	334	370	381	391	403	358	375	378	351	375	353	369
192	182	183	189	185	185	192	186	189	187	191	179	190	178
158	157	157	161	159	165	168	155	157	148	157	161	158	155
128	111	118	122	118	117	118	133	127	115	115	110	120	118
144	152	149	154	146	153	158	143	150	147	144	152	147	148
57	53	53	52	49	55	54	56	55	48	53	49	51	53
41	35	39	38	40	42	44	38	40	39	40	42	43	42
82.3	36.2	85.8	85.2	85.9	89.2	87.5	83.3	83.1	79.1	82.2	89.9	83.1	87.0
88.9	73.0	79.2	79.2	80.8	76.5	74.7	93.0	84.7	78.2	79.9	72.4	81.6	79.7
71.9	56.0	73.6	73.1	81.6	76.4	81.5	67.9	72.7	81.3	75.5	85.7	84.3	79.2
43.9	44.4	44.0	43.5	44.7	45.2	44.3	45.2	46.4	43.4	42.7	42.9	44.5	44.9
03.0	04.1	104.1	103.6	102.9	106.3	105.2	97.5	106.7	103.1	97.7	104.0	105.6	103.4
52.6	54.0	49.9	51.3	50.7	50.6	53.0	50.4	52.0	52.4	50.1	51.8	53.5	49.2
23.6	24.2	19.9	22.8	22.8	23.8	24.7	21.2	22.6	23.2	21.4	22.9	22.3	22.5

¹⁰ Father of No. 15.

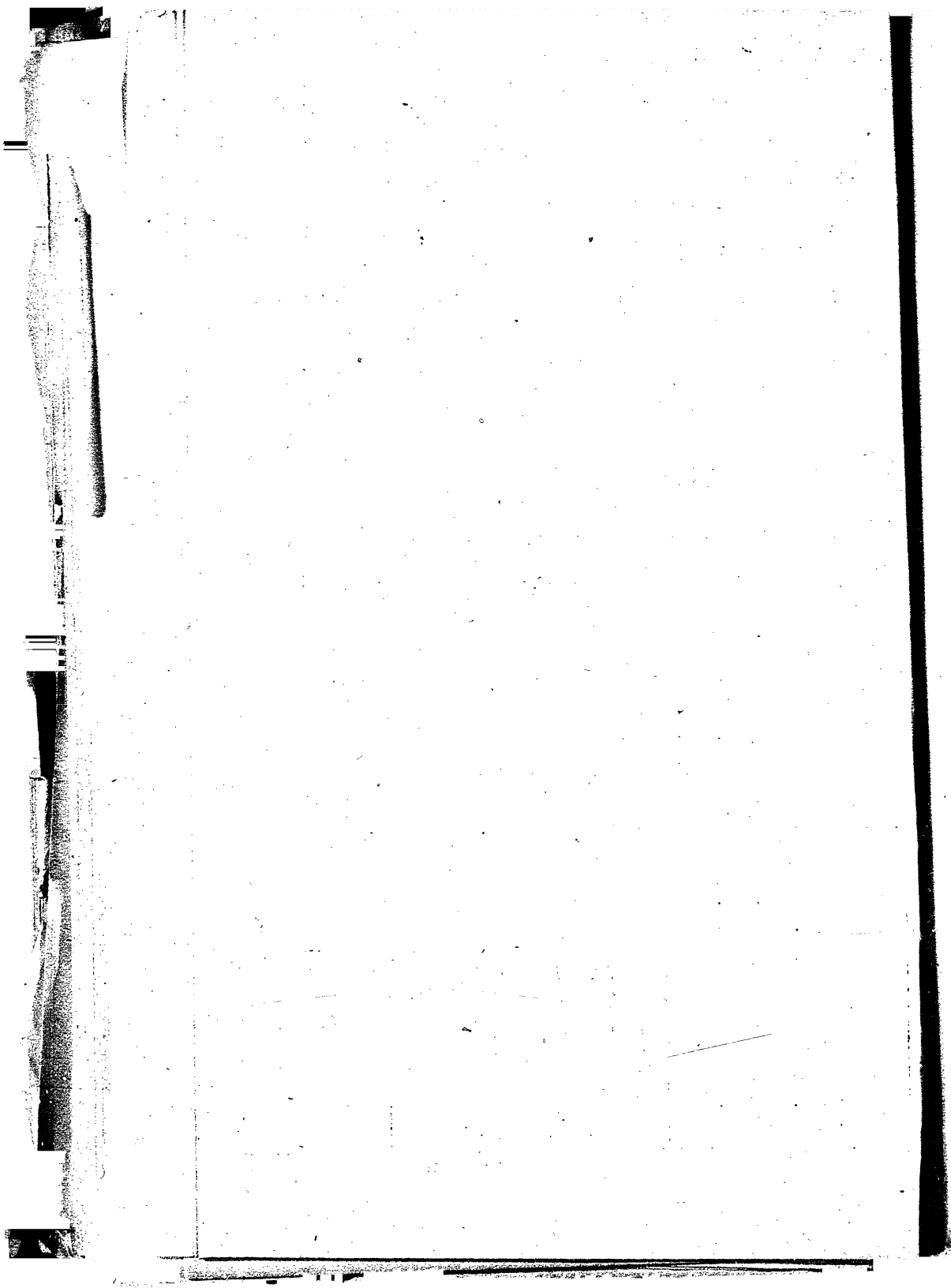
¹¹ Father of No. 81.

N

F

No	78	102	103	104	105	106	107	108	109	110	111	112	113
Na	Susanne	Agathe	Lucy	Cecile	Amy	Madeline	Mary	Anne	Qulesti'ks	Sarah	Mary	Bridget	Aimée
Tr	Soda Creek	Alkali Lake	Canoe Creek	Canoe Creek	Dog Creek	High Bar	Alkali Lake	Canoe Creek	Canoe Creek	Canoe Creek	Sugar Cane	High Bar	Canoe Creek
Ob	B.	F.	F.	F.	B.	B.	F.	B.	B.	F.	F.	B.	F.
Ag	12	50	50	50	50	50	55	55	58	60	65	65	70
Hc	mm. 1,449	mm. 1,589	mm. 1,534	mm. 1,506	mm. 1,470	mm. 1,510	mm. 1,551	mm. 1,520	mm. 1,617	mm. 1,614	mm. 1,495	mm. 1,525	mm. —
Hh	1,166	1,289	1,240	1,232	1,208	1,245	1,238	1,234	1,323	1,332	1,226	—	—
Le	649	721	670	664	703	665	708	686	707	751	670	—	—
Fi	1,536	1,638	1,540	1,507	1,570	1,550	1,621	1,571	1,633	1,644	1,520	1,543	—
Hc	735	866	808	792	769	780	812	800	842	790	750	807	—
W	310	345	331	333	318	314	328	330	332	345	312	337	—
Le	177	182	178	172	180	174	178	178	183	175	170	187	190
Bp	154	157	154	145	150	149	154	153	146	155	143	149	155
Hc	102	117	114	112	110	111	114	115	117	117	108	109	120
Bp	139	144	139	137	135	136	137	139	137	147	138	141	139
Hc	43	49	50	49	50	45	51	50	54	52	43	52	48
Bp	35	36	37	35	32	35	37	39	38	37	39	35	41
Le	87.0	86.2	86.5	84.3	83.3	85.6	86.5	85.9	79.8	88.6	84.1	79.7	81.5
Fa	73.4	81.2	82.0	81.8	81.5	81.6	83.2	82.7	85.4	79.6	78.3	77.3	86.3
Na	81.4	73.5	74.0	71.4	64.0	77.8	72.5	78.0	70.4	71.2	90.7	67.3	85.4
In	44.8	45.3	43.8	44.0	47.8	44.0	45.7	45.1	43.6	46.6	45.0	—	—
In	106.0	103.1	100.4	100.0	106.8	102.6	104.5	103.4	101.0	101.9	101.7	101.2	—
In	50.8	54.5	52.8	52.5	52.3	51.7	52.4	52.6	52.0	49.1	50.3	53.4	—
In	21.4	21.7	21.6	22.1	21.6	20.8	21.2	21.9	20.5	21.4	20.9	22.3	—

¹⁶ Mother of No. 3.



