

A REVISION OF RISLEY'S ANTHROPOMETRIC DATA RELATING TO THE CHITTAGONG HILL TRIBES

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In a previous paper (*Sankhyā*, I (1), 1933, 76-105) I have discussed in detail the results of a careful scrutiny of the anthropometric data relating to the tribes and castes of Bengal published by Sir H. H. Risley in 1891. I showed that the real defect in Risley's data had crept in during the calculation of the average values, and that practically all the discrepancies in individual measurements and indices could be corrected with certainty. In the present paper I have given a similar discussion of Risley's data relating to the hill tribes of Chittagong. I have great pleasure in acknowledging the help I have received in preparing this paper from Sudhir Kumar Banerjee, Chief Computer, Statistical Laboratory. He was responsible for practically the bulk of the primary corrections and the preparation of the tabular matter.

The procedure adopted in scrutinizing the data, and the details of the classification of discrepancies are given in the previous paper (*Sankhyā*, I(1), 1933, 80-84). I am however giving below for easy reference a list of symbols used in revising the data.

TABLE 1(A) SYMBOLS USED IN THE TEXT AND TABLES.

(1) <i>Characters.</i>	(2) <i>Indices.</i>
Bb Bimalar breadth	CI Cephalic Index
Bz Maximum Bizygomatic breadth	FA Facial Angle
Cb Cephalic breadth	FzI Fronto-zygomatic Index
Cl Cephalic length	NI Nasal Index
Fb Minimum Frontal breadth	NmI Naso-malar Index
Hvc Height, vertex to chin	VbI Vertico-bimalar Index
Hvi Height, vertex to inter-supercilliary point.	VcI Vertico-cephalic Index
Hvt Height, vertex to tragus	VfI Vertico-frontal Index
Nh Nasal height	VzI Vertico-byzygomatic Index.
Nw Nasomalar breadth	
Nm Nasal width	

TABLE 1(B) LIST OF SYMBOLS USED FOR DESCRIBING NATURE OF MISTAKES.

(2.1)	PM[0]	...	...	...	Printing mistake in the position of the decimal point.
(2.2)	PM[tr.(0)/(1)]	...	...	...	Printing mistake: transposition of (0) and (1).
(2.3)	PM[(0)/(1)]	...	...	...	Printing mistake: (0) used in place of (1).
(2.4)	PM[i.(9)/(6)]	...	...	...	Printing mistake: (9) interchanged for (6).
(2.5)	PM[a.c.(5)/(2)]	...	...	...	Printing mistake: adjoining columns interchanged (5) for (2).
(2.6)	PM[a.r.(6)/(2)]	...	...	...	Printing mistake: adjoining rows interchanged, (5) for (2).
(3.1)	WT[(126)/(127)]	...	...	...	Wrong Table entry under (126) instead of under (127).
(4.1)	WF[a.c.(201)/(183)]	...	...	...	Wrong figure (201) used from adjoining column instead of correct figure (183).
(4.2)	WF[a.r.(201)/(183)]	...	...	...	Wrong figure (201) used from adjoining row instead of correct figure (183).
(5.1)	AM[c.10]	...	...	...	Arithmetical mistake in carrying ten.
(5.2)	AM[C.C.I]	...	...	...	Arithmetical mistake corrected by cross-checking other indices.
(5.3)	AM[CT=R'I]	...	...	...	Arithmetical mistake: corrected total equal to Risley's total.
(5.4)	AM[CT→R]	...	...	...	Arithmetical mistake: corrected total agrees approximately with Risley's total.
(6.1)	CC[(212) Hvt (VcI, VfI, VzI); (122) Bm(NmI)]	...	...	...	Cross checks: (212) Hvt agrees with VcI, VfI, and VzI; also (122) Bm agrees with NmI.
(6.2)	C[(155)Cb(VcI)]	...	...	...	Cross check: (155) for Cb agrees with VcI.
(6.3)	CI(188)[C'I=R'I]	...	...	...	Adopting CI (188) the corrected total is identically equal to Risley's total.
(6.4)	CI(202)[CT→RT]	...	...	...	Adopting CI (202) the corrected total shows better agreement with Risley's total.
(6.5)	Cb(145) [CI ≠ CI (74.1)]	...	...	...	Retaining Cb (145) no suitable value of CI will yield given CI (74.1). Corrected value of Index itself is adopted.
(7.1)	Cor. Ind. [Av.=]	...	...	...	different sets of averages are approximately equal.
(7.2)	Cor. ?? [Av ≠]	...	...	...	Doubtful correction. Averages not in agreement.