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4. *Silemaq'lequmq and Other Tribes mixed*

5. *Silemaq*

6. *Kamloops*

Number.	I. Males							II. Females				I. Males				II. Females																														
	1	2	3	4	5	6	7	8	9	10	11	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Name	Alec	Thomas	Joseph	Pierre	Alec	Timo'iken	Capt. Charlie	Louise	Aline	Louise	Rose	George	Mike	Tom	Narcisse	Helene	Celestine	Theresa	Maggie	Bridget	Augustine	Julie	Lisette	?	Celestine	Margaret	Gabriel Narcisse	George Alexis	Cyprian	Alec Joseph	Harry Duncann	Casimir Michel	Adolph William	Alexander Bob	Allen Edward	Cyprian Antony	Benjamin Thomas	Bob Pavillon	Juliana	Cecile	Mary	Marianne	Katrine	Julia	Rosalie	Minnie
Tribe	F. Alkali Lake M. Kenin Lake	F. Alkali Lake M. Kenin Lake	F. Williams Lake M. Kenin Lake	F. Alkali Lake M. Kenin Lake	F. Silemaq'lequmq M. Canoe Creek	F. Kenin Lake M. Dog Creek	F. Soda Creek M. Buonaparte	F. Alkali Lake M. Kenin Lake	F. Alkali Lake M. Chilcotin	F. Carrier M. Soda Creek	F. Kenin Lake M. Soda Creek	Kenin Lake	Kenin Lake	Kenin Lake	Kenin Lake	Kenin Lake	Kenin Lake	North Thompson	Kenin Lake	Kenin Lake	North Thompson	North Thompson	North Thompson	Kenin Lake	Kenin Lake	Kenin Lake	Kamloops	Kamloops	Kamloops	Kamloops	Kamloops	Kamloops	Kamloops	Kamloops	Kamloops	Kamloops	F. Kamloops M. Buonaparte	Kamloops	Kamloops	Kamloops	Kamloops	Kamloops	Kamloops	Kamloops	Kamloops	
Observer	F.	B.	B.	B.	B.	F.	F.	B.	F.	F.	F.	B.	B.	B.	B.	F.	F.	F.	F.	B.	B.	F.	B.	B.	B.	B.	B.	F.	F.	B.	B.	B.	B.	B.	B.	B.	B.	B.	B.	B.	B.	B.	B.	B.	B.	
Age	12	46	16	20	35	40	55	13	33	55	65	10	12	12	13	8	9	9	11	12	14	16	18	25	38	60	10	11	11	13	13	13	14	14	14	15	50 (?)	40	8	9	10	12	12	12	13	16
Height standing	mm. 1,443	mm. 1,580	mm. 1,611	mm. 1,630	mm. 1,690	mm. 1,676	mm. 1,656	mm. 1,453	mm. 1,605	mm. 1,567	mm. 1,450	mm. 1,313	mm. 1,285	mm. 1,413	mm. 1,414	mm. 1,145	mm. 1,255	mm. 1,351	mm. 1,366	mm. 1,559	mm. 1,514	mm. 1,425	mm. 1,298	mm. 1,365	mm. 1,230	mm. 1,365	mm. 1,230	mm. 1,382	mm. 1,436	mm. 1,367	mm. 1,370	mm. 1,426	mm. 1,453	mm. 1,445	mm. 1,700	mm. 1,619	mm. 1,198	mm. 1,301	mm. 1,245	mm. 1,332	mm. 1,362	mm. 1,490	mm. 1,484	mm. 1,538		
Height of shoulder	1,159	1,290	1,318	1,334	1,395	1,384	1,358	1,203	1,312	1,281	1,177	1,060	1,040	1,132	1,145	905	1,009	1,093	1,141	1,170	1,244	1,184	1,280	1,234	1,175	1,000	1,100	970	1,118	1,172	1,076	1,105	1,150	1,172	1,132	1,390	1,333	945	—	987	1,065	1,080	1,201	1,214	1,255	
Length of arm	673	702	748	751	737	770	740	678	682	706	700	596	595	627	622	485	554	543	636	672	669	653	710	633	655	520	587	556	640	634	584	583	644	636	620	768	722	521	—	987	1,065	1,080	1,201	1,214	1,255	
Finger-reach	1,498	1,637	1,764	1,711	1,755	1,752	1,691	1,546	1,602	1,571	1,540	1,353	1,356	1,487	1,435	1,174	1,288	1,358	1,448	1,542	1,554	1,529	1,675	1,603	1,470	1,248	1,403	1,290	1,444	1,443	1,393	1,373	1,462	1,500	1,507	1,800	1,665	1,207	1,352	1,248	1,351	1,403	1,578	1,560	1,632	
Height sitting	728	836	880	893	908	871	839	770	806	755	748	735	696	733	753	625	705	716	745	812	873	810	833	804	731	663	711	—	715	755	737	738	754	750	746	885	875	638	710	681	—	735	790	800	830	
Width of shoulders	340	378	354	358	378	375	336	343	355	306	320	293	281	323	298	268	286	340	317	347	323	330	381	357	314	268	303	290	296	311	294	293	294	331	328	380	388	273	301	269	—	303	344	351	374	
Length of head	178	182	188	189	185	192	175	174	175	180	177	178	176	182	178	167	171	169	186	179	183	185	189	179	171	173	176	173	183	180	181	171	185	181	175	191	187	171	173	167.5	182	169	175	180	178	
Breadth of head	148	154	159	163	159	161	165	148	157	146	150	155	150	159	158	148	150	151	152	146	153	156	151	152	151	155	153	146	156	147	153	153	155	153	148	158	161	145	145	147	146	145	142	148	151	
Height of face	111	108	122	124	115	119	120	105	107	109	105	99	111	108	99	89	98	107	108	113	122	114	113	110	112	106	112	97	121	117	105	104	110	114	103	122	130	100	101	103	106	106	117	112	107	
Breadth of face	134	143	145	152	152	150	147	138	139	137	144	131	131	143	145	127	135	134	136	136	138	143	142	145	134	127	131	127	134	129	134	136	132	138	128	153	149	124	129	127	126	126	130	135	137	
Height of nose	45	44	50	58	51	50	51	43	46	52	48	44	47	39	41	37	40	44	40	47	51	44	48	44	48	44	51	37	48	49	43	42	48	49	43	56	57	42	40	44	43	42	44	45	47	
Breadth of nose	38	38	41	42	37	39	38	32	34	35	37	35	35	38	40	34	35	32	39	34	35	33	41	40	40	34	33	31	31	32	33	36	35	36	34	41	38	33	30	33	32	33	35	35	37	
Length-breadth index	83.1	84.6	84.6	86.2	85.9	83.8	94.3	85.0	89.7	81.1	84.7	87.0	85.2	87.9	88.7	88.6	87.8	89.3	81.7	81.5	83.6	84.3	79.9	84.9	88.3	89.6	86.9	84.4	81.9	81.6	84.5	89.5	83.8	84.5	84.5	82.7	86.1	84.8	83.8	88.2	80.2	85.8	81.1	82.2	84.8	
Facial index	82.8	75.5	84.1	81.6	75.7	79.3	81.6	76.1	76.9	79.6	72.9	75.6	84.7	75.5	68.3	70.1	72.6	79.9	79.4	83.1	88.4	79.7	79.6	75.9	83.6	83.3	85.5	76.4	90.3	90.7	78.4	76.4	83.3	82.6	80.4	79.7	87.2	80.6	78.3	81.1	84.1	84.1	90.0	83.0	78.1	
Nasal index	84.5	86.4	82.0	72.4	72.6	78.0	74.1	74.4	73.9	67.3	77.1	79.6	74.5	97.4	97.6	91.9	87.5	72.7	97.5	72.4	68.6	75.0	85.4	90.9	83.3	77.4	64.7	83.8	68.9	65.3	76.7	85.7	72.9	73.5	79.1	73.2	66.7	78.6	75.0	75.0	74.4	78.6	79.6	77.8	78.7	
Index of arm	46.7	44.4	46.5	46.1	43.6	45.8	44.6	46.8	42.4	45.0	48.3	45.5	46.1	44.5	44.1	42.5	44.0	40.2	45.4	46.0	43.2	44.4	45.5	41.9	45.8	41.9	42.8	45.2	46.4	44.0	42.6	42.6	45.0	43.5	42.8	45.2	44.6	43.4	—	41.8	46.1	44.1	45.0	46.9	46.9	
Index of finger-reach	103.8	103.6	109.5	105.0	103.8	104.5	102.1	106.4	99.8	100.3	106.2	103.0	105.5	105.2	101.5	102.5	102.6	100.6	103.2	106.0	100.3	104.3	107.4	105.9	103.1	100.7	102.8	104.8	104.5	100.5	101.9	100.2	102.5	103.2	104.3	105.9	102.8	100.7	103.9	100.0	101.4	103.0	105.9	105.1	106.1	
Index of height sitting	50.5	52.9	54.7	54.8	53.7	51.8	50.5	53.1	50.1	49.1	51.6	56.1	54.0	52.0	53.4	54.8	56.0	53.0	53.2	55.6	56.3	55.2	53.4	53.2	51.1	53.5	51.9	—	51.8	52.4	53.8	53.9	52.7	51.7	51.4	52.1	54.0	53.2	54.6	54.5	—	54.0	53.0	54.1	53.9	
Index of width of shoulders	23.6	23.9	22.0	22.0	22.4	22.3	20.2	23.7	22.0	19.5	22.1	22.4	21.8	22.9	21.1	23.5	22.7	25.2	22.6	23.8	20.8	22.4	23.6	22.1	21.6	21.6	22.1	23.6	21.4	21.6	21.5	21.4	20.6	22.8	22.6	22.4	24.0	22.8	23.2	21.5	—	22.3	23.1	23.7	24.3	

¹ Son of No. 36 (III).

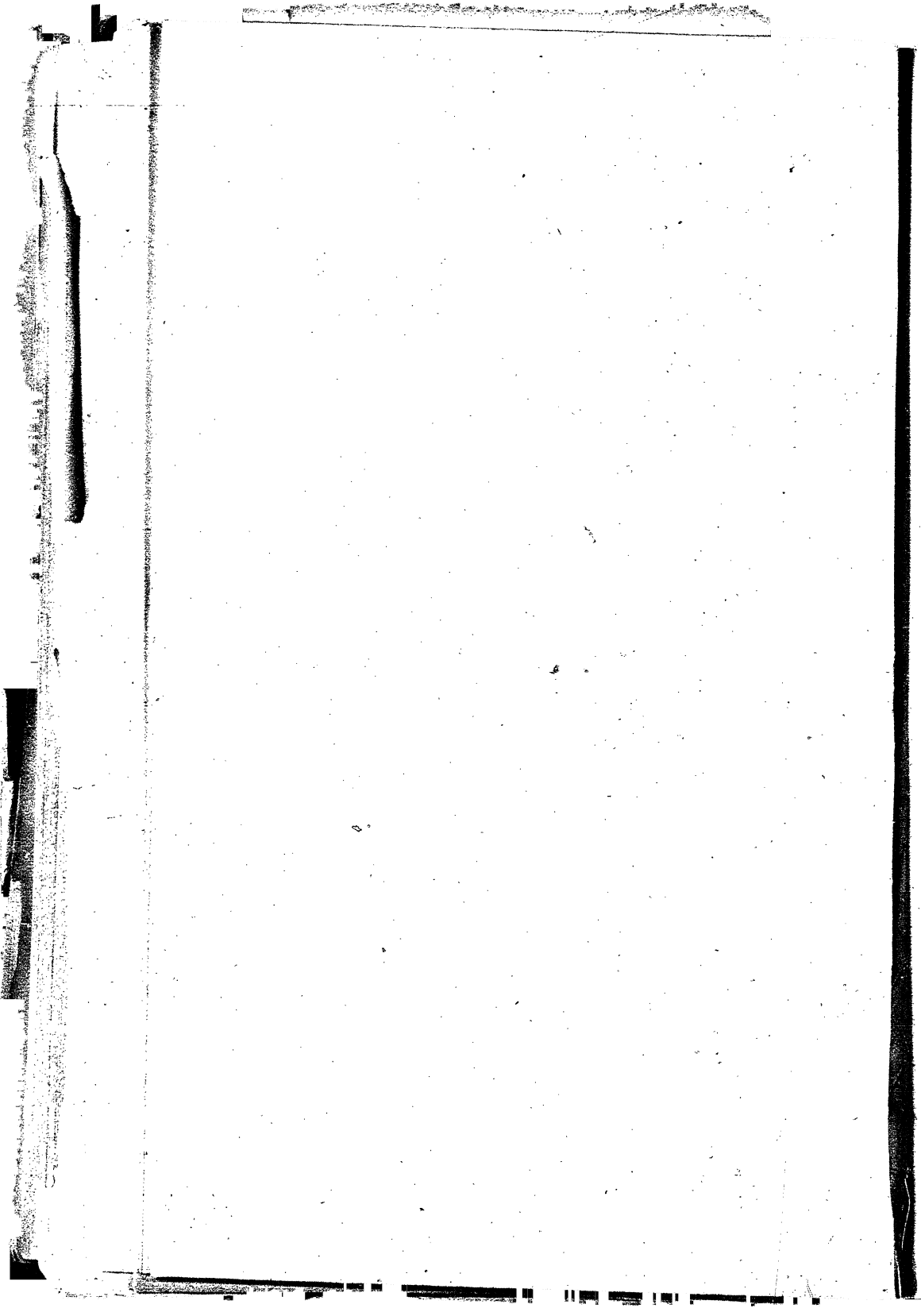
² Father of No. 89 (II).

³ Brother of No. 3.

⁴ Brother of No. 1.

⁵ Brother of No. 6.

⁶ Sister of No. 4.