CORRECTIONS IN INDIVIDUAL MEASUREMENTS.

Corrections in Individual Measurements are given in Table 2. Column (1) gives the serial number of the correction, while columns (2), (3), (4) and (5) refer respectively to the page, caste, character, and the Table and individual serial number of Risley's volumes. Column (6) is Risley's measurement as actually printed, and column (7) the actual calculated value for indices (adopting component figures as actually given). Column (8) gives the value finally adopted. Column (9) gives the discrepancy, i.e., the difference between Risley's figure given in column (6) and the adopted value given in column (8). Column (10) shows the component figures in the case of indices. Column (11) shows the nature of the discrepancies and the cross-checks if any (using the symbols explained in Table 1(B)). Column (12) contains special remarks, if any, and also gives the classification of the correction under the heads (A-1), (A-2) as defined below.

TABLE 2 LIST OF INDIVIDUAL CORRECTIONS.

Serial No.	Page	Caste	Character	Table and No.	Risley's value	Calculated value	Adopted value	Discrepancy	Component Parts	Individual Corrections	Classification
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	193	Chakma	CI	I 79	35.4	85.4	83.4	+50.0	CI 142 Cb 147	PM [(3)/(8)] C [(147) Cb (VcI)]	A-1
2	"	"	"	I 89	7.83	78.3	78.3	+70.47	"	PM [0]	A-1
3	196	"	VcI	I 92	66.7	65.7	65.7	-1.0	Cb 144 Hvc 219	CC [(144) Cb (CI); (219) Hvc (VzI, VfI, VbI)]	A-1
4	193	"	VbI	I 55	72.8	62.9	62.9	-9.9	Bz 139 Hvc 221	PM [(7)/(6)] CC [(139) Bz (FzI); (221) Hvc (VbI); VcI, VfI]	A-1
5	200	"	Cb	II 43	158	153	153	-5.0	"	PM [(8)/(3)] C [(153) Cb (VcI, CI)]	A-2
6	204	Kuki	CI	I 6	75.6	75.1	75.1	-0.5	CI 185 Cb 139	WT [(140)/(139)] C [139 Cb (VcI)]	A-2
7	"	"	"	I 9	72.7	86.2	86.2	+13.5	CI 181 Cb 156	C [(156) Cb (VcI)]	A-1
8	"	"	FzI	I 1	77.6	76.9	76.9	-0.7	Fb 100 Bz 130	WT [(101)/(100)] CC [(130) Bz (VzI); (100) Fb, (VfI)]	A-1
9	"	"	VbI	I 9	49.0	48.8	48.8	-0.2	Bb 100 Hvc 205	WT [(204)/(205)] C [(205) Hvc (VcI, VzI)]	A-1
10	205	"	Fb	II 9	160	100	100	-60.0	"	PM [(6)/(6)] C [(100) Fb (VfI, VbI)]	A-2
11	207	Magh	NmI	I 20	104.8	108.4	108.3	+3.7	Nb 128 Bb 118	PM [t.r. (81)/(48)] C [(118) Bb (VbI)]	A-2
12	210	"	"	I 63	106.3	105.8	105.8	-0.5	Nb 110 Bb 104	C [(104) Bb (VbI)]	A-2
13	206	"	CI	I 4	81.3	82.0	82.0	+0.5	CI 184 Cb 151	WT [(150)/(151)] C [(151) Cb (VcI)]	A-1
14	207	"	"	I 20	85.7	86.2	86.2	+0.5	Cb 151 Cl 175	WT [(150)/(151)] C [(151) Cb (VcI)]	A-2