7. Buonaparte.

8. Shuswap Half-bloods.

Number	I. Males							II. Females					I. Males							II. Females														
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
Name	Pierre	Hyacinth Jules	Thomas George	Willie Jules	Edward Jules	Spa'laqen	Edward Hyacinth	Alice	Pauline	Agathe	Eliza	Victoria	François	Kriswish	Maurice	David Perez	André Mannel	Basil Fallardeau	Alfred Manuel	Alec Leonard	Johnnie Peter	Gabriel	Lizzie	Laloise	Augusta	Annie Sam	Maggie Fallardeau	Faustine	Lizzie Ignaz	Catherine	Philomena	Anne	Aimée	
Tribe	F. Pavilion M. Buonaparte	Deadman's Creek	Deadman's Creek	Deadman's Creek	Deadman's Creek	F. Pavilion M. Buonaparte	F. Buonaparte M. $\frac{1}{2}$ Buonaparte $\frac{1}{2}$ Caw'qamug	Deadman's Creek	Deadman's Creek	Deadman's Creek	Deadman's Creek	Deadman's Creek	F. Soda Creek M. $\frac{1}{2}$ White, $\frac{1}{2}$ Soda Creek	F. $\frac{1}{2}$ Spanish $\frac{1}{2}$ Stlemqo'lequmq M. Stlemqo'lequmq	F. Soda Creek M. $\frac{1}{2}$ White, $\frac{1}{2}$ Soda Creek	F. $\frac{1}{2}$ French, $\frac{1}{2}$ Cree, $\frac{1}{4}$ Carrier, $\frac{1}{4}$ Chilcotin M. Soda Creek	F. Kamloops M. $\frac{1}{2}$ Kamloops, $\frac{1}{2}$ White	F. $\frac{1}{2}$ Shuswap, $\frac{1}{2}$ French M. Shuswap	F. $\frac{1}{2}$ Kamloops, $\frac{1}{2}$ White	F. White M. Shuswap	F. French M. Shuswap	F. French M. Shuswap	$\frac{1}{2}$ White, $\frac{1}{2}$ Shuswap	$\frac{1}{2}$ White, $\frac{1}{2}$ Shuswap	F. $\frac{1}{2}$ French, $\frac{1}{2}$ Cree, $\frac{1}{4}$ Carrier, $\frac{1}{4}$ Chilcotin M. Soda Creek	White blood ?	F. $\frac{1}{2}$ Shuswap, $\frac{1}{2}$ French M. Shuswap	$\frac{1}{2}$ White, $\frac{1}{2}$ Shuswap	F. English M. Kamloops	White blood ?	White blood ?	F. French M. Shuswap	White blood ?	White blood ?
Observer	B.	B.	F.	F.	F.	B.	F.	B.	F.	B.	B.	B.	B.	B.	B.	B.	B.	F.	B.	B.	B.	B.	B.	B.	F.	F.	F.	F.	B.	B.	B.	B.	B.	
Age	4	9	10	13	15	24	34	9	10	11	13	13	6	7	8	8	11	13	14	15	23	30	6	9	9	11	11	11	13	14	14	22	?	
Height standing	mm. 1,022	mm. 1,155	mm. 1,198	mm. 1,378	mm. 1,427	mm. 1,720	mm. 1,673	mm. 1,183	mm. 1,308	mm. 1,323	mm. 1,414	mm. 1,366	mm. 1,037	mm. 1,277	mm. 1,192	mm. 1,184	mm. 1,360	mm. 1,444	mm. 1,422	mm. 1,567	mm. 1,737	mm. 1,660	mm. 1,053	mm. —	mm. 1,336	mm. 1,475	mm. 1,328	mm. 1,368	mm. 1,492	mm. 1,601	mm. 1,510	mm. 1,582	mm. 1,522	
Height of shoulder	755	901	962	1,111	1,142	1,405	1,330	932	1,042	1,058	1,143	1,094	803	1,033	930	912	1,093	1,165	1,135	1,270	1,450	1,336	806	—	1,074	1,195	1,039	1,102	1,208	1,322	1,411	1,290	1,255	
Length of arm	404	496	527	627	641	746	667	510	592	582	630	610	427	541	514	501	607	669	635	678	705	744	432	—	600	662	571	602	685	706	530	706	682	
Finger-reach	1,064	1,163	1,245	1,440	1,506	1,800	1,727	1,210	1,328	1,382	1,500	1,445	1,014	1,288	1,205	1,182	1,416	1,545	1,493	1,603	1,703	1,760	1,052	—	1,380	1,467	1,362	1,376	1,573	1,640	1,500	1,645	1,603	
Height sitting	552	636	633	730	758	913	858	663	722	716	766	727	585	669	652	665	681	750	750	835	877	895	578	—	702	764	704	739	797	845	797	830	808	
Width of shoulders	232	266	250	310	325	397	385	274	304	350	332	318	230	276	244	258	299	311	325	347	371	375	231	—	300	320	292	293	358	353	344	374	331	
Length of head	161	173	167	174	173	189	181	174	166	171	176	181	168	174	174	176	180	177	175	189	195	189	160	174	167	177	177	169	181	177	189	182	181	
Breadth of head	150	149	149	150	155	160	154	145.5	139	151	157	153	143	153	144	159	152	152	157	150	152	162	139	147	154	158	148	144	153	157	146	144	158	
Height of face	93	101	96	101	108	127	125	99	108	97	107	106	95	97	102	102	105	108	111	115	124	128	91	93	104	106	100	105	107	112	113	110	108	
Breadth of face	124	122	121	128	133	149	141	126	127	131	138	134	121	133	123	133	128	123	136	136	141	152	116	124	135	136	127	129	141	139	128	140	140	
Height of nose	43	45	41	43	47	53	55	44	43	43	47	43	40	42	46	40	45	44	43	48	52	57	38	38	38	47	42	46	45	47	47	49	51	
Breadth of nose	31	33	32	32	34	41	40	32	32	31	35	34	30	36	32	33	34	34	37	35	42	39	27	35	34	36	34	31	37	36	33	34	36	
Length-breadth index	93.2	86.1	89.2	86.2	89.6	84.6	85.0	83.3	83.7	88.3	88.6	84.5	85.1	87.9	82.8	90.3	84.4	85.8	89.8	79.4	77.9	85.7	86.8	84.5	92.2	89.2	83.6	85.2	84.5	88.7	77.2	79.1	87.3	
Facial index	75.0	82.8	79.3	78.9	81.2	85.2	88.7	78.6	85.0	74.0	77.5	79.1	78.5	72.9	82.9	76.7	82.0	85.7	81.6	84.5	88.0	84.2	78.4	75.0	77.0	77.9	78.7	81.4	75.9	80.6	88.3	78.5	77.1	
Nasal index	72.1	73.3	78.0	74.4	72.4	77.4	72.7	72.7	74.4	72.1	73.5	79.1	75.0	85.7	69.6	82.5	75.5	82.9	86.0	72.9	80.8	68.4	71.1	92.1	89.5	76.6	80.9	67.4	82.2	76.6	70.2	69.4	70.6	
Index of arm	39.5	42.8	43.9	45.4	44.8	43.4	39.9	43.2	45.2	44.1	44.7	44.5	41.0	42.3	43.2	42.5	44.6	46.5	44.7	43.2	40.5	44.8	41.1	—	44.8	45.0	42.9	43.9	46.0	44.1	46.1	44.7	44.9	
Index of finger-reach	104.1	100.7	103.9	104.5	105.5	104.7	103.2	102.2	101.5	104.4	106.1	105.7	97.5	100.8	101.1	99.8	104.1	106.8	105.0	102.3	98.0	106.0	100.0	—	103.3	99.5	102.5	100.8	105.7	102.4	106.0	104.0	105.3	
Index of height sitting	54.0	54.8	52.8	52.9	53.0	53.1	51.4	56.2	55.1	54.2	54.3	53.1	56.2	52.3	54.8	56.4	50.0	52.1	52.8	53.2	50.4	53.9	55.0	—	52.4	52.0	52.9	72.9	53.5	52.8	52.5	53.2		
Index of width of shoulders	22.7	22.9	20.8	22.5	22.7	23.1	23.1	23.2	23.2	26.5	23.5	23.2	22.1	21.6	20.5	21.9	22.0	21.6	22.9	22.1	21.3	22.6	22.0	—	22.4	21.8	22.0	21.4	24.0	22.1	22.8	23.7	21.8	

¹ Brother of Nos. 4 and 5.

² Brother of Nos. 2 and 5.

³ Brother of Nos. 2 and 4.

⁴ Brother of No. 3.

⁵ Brother of No. 5.

¹⁰ Sister of No. 4.

⁶ Brother of No. 1.

⁷ Not level ground; measured with shoes.

⁸ Sister of No. 18.

⁹ Brother of No. 13.

¹² Sister of No. 6.

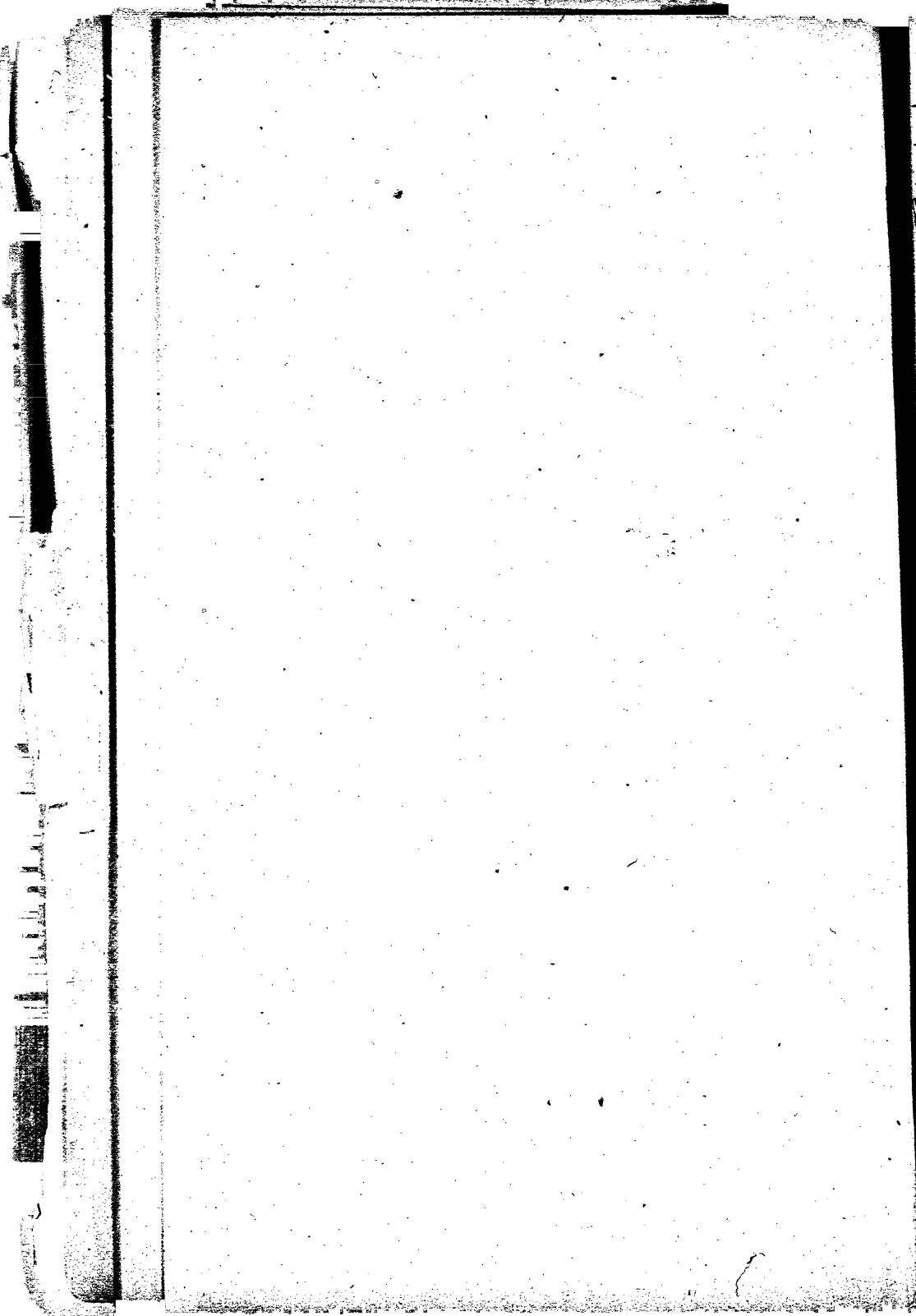
⁴ Brother of No. 7.