15	"	"	"	I 28	85.5	86.5	86.5	+1.0	CI 178 Cb 151	WT [(180)/(178)] C [(154) Cb (VcI)]	A-2
16	208	"	"	I 38	76.3	76.8	76.8	+0.5	CI 186 Cb 113	WT [(142)/(143)] C [(143) Cb (VcI)]	A-2
17	"	"	"	I 39	79.6	81.2	81.2	+1.6	CI 192 Cb 156	WT [(153)/(156)] C [(156) Cb (VcI)]	A-2
18	"	"	"	I 40	76.7	83.3	83.3	+6.6	CI 180 Cb 150	C [(150) Cb (VcI)]	A-2
19	"	"	"	I 48	74.4	75.5	75.5	+1.1	Cl 148 Cl 196	WT [(146)/(148)] C [(148) Cb (VcI)]	A-1
20	211	"	"	I 83	83.2	83.9	83.9	+0.7	Cb 152 Cl 181	C [(152) Cb (VcI)]	A-1
21	207	"	FzI	I 22	74.0	74.6	74.6	+0.6	Fb 97 Bb 130	WT [(131)/(130)] CC [(130) Bb (VzI), (97) Fb (VfI)]	A-1
22	"	"	"	I 29	71.8	70.8	70.8	-1.0	Fb 102 Bb 144	WT [(142)/(144)] CC [(144) Bb (VzI), (102) Fb (VfI)]	A-1
23	"	"	VcI	I 17	64.7	69.4	69.4	+4.7	Cb 148 Hvc 213	WT [(133)/(148)] CC [(148) Cb (CI), (213) Hvc (VzI, VfI, VbI)]	A-1
24	208	"	VfI	I 35	46.4	45.8	45.8	-0.6	Fb 99 Hvc 216	WT [(213)/(216)] CC [(99) Fb (FzI), (216) Hvc (VcI, VbI)]	A-1
25	211	"	"	I 83	45.8	50.4	50.4	+4.6	Fb 110 Hvc 218	WT [(100)/(110)], CC [(110) Fb (FzI), (218) Hvc (VcI, VzI, VbI)]	A-1
26	208	"	VzI	I 35	64.3	63.4	63.4	-0.9	Bb 137 Hvc 216	WT [(139)/(137)] CC [(137) Bb (FzI), (216) Hvc (VcI, VbI)]	A-2
27	209	"	"	I 49	61.6	61.8	61.8	+0.2	Bb 136 Hvc 220	CC [(136) Bb (FzI), (220) Hvc (VcI, VfI, VbI)]	A-1
28	212	"	"	I 98	42.3	59.3	59.3	+17.0	Bb 140 Hvc 236	WT [(100)/(140)] CC [(140) Fb (FzI); (236) Hvc (VcI, VfI, VzI)]	A-1
29	215	"	Bb	II 40	139	129	129	-10.0	"	C [(129) Bb (VzI, FzI)]	A-1
30	214	"	Bb	II 11	107	127	127	+20.0	"	C [(127) Bb (VzI, FzI)]	A-2
31	219	"	Hvc	II 100	215	216	216	+1.0	"	C [(216) Hvc (VcI, VbI, VzI, VfI)]	A-1
32	214	"	Hvc	II 11	207	209	209	+2.0	"	C [(209) Hvc (VcI, VbI, VzI, VfI)]	A-2
33	223	Tipra	CI	I 17	77.0	78.6	78.6	+1.6	Cb 144 Cl 183	T [e 187/183] C [(144) Cb (VcI)]	A-2
34	225	"	"	I 45	75.9	81.2	81.2	+5.3	Cb 152 Cl 187	C [(152) Cb (VcI)]	A-1
35	"	"	FzI	I 47	78.0	78.6	78.6	+0.6	Fb 103 Bb 131	CC [(103) Fb (VfI), (131) Bb (VzI)]	A-1
36	"	"	"	I 53	75.2	75.9	75.9	+0.7	Fb 101 Bb 133	CC [(101) Fb (VfI), (133) Bb (VzI)]	A-1
37	"	"	"	I 58	75.4	75.8	75.8	+0.4	Fb 107 Bb 141	CC [(107) Fb (VfI), (141) Bb (VzI)]	A-1
38	"	"	VbI	I 45	42.2	42.5	42.5	+0.3	Bm 102 Hvc 240	CC [(102) Bm (NmI); (240) Hvc (VcI, VzI, VfI)]	A-1
39	223	"	VcI	I 18	60.5	61.4	61.4	+0.9	Cb 145 Hvc 236	CC [(145) Cb (CI); (236) Hvc (VfI, VbI, VzI)]	A-1
40	"	"	VzI	I 14	60.0	61.0	61.0	+1.0	Cb 144 Hvc 236	CC [(144) Bb (FzI); (236) Hvc (VcI, VfI, VbI)]	A-1
41	227	"	NW	II 17	10	40	40	+30.0	"	PM [(1)/(8)]; C [(40) Nw (NI)]	A-1