⁸ Sister of No. 12.

¹³ Sister of No. 14.

⁵ Brother of No. 15.

⁸ Sister of No. 11.



45

Chinaman

Chilcotin

F

5

m

1,5

1,2

7

1,6

8

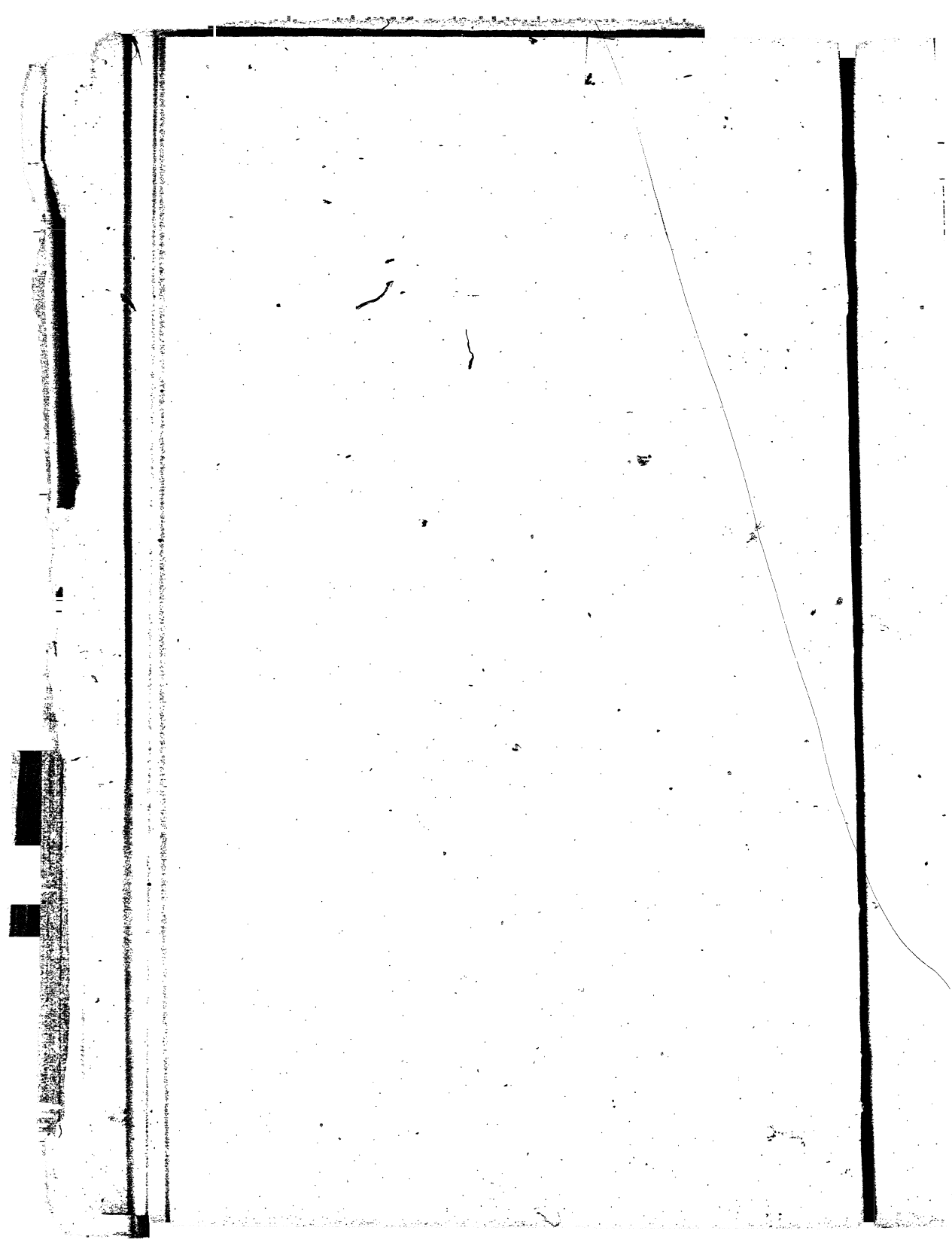
3

f 10.

II. Females

45	46	47	48	49	50	51	52	53	54
Chinaman	Dick	Louis	Charlie	Sallie	Susanne	Emmeleine	Minnie	Josephine	Lucy
Chilcotin	Chilcotin	Chilcotin	Chilcotin	Chilcotin	Chilcotin	Chilcotin	Chilcotin	Chilcotin	Chilcotin
F.	B.	F.	F.	B.	B.	F.	B.	F.	F.
55	55	55	55	6	9	11	12	13	20
mm. 1,580	mm. 1,594	mm. 1,588	mm. 1,635 ¹⁵	mm. 1,097	mm. 1,320 ¹⁴	mm. 1,370 ¹⁵	mm. 1,317	mm. 1,487	mm. 1,580
1,283	1,293	1,315	1,353	840	1,037	1,131	1,045	1,210	1,315
705	708	693	731	454	575	647	596	670	722
1,636	1,686	1,591	1,695	1,092	1,348	1,504	1,383	1,518	1,652
825	835	839	845	618	727	724	717	788	799
363	380	346	323	245	266	296	298	300	314
183	186	188	184	167	170	173	169	181	181
162	158	165	157	140	151	149	146	142	145
129	112	121	125	92	95	110	112	106	112
149	150	151	145	117	134	133	127	132	133
50	51	54	57	40	40	47	42	42	40
41	43	39	40	29	36	34	33	36	36
88.5	84.2	87.8	85.3	83.8	88.8	86.1	86.4	78.5	80.1
86.6	74.6	80.1	86.2	78.6	70.9	82.7	88.2	80.3	84.2
82.0	84.3	72.2	70.1	72.5	90.0	72.3	78.6	85.7	90.0
44.6	44.5	43.6	44.6	41.3	43.6	47.2	45.2	45.0	45.7
103.5	105.8	100.2	103.7	99.5	102.1	109.8	105.0	102.1	104.6
52.2	52.5	52.8	51.5	56.2	55.1	52.8	54.3	52.9	50.6
23.0	23.9	21.8	19.7	22.3	20.2	21.6	22.6	20.1	19.9

f 10. ¹⁴ Daughter of No. 68. ¹⁵ Daughter of No. 38.



[North-Western Tribes, Canada,
9b. Chilcotin,
Half-blood. 10. Carrie

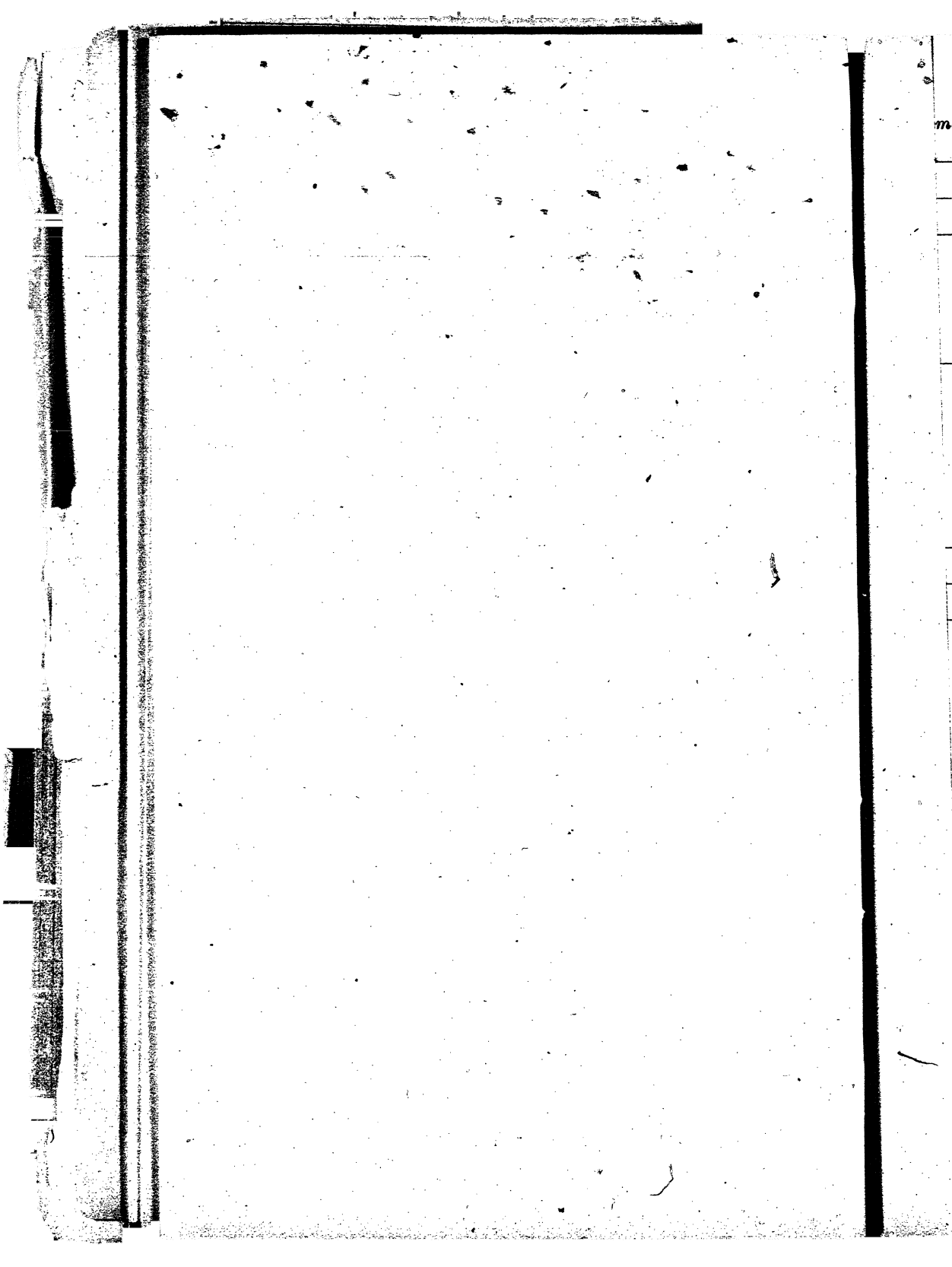
			Male	Males		
73	74	75	76	1	2	3
Magdalen	Taraik	Atsekulá	George	Ézitó'í	Gele'	T'ek'esé'a
Chilcotin	Chilcotin	Chilcotin	F. American M. Chilcotin	Nteat'ín	Nteat'ín	F. Téslatat'ín M. Nteat'ín
F.	B.	B.	B.	B.	B.	B.
70	70	75	12	17	18	50
mm. 1,548	mm. —	mm. —	mm. 1,495	mm. 1,685	mm. 1,654	mm. 1,775
1,288	—	—	1,192	1,364	1,328	1,477
710	—	—	658	751	725	717
1,624	—	—	1,577	1,757	1,702	1,705
818	—	—	763	855	862	931
330	—	—	339	373	363	374
171	169	175	185	190	185	196
154	149	149	151	164	156	160
114	127	106	107	129	121	141
143	140	136	136	152	146	155
54	58	53	47	59	51	58
36	39	39	35	36	37	39
90·1	88·2	85·1	81·6	86·3	84·3	81·6
79·7	90·7	77·9	78·7	84·9	82·9	91·0
66·7	67·2	73·6	74·5	61·0	72·5	67·2
45·8	—	—	44·2	44·7	43·9	40·3
104·9	—	—	105·5	104·3	102·9	96·1
52·8	—	—	51·2	50·9	52·2	52·3
21·3	—	—	22·8	22·2	22·0	21·0

Mother of No. 61.

9a. Chilcotin (continued).

Number	Females (continued)																									Male				
	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	1	2	3	4	5			
Name	Christine	Lillie	Lucy	Susanne	Betsy	Sent'u'n	Minnie	Nancy	Susanne	Nellie	Marie	Betsy	Christine	Tatcôst	Lucy	Lucille	Adele	Sallie	Magdalen	Taraik	Atsekulá	George	Ézitó'í	Gelé'	T'ék'usé'a	Isaac	Jamie			
Tribe	Chilcotin	Chilcotin	Chilcotin	Chilcotin	Chilcotin	Chilcotin	Chilcotin	Chilcotin	Chilcotin	Chilcotin	Chilcotin	Chilcotin	Chilcotin	Chilcotin	Chilcotin	Chilcotin	Chilcotin	Chilcotin	Chilcotin	Chilcotin	Chilcotin	F. American M. Chilcotin	N'eat'y'n	N'eat'y'n	F. T'elalat'y'n M. N'eat'y'n	Alexandria	F. Alexandria (full ?) M. & Carrier, & White			
Observer	B.	B.	B.	F.	B.	B.	B.	F.	B.	B.	B.	B.	F.	B.	B.	B.	B.	B.	F.	B.	B.	B.	B.	B.	B.	B.	B.			
Age	22	22	25	25	26	30	30	30	35	38	45	47	55	55	58	60	65	65	70	70	75	12	17	18	50	55	13			
Height standing	mm. 1,547	mm. 1,621	mm. 1,556	mm. 1,604	mm. 1,575 ¹⁶	mm. 1,602	mm. 1,582 ¹⁷	mm. 1,571	mm. 1,508	mm. 1,550	mm. 1,555	mm. 1,543	mm. 1,527 ¹⁸	mm. — ¹⁹	mm. 1,560 ²⁰	mm. 1,543	mm. 1,540	mm. 1,502	mm. 1,548	mm. —	mm. —	mm. 1,495	mm. 1,685	mm. 1,654	mm. 1,775	mm. 1,535	mm. 1,423			
Height of shoulder	1,257	1,322	1,284	1,364	1,303	1,306	1,304	1,294	1,228	1,281	1,308	1,264	1,273	—	1,255	1,264	1,293	1,223	1,288	—	—	658	751	725	717	700	658			
Length of arm	694	733	655	756	733	690	691	680	657	683	664	681	674	—	655	692	716	697	710	—	—	1,577	1,757	1,702	1,705	1,647	1,495			
Finger-reach	1,590	1,718	1,560	1,618	1,679	1,635	1,609	1,567	1,524	1,639	1,616	1,592	1,586	—	1,576	1,644	1,632	1,595	1,624	—	—	763	855	862	931	775	765			
Height sitting	—	861	858	846	852	811	852	836	784	799	813	799	780	—	785	823	778	787	818	—	—	339	373	363	374	355	248			
Width of shoulders	348	337	336	332	326	343	373	346	337	362	340	317	350	—	336	345	308	325	330	—	—	185	190	185	196	179	180			
Length of head	182	186	179	180	171	176	172	180	183	184	174	171	178	172	183	184	172	176	171	169	175	151	164	156	160	153	159			
Breadth of head	163	150	152	149	146	146	162	157	155	161	157	153	153	156	160	157	154	155	154	149	149	107	129	121	141	130	112			
Height of face	110	113	108	114	114	117	120	116	114	131	118	116	123	109	117	122	111	129	114	127	106	136	152	146	155	140	131			
Breadth of face	150	145	139	138	134	141	146	139	143	148	144	135	139	142	147	144	139	144	143	140	136	47	59	51	58	53	44			
Height of nose	49	44	43	45	49	49	56	39	51	51	51	46	52	50	54	53	51	58	54	58	39	35	36	37	39	37	32			
Breadth of nose	36	36	37	35	38	30	38	37	36	41	35	32	34	37	40	39	37	37	36	39	39	81.6	86.3	84.3	81.6	85.5	88.3			
Length-breadth index	89.6	80.6	84.9	82.8	85.4	83.0	94.2	87.2	84.7	87.5	90.2	89.5	86.0	90.7	87.4	85.3	89.5	88.1	90.1	88.2	85.1	78.7	84.9	82.9	91.0	92.8	85.5			
Facial index	73.3	77.9	77.7	82.6	85.8	83.0	82.2	83.5	79.7	88.5	81.9	85.9	88.5	76.8	79.6	84.7	79.9	89.6	79.7	90.7	77.9	74.5	61.0	72.5	67.2	69.8	72.7			
Nasal index	73.5	81.8	86.0	77.8	77.6	61.2	67.9	94.9	70.5	80.4	68.6	69.6	65.4	74.0	74.1	73.6	72.5	63.8	66.7	67.2	73.6	44.2	44.7	43.9	40.3	45.5	46.3			
Index of arm	44.8	45.2	42.0	47.3	46.4	43.1	43.7	43.3	43.5	44.1	42.8	44.2	44.1	—	42.0	44.9	46.5	46.5	45.8	—	—	105.5	104.3	102.9	96.1	107.3	105.1			
Index of finger-reach	102.8	106.0	100.3	100.9	106.6	102.1	101.7	99.7	101.1	105.7	103.9	103.2	103.9	—	101.0	106.6	106.0	106.2	104.9	—	—	51.2	50.9	52.2	52.3	50.3	53.9			
Index of height sitting	—	53.1	55.0	52.9	53.9	50.7	53.9	53.2	51.9	51.5	52.5	51.9	51.0	—	50.3	53.4	50.5	52.5	52.8	—	—	22.8	22.2	22.0	21.0	23.1	17.5			
Index of width of shoulders	22.5	20.8	21.5	20.7	20.6	21.4	23.6	22.0	22.3	23.4	21.9	20.6	22.9	—	21.5	22.4	20.0	21.7	21.3	—	—	—	—	—	—	—	—			