RISLEY'S ANTHROPOMETRIC DATA FOR CHITTAGONG HILL TRIBES

Corrections of individual figures were classified in the following way:—

(A-1) There is no doubt regarding the validity of the correction. For example Vol. I, p. 3, Bengal Bagdi Vertico-frontal Index printed as 4.73, corrected to 47.3. In this category have been placed obvious printing mistakes, and mistakes caused by entering the index-table in the adjoining column or row, where the correction is supported by cross checks.

(A-2) There is practically no doubt regarding the validity of the correction. For example, when the mistake has occurred through a wrong entry in Index-Table, or by a not unlikely confusion between figures such as 3 and 8, 1 and 7, etc., and where the correction is supported by cross checks.

CORRECTIONS IN AVERAGE VALUES.

Discrepancies and correction in Average Values are given in Table 3. Column (1) gives the character, column (2) gives (n), the number of individual measurements available, and column (3) the actual total obtained by direct addition of individual figures as printed in Risley's volumes.. (The totals were checked twice on a Dalton adding machine). Column (4) is an approximate reconstructed total obtained by multiplying the average value given by Risley [column (5)] by the actual value of (n) given in column (2). Column (6) gives the average value as calculated from the actual total given in column (3), while column (5) gives the average value as printed in Risley's volume at the bottom of his Tables I and II. The difference between these two averages is given in column (7).

The total is revised by incorporating the corrections as adopted in individual figures and the revised average is then directly calculated. These revised averages as finally adopted are shown in column (8). References to individual corrections (which are fully described in Table 2) are given in footnotes in which CT means 'corrected total', and the bracketed figure after T-2 gives the cross reference to the serial number in Table 2.

TABLE 3 CORRECTIONS IN AVERAGE VALUES.

Character	No. of Individuals	Actual Totals	Risley's Mean $\times n$	Risley's Mean (as Printed)	Actual Mean (calculated)	Discrepancy (5) - (6)	Corrected Mean (adopted)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
CHAKMA TRIBE							
NI	100	8484.1	8150.0	81.5	84.8	-0.3	84.8
NmI	100	10632.2	10640.0	106.4	106.3	+0.1	106.3
CI	100	8316.83	8130.0	81.3	81.3	+1.1	81.4 ¹
FzI	100	7412.3	7110.0	71.1	74.1	0	74.1
VcI	100	6839.4	6830.0	68.3	68.4	-0.1	68.4 ²
VbI	100	4607.0	4610.0	46.1	46.1	0	46.1 ³
VfI	100	4721.8	4710.0	47.1	47.2	-0.1	47.2
VzI	100	6403.3	6360.0	63.6	64.0	-0.4	63.9
Nh	100	4726.0	4720.0	47.2	47.3	-0.1	47.3
Nw	100	3988.0	3990.0	39.9	39.9	0	39.9
Bb	100	10138.0	10130.0	101.3	101.4	-0.1	101.4
Nm	100	10781.0	10780.0	107.8	107.8	+0.1	107.8
Cl	100	17790.0	17790.0	177.9	177.9	0	177.9
Cb	100	15010.0	15000.0	150.0	150.1	-0.1	150.1 ⁴
Fb	100	10365.0	10360.0	103.6	103.6	0	103.6
Bz	100	13978.0	13970.0	139.7	139.8	-0.1	139.8
Hvi	100	8609.0	8600.0	86.0	86.1	-0.1	86.1
Hvt	100	13416.0	13410.0	134.1	134.2	-0.1	134.2
Hvc	100	21953.0	21950.0	219.5	219.5	0	219.5

1 CT=8437.30 (-0.1) T-2, (1,2)

2 CT=6838.4 (-0.1) T-2, (3)

3 CT=4597.1 (0) T-2, (4)

4 CT=15005.0 (-0.1) T-2, (5)

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TABLE 3 CORRECTION IN AVERAGE VALUES