¹⁶ Partly mixed with Carrier. ¹⁷ Daughter of No. 69. ¹⁸ Mother of No. 18. ¹⁹ Mother of No. 50. ²⁰ Mother of No. 61.



11g. mteci' nEmuq.

11h Nkamteci' n
mixed with
Shuswap.

Man	Man
13	14
A lusken	Tuzlexeskt
Nkamteci' nEmuq	F. Nkamteci' nEmuq M. (4 Nkamteci' nEmuq 4 Shuswap
B.	B.
60	30
mm. 1,670	mm. 1,674
1,418	✓ 1,364
813	737
1,850	1,748
—	893
385	398
188	188
155	158
106	119
150	143
48	49
37	36
82.4	84.0
70.7	83.2
77.1	73.5
48.7	44.1
110.8	104.4
—	53.5
23.1	23.8

of No. 4.

11c. *Utá'mqt.*

11d. *Utá'mqt and Sílacá'yuu mixed.*

11e. *Nílakya-pamúq'ó'é.*

11f. *Nílakya-pamúq'ó'é and other tribes mixed.*

11g. *Nkamtoi'nemua.*

11h. *Nkamtoi'nemua mixed with Shuswap.*

11i. *Half-blood Nílakya'pumua.*

13. *Okanagan.*

13a. *Okanagan half-blood.*

Number.	Males		Female	Females		Female	Males		Females				Man	Man	Males		Female	Males		Female	Male
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	1	2	3	1	2	3	1
Name	Philip Felix	Andrew	Christine	Kwaíko	Waqan'nik	Marie	Zlaq'usa	Nokae'Iiq		Nixpatko	Solpnek		A'lusken	Tuzizeekt	Georgie	Felix	Theresa	Daniel Celestin	Edward Moreno	Julienne	Simon
Tribe	Boston Bar	Skazzy	Skazzy	F. Utá'mqt M. Sílacá'yuu	F. Utá'mqt M. Sílacá'yuu	Nílakya-pamúq'ó'é	F. Nicola T'inneh M. Lytton	Nílakya-pamúq'ó'é Nkamtoi'nemua	F. Nkamtoi'nemua Lytton M. Cawa'qamúq	F. Lytton M. Nicola	F. Lytton Nkamtoi'nemua M. Nicola Okanagan	F. Lytton Nkamtoi'nemua Lytton Nkamtoi'nemua	Nkamtoi'nemua	F. Nkamtoi'nemua M. Nkamtoi'nemua Shuswap	F. 7 M. Utá'mqt	F. 7 M. Utá'mqt		Okanagan	Okanagan	F. Nicola M. Okanagan	Okanagan
Observer	F.	F.	B.	B.	B.	F.	B.	B.	B.	B.	B.	B.	B.	B.	F.	B.	B.	F.	B.	B.	F.
Age	14	15	12	60	65+	25	15	65	35	40	50	60	60	30	15	15	14	11	14	13	12
Height standing	mm. 1,403	mm. 1,402	mm. 1,410	mm. 1,460 ¹	mm. — ²	mm. 1,540	mm. 1,677	mm. 1,593	mm. 1,573	mm. 1,540	mm. 1,560	mm. 1,467	mm. 1,670	mm. 1,674	mm. 1,412	mm. 1,393	mm. 1,402	mm. 1,292	mm. 1,442	mm. 1,554	mm. 1,432
Height of shoulder	1,137	1,114	1,147	1,205	—	1,278	1,390	1,323	1,282	1,278	1,273	1,185	1,418	1,364	1,142	1,112	1,127	1,024	1,142	1,256	1,172
Length of arm	599	619	595	632	—	707 ²	765	728	690	688	668	624	813	737	609	619	599	564	602	684	634
Finger-reach	1,443	1,465	1,397	1,492	—	1,628	1,733	1,710	1,610	1,600	1,563	1,471	1,850	1,748	1,475	1,434	1,433	1,323	1,452	1,622	1,446
Height sitting	723	731	765	755	—	765	—	830	—	—	844	786	—	893	724	746	739	683	783	836	726
Width of shoulders	333	323	307	306	—	340	375	382	348	338	350	322	385	398	321	320	316	285	296	362	310
Length of head	177	177	173	185	192	173	182	188	184	173	173	183	188	188	186	180	155	183	188	179	176
Breadth of head	152	156	151	145	148	148.5	152	151	151	146	147	153	155	158	153	151	143	150	146	155	146
Height of face	99	101	104	112	120	108	117	121	114	117	122	117	106	119	107	104	99	100	115	110	95
Breadth of face	131	140	130	137	142	133	143	148	140	136	136	136	150	143	132	133	127	128	127	141	129
Height of nose	39	49	43	52	58	48	49	61	53	50	52	49	48	49	43	45	41	42	47	44	43
Breadth of nose	37	37	32	37	37	34	41	40	34	32	34	37	37	36	33	34	29	31	39	32	31
Length-breadth index	85.9	88.1	87.3	78.4	77.1	86.1	83.5	80.3	82.1	84.4	85.0	83.6	82.4	84.0	82.3	83.9	92.3	82.0	77.7	86.6	83.0
Facial index	75.6	72.1	80.0	81.8	84.5	81.2	81.8	81.7	81.4	86.0	89.7	86.0	70.7	83.2	81.1	78.2	78.0	78.1	90.6	78.0	73.6
Nasal index	94.9	75.5	74.4	71.2	63.8	70.8	83.7	65.6	64.2	64.0	65.4	75.5	77.1	73.5	76.7	75.6	70.7	73.8	83.0	72.7	72.1
Index of arm	42.8	44.2	42.2	43.3	—	45.9	45.5	45.8	43.9	44.7	42.2	42.4	48.7	44.1	43.2	44.5	42.8	43.7	41.8	44.1	44.3
Index of finger-reach	102.9	104.5	99.1	102.2	—	105.7	103.3	107.4	102.4	103.9	100.2	100.3	110.8	104.4	104.5	102.9	102.2	102.4	100.7	104.4	101.0
Index of height sitting	51.6	52.2	54.3	51.7	—	49.7	—	52.2	—	—	54.1	53.5	—	53.5	51.3	53.7	52.8	52.9	54.4	53.9	50.8
Index of width of shoulders	23.8	23.1	21.8	21.0	—	22.1	22.3	24.0	22.2	21.9	22.4	21.9	23.1	23.8	22.8	23.0	22.6	22.1	20.6	23.4	21.7

¹ Sister of No. 5.

² Sister of No. 4.

3

McKenzie

M. Gyitsung'u'lon

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0

m.