Character	No. of Individuals	Actual Total	Risley's Mean × n	Risley's Mean (as printed)	Actual Mean (calculated)	Discrepancy [5] - [6]	Corrected Mean (adopted)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
KUKI TRIBE							
NI	17	1448'0	1445'0	85'0	85'2	-0'2	85'2
NmI	17	1806'0	1805'4	106'2	106'2	0	106'2
CI	17	1287'2	1295'4	76'2	75'7	+0'5	76'3 ⁵
FzI	17	1276'0	1275'0	75'0	75'1	-0'1	75'0 ⁶
VcI	17	1155'6	1152'6	67'8	68'0	-0'2	68'0
VbI	17	805'0	802'4	47'2	47'4	-0'2	47'3 ⁷
VII	17	822'3	821'1	48'3	48'4	-0'1	48'4
VzI	17	1096'1	1093'1	64'3	64'5	-0'2	64'5
Nh	17	794'0	793'9	46'7	46'7	0	46'7
Nw	17	675'0	674'9	39'7	39'7	0	39'7
Bb	17	1692'0	1691'5	99'5	99'5	0	99'5
Nm	17	1798'0	1796'9	105'7	105'8	-0'1	105'8
CI	17	3177'0	3182'4	187'2	186'9	+0'3	186'9
Cb	17	2428'0	2427'6	142'8	142'8	0	142'8
Fb	17	1789'0	1728'9	101'7	105'2	-3'5	101'7 ⁸
Bz	17	2305'0	2303'5	135'5	135'6	-0'1	135'6
Hvi	17	1331'0	1329'4	78'2	78'3	-0'1	78'3
Hvt	17	2281'0	2279'7	134'1	134'2	-0'1	134'2
Hvc	17	3580'0	3578'5	210'5	210'6	-0'1	210'6
MAGH TRIBE							
NI	100	8154'9	8270'0	82'7	81'6	+1'1	81'6
NmI	100	10762'0	10770'0	107'7	107'6	+0'1	107'6 ⁹
CI	100	8182'7	8180'0	81'8	81'8	0	82'0 ¹⁰
FzI	100	7452'8	7430'0	74'3	74'5	-0'2	74'5 ¹¹
VcI	100	6742'5	6740'0	67'4	67'4	0	67'5 ¹²
VbI	100	4641'5	4630'0	46'3	46'4	-0'1	46'4
VII	100	4651'4	4650'0	46'5	46'5	0	46'5 ¹³
VzI	100	6258'3	6250'0	62'5	62'6	-0'1	62'8 ¹⁴
Nh	100	4822'0	4820'0	48'2	48'2	0	48'2
Nw	100	3917'0	3990'0	39'9	39'2	+0'7	39'2
Bb	100	10214'0	10210'0	102'1	102'1	0	102'2 ¹⁵
Nm	100	11006'0	11000'0	110'0	110'1	-0'1	110'1
CI	100	18140'0	18140'0	181'4	181'4	0	181'4
Cb	100	14842'0	14850'0	148'5	148'4	+0'1	148'4
Fb	100	10249'0	10250'0	102'5	102'5	0	102'5
Bz	100	13779'0	13780'0	137'8	137'8	0	137'8
Hvi	100	8489'0	8490'0	84'9	84'9	0	84'9
Hvt	100	13422'0	13420'0	134'2	134'2	0	134'2
Hvc	100	22020'0	22020'0	220'2	220'2	0	220'2 ¹⁶

5 CT-1300'1 (-0'3), T-2 (6,7)

6 CT-1275'3 (0), T-2 (8)

9 CT-10765'1 (+0'1), T-2, (11, 12).

10 CT-8195'2 (-0'2), T-2, (13-20).

11 CT-7452'4 (-0'2), T-2, (21, 22).

12 CT-6747'4 (-0'1), T-2, (23)

7 CT-804'6 (-0'1), T-2 (9)

8 CT-1729'0 (0), T-2 (10)

13 CT-4652'4 (0), T-2, (24, 25).

14 CT-6274'6 (-0'3), T-2, (26-28).

15 CT-10224'0 (-0'1), T-2, (29, 30).

16 CT-22023'0 (0), T-2, (31, 32).

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TABLE 3 CORRECTIONS IN AVERAGE VALUES.—(Cont)