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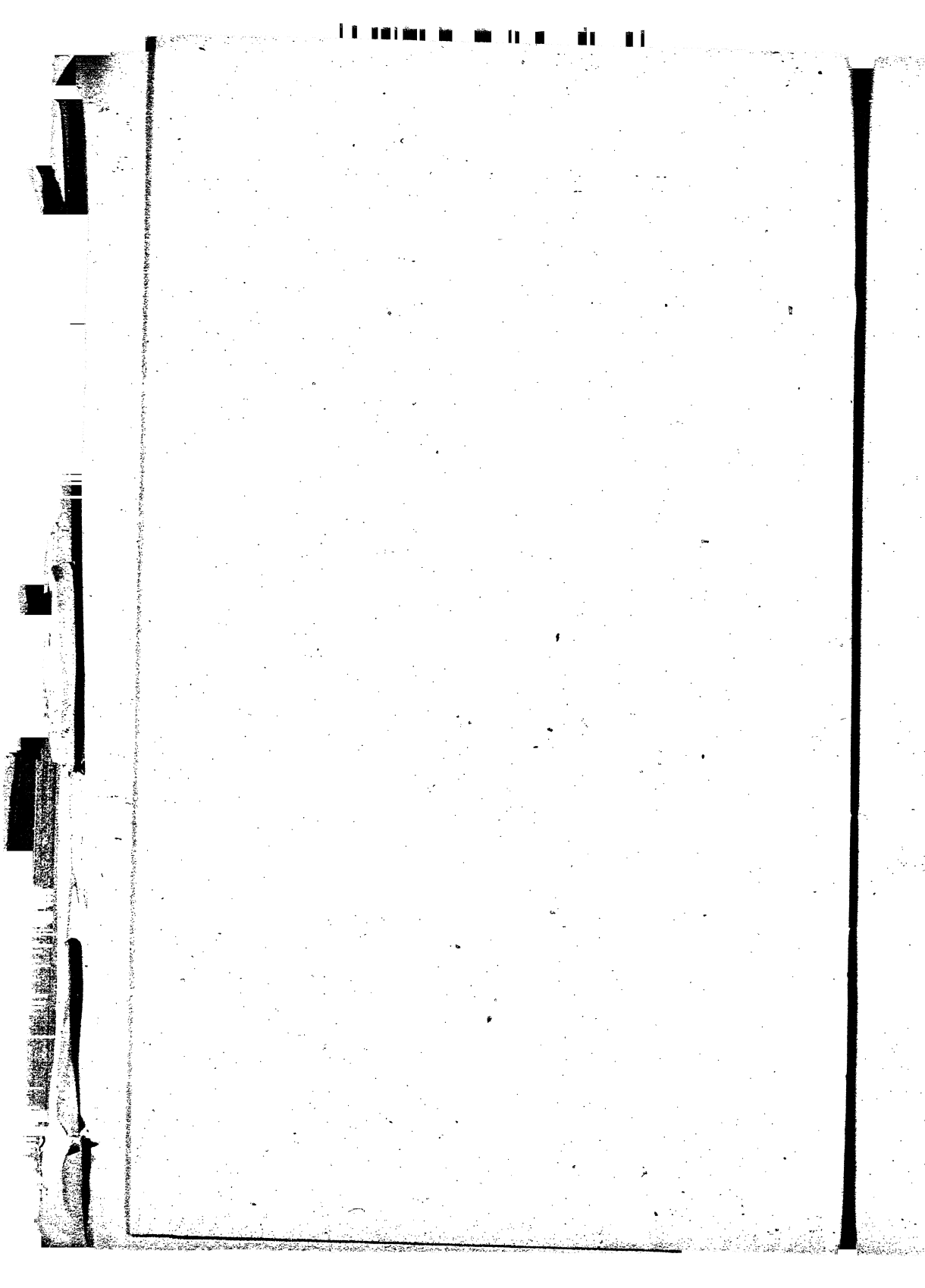
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mshian.

uk :

II. Females			II. Females								Half-breed
3	4	5	8	9	10	11	12	13	14	15	
McKenzie	Jane Bernard	Ida Greene	Nonoqns	Nellie Watson	Sakwe'	Susan	Ida	Alakamliq	Jenny	Harry	
M. Gyits'ung'it'lon	F. Gyits'ala's M. Gyispaght'ots	Gyits'ala's	F. Istaitq M. Bella Bella	Bella Bella	Istaitq	Istaitq	Istaitq	—	Istaitq	M. Bella Bella	
3.	B.	B.	F.	F.	F.	F.	F.	F.	F.	F.	
20	45	50	70	20	25	40	50	55	60	35	
mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	
194	1,515	1,563	1,633	1,571	1,414	1,533	1,465	—	1,443	1,613	
103	1,220	1,268	1,326	1,301	1,158	1,265	1,210	—	1,181	1,305	
23	668	688	743	718	633	633	640	—	667	733	
45	1,613	1,638	1,774	1,654	1,486	1,528	1,543	—	1,535	1,723	
08	818	826	—	810	—	838	755	—	—	—	
36	347	369	358	375	332	351	360	—	—	393	
32	190	187	190	185	181	179	181	184	186	185	
49	155	156	170	155	153	162	155	167	157	156	
18	115	121	127	112	120	123	113	118	114	124	
37	148	146	159	146	141	155	152	148	150	143	
49	51	50	52	45	50	52	48	49	47	52	
34	39	42	42	37	—	40	38	43	40	33	
9	81.6	83.4	89.5	83.8	84.5	90.5	85.6	90.8	84.4	84.3	
1	77.7	82.9	79.9	76.7	85.1	79.4	74.3	79.7	76.0	86.7	
4	76.5	84.0	80.8	82.2	—	76.9	79.2	87.8	85.1	63.5	
8	44.2	44.1	45.9	45.7	44.9	41.4	43.5	—	46.3	45.5	
4	106.5	104.8	109.3	105.1	105.1	99.7	105.3	—	106.4	106.8	
2	54.2	53.0	—	51.6	—	54.8	51.4	—	—	—	
6	23.0	23.7	22.1	23.9	23.5	22.9	24.5	—	—	24.4	

* Mother of No.



20. Kwakiutl Men.

es								
	18	19	20	21	22	1	2	3
	Tia'k'oagyl-layuk'oa	Tia'k'oask-Em	He'leistesela	Ha'mliti	K'o'e'Hak-as	G'o'iselas	Po'tlas	Ne'msk-Emalis
	Aw'ky'enog	Aw'ky'enog	F. $\frac{1}{2}$ So'iqulliq, $\frac{1}{2}$ Kwa-kiuti. M. Aw'ky'enog	Aw'ky'enog	F. Aw'ky'enog. M. $\frac{1}{2}$ He'itsuk, $\frac{1}{2}$ Aw'ky'enog	F. Kwakiutl M. Tena'qtaq	F. Kwakiutl M. Tena'qtaq	F. Tena'qtaq M. Awa'itila
	B.	B.	B.	B.	B.	B.	B.	B.
	40	40	40	52	60	35	45	40
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.
8 ⁶	1,457	1,492	1,508	1,544	1,462	1,540 ⁹	1,610 ¹⁰	1,670
4	1,192	1,222	1,223	1,254	1,203	1,242	1,310	1,357
7	619	669	617	692	679	672	745	764
8	1,505	1,551	1,482	1,634	1,558	1,604	1,727	1,793
5	762	800	828	808	784	863	843	806
7	343	308	356	343	340	369	378	390
3 ²	166 ²	161 ²	169 ²	176 ²	183 ²	184 ²	189 ²	205 ²
4 ²	146 ²	153 ²	144 ²	155 ²	160 ²	155 ²	161 ²	157 ²
8	116	114	118	120	119	124	135	130
9	141	138	147	153	150	139	147	157
0	45	49	49	52	54	56	58	53
5	36	35	35	38	36	37	36	42
2 ²	88-0 ²	95-0 ²	85-2 ⁷	88-1 ²	87-4 ²	84-2 ²	85-2 ²	76-6 ²
2	82-3	82-6	80-3	78-4	79-3	89-2	91-8	82-8
0	80-0	71-4	71-4	73-1	66-7	66-1	62-1	79-2
3	42-4	44-9	40-9	44-9	46-5	43-6	46-3 ²	45-7
9	103-3	104-0	98-3	105-8	106-6	104-2	107-3	107-4
5	52-2	53-7	54-8	52-5	53-7	56-0	52-4 ⁷	48-3
0	23-5	20-7	23-6	22-3	23-3	24-0	23-5	23-4

⁶ Daughter of Nos. 6, 17.

⁷ Head flattened behind.