Character	No. of Individuals	Actual Total	Risley's Mean \bar{x}	Risley's Mean (as printed)	Actual Mean (calculated)	Discrepancy [5] - [6]	Corrected Mean (adopted)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
MURUNG TRIBE							
NI	5	388'6	388'5	76'7	76'7	0	76'7
Nml	5	542'4	542'5	108'5	108'5	0	108'5
CI	5	382'7	382'5	76'5	76'5	0	76'5
FzI	5	371'2	371'0	74'2	74'2	0	74'2
VcI	5	322'0	321'5	64'3	64'4	-0'1	64'4
VbI	5	227'0	226'5	45'8	45'4	-0'1	45'4
VfI	5	232'5	232'0	46'4	46'5	-0'1	46'5
VzI	5	313'2	312'5	62'5	62'6	-0'1	62'6
Nh	5	245'0	245'0	49'0	49'0	0	49'0
Nw	5	188'0	188'0	37'6	37'0	0	37'6
Bb	5	501'0	501'0	100'2	100'2	0	100'2
Nm	5	544'0	544'0	108'8	108'8	0	108'8
CI	5	927'0	927'0	185'4	185'4	0	185'4
Cb	5	710'0	710'0	142'0	142'0	0	142'0
Fb	5	513'0	513'0	102'6	102'6	0	102'6
Bz	5	691'0	691'0	138'2	138'2	0	138'2
Hvi	5	407'0	407'0	81'4	81'4	0	81'4
Hvt	5	692'0	692'0	138'4	138'4	0	138'4
Hvc	5	1104'0	1104'0	220'8	220'8	0	220'8
TIPRA TRIBE							
NI	58	4931'8	4012'6	84'7	85'0	-0'3	85'0
Nml	58	6225'5	6240'8	107'6	107'3	+0'3	107'3
CI	58	4667'0	4669'0	80'5	80'1	+0'4	80'6 ¹⁷
FzI	58	4371'8	4373'2	75'4	75'4	0	75'4 ¹⁸
VcI	58	3876'0	3868'6	66'7	66'8	-0'1	66'8 ¹⁹
VbI	58	2495'2	2644'8	45'6	43'0	+2'6	43'0 ²⁰
VfI	58	2718'4	2714'4	46'8	46'8	0	46'9
VzI	58	3604'7	3601'8	62'1	62'1	0	62'2 ²¹
Nh	58	2784'0	2731'8	47'1	47'1	0	47'1 ²²
Nw	58	2285'0	2314'2	39'9	39'4	+0'5	39'9
Bb	58	5815'0	5800'0	100'0	100'3	-0'3	100'3
Nm	58	6244'0	6240'8	107'6	107'6	0	107'7
CI	58	10525'0	10521'2	181'4	181'5	-0'1	181'5
Cb	58	8479'0	8473'8	146'1	146'2	-0'1	146'2
Fb	58	5851'0	5950'8	102'6	100'0	+1'7	100'9
Bz	58	7889'0	7888'0	136'0	136'0	0	136'0
Hvi	58	4056'0	4058'2	85'4	85'4	0	85'4
Hvt	58	7783'0	7777'8	134'1	134'2	-0'1	134'2
Hvc	58	12700'0	12696'2	218'9	219'0	-0'1	219'0

17 CT-4678'0 (-0'1), T-2 (83,34)

18 CT-3860'5 (-0'1), T-2 (89)

19 CT-4373'5 (0), T-2 (85-37)

20 CT-3602'8 (-0'1), T-2 (40)

21 CT-2495'5 (+2'6), T-2, (88)

22 CT-2315'0 (0), T-2, (41)

RISLEY'S ANTHROPOMETRIC DATA FOR CHITTAGONG HILL TRIBES

ANALYSIS OF DISCREPANCIES.

The actual number of discrepancies are shown in Tables 4, 5, 6 and 7 for each tribe and for each element (both measurements and indices) classified under the heads (A-1), and (A-2), defined above. There are only 34 mistakes in 2240 individual indices, and 7 mistakes in 3080 individual measurements. The frequency of mistakes is thus 15.18 per thousand for indices and 2.27 per thousand for measurements or 7.71 per thousand for all elements. These frequencies are in general agreement with the observed rates per thousand for Bengal tribes and castes:—13.47 (indices), 1.31 (measurements) and 6.83 (combined).¹

All the discrepancies in individual indices and measurements can however be reconciled with practical certainty.

TABLE 4 DISCREPANCIES FOR DIFFERENT CHARACTERS.

Character	Total	A ₁	A ₂	Total	Per 1000
Nasal Index	280	...	...	...	...
Naso-malar Index	280	...	2	2	7.14
Cephalic Index	280	4	10	14	50.00
Fronto zygomatic Index	280	6	...	6	21.42
Vertico Cephalic Index	280	3	...	3	10.71
Vertico bimalar Index	280	3	...	3	10.71
Vertico frontal Index	280	2	...	2	7.14
Vertico-bizygomatic Index	280	4	...	4	14.28
Indices Total	2240	22	12	34	15.18
Nasal height	280	...	...	...	...
Nasal width	280	1	...	1	3.57
Bimalar breadth	280	...	2	2	7.14
Naso-malar breadth	280	...	...	...	...
Cephalic length	280	...	...	...	...
Cephalic breadth	280	1	...	1	3.57
Frontal breadth	280	1	...	1	3.57
Maximum Bi-zygomatic breadth	280	...	...	...	...
Height, Vertex to inter-Superciliary point.	280	...	...	...	...
Height, Vertex to tragus	280	...	...	...	...
Height, Vertex to chin	280	2	...	2	7.14
Measurement Total	3080	5	2	7	2.27
Combined Total	5320	27	14	41	7.71

TABLE 5 DISCREPANCIES FOR DIFFERENT CASTES.

CASTE	INDIVIDUAL INDICES			INDIVIDUAL MEASUREMENTS			INDICES AND MEASUREMENTS COMBINED		
	Total	Mistakes	Per 1,000	Total	Mistakes	Per 1,000	Total	Mistakes	Per 1,000
Chakma ...	800	4	5.00	1,100	1	0.91	1,900	5	2.63
Kuki ...	186	4	21.41	187	1	5.35	373	5	13.41
Magh ...	800	18	22.50	1,100	4	3.64	1,900	22	11.58
Murung ...	40	...	...	55	...	...	95	...	...
Tipra ...	464	8	17.24	638	1	1.57	1,102	9	8.17
	2,240	34	15.18	3,080	7	2.27	5,320	41	7.71

¹ *Sankhyā* 1 (1), 1933, p. 101.

TABLE 6 ANALYSIS OF DISCREPANCIES IN INDIVIDUAL INDICES.

1	Caste	3	Nasal Index		Naso-malar Index		Cephalic Index		Fronto-zygomatic Index		Vertico-cephalic Index		Vertico-Bimalar Index		Vertico-frontal Index		Vertico-Bi-zygomatic Index		Index Total		
			N	A ₁	A ₂	A ₁	A ₂	A ₁	A ₂	A ₁	A ₂	A ₁	A ₂	A ₁	A ₂	A ₁	A ₂	A ₁	A ₂	A ₁	A ₂	Total
1	Chakma ...	100	-	-	-	-	2	-	-	-	1	-	1	-	-	-	-	4	-	4	
2	Kuki ...	17	-	-	-	-	-	2	1	-	-	-	1	-	-	-	-	2	2	4	
3	Magh ...	100	-	-	-	2	2	6	2	-	1	-	-	-	2	-	3	-	10	8	18
4	Murung ...	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5	Tiprá ...	58	-	-	-	-	-	2	3	-	1	-	1	-	-	-	1	-	6	2	8
Total ...		280	-	-	-	2	4	10	6	-	3	-	3	-	2	-	4	-	22	12	34

TABLE 7 ANALYSIS OF DISCREPANCIES IN INDIVIDUAL MEASUREMENTS.

1	Caste	3	Nasal width		Bimalar Breadth		Cephalic length		Caphalic Breadth		Frontal Breadth		Max. Bi-zygomatic Breadth		Height Vertex to Tragus		Height Vertex to Chin		Measurement Total			Index and Measurement Combined Total		
			N	A ₁	A ₂	A ₁	A ₂	A ₁	A ₂	A ₁	A ₂	A ₁	A ₂	A ₁	A ₂	A ₁	A ₂	A ₁	A ₂	Total	A ₁	A ₂	Total	
1	Chakma ...	100	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	1	5	-	5
2	Kuki ...	17	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	-	1	3	2	5
3	Magh ...	100	-	-	-	2	-	-	-	-	-	-	-	-	-	-	2	-	2	2	4	12	10	22
4	Murung ...	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5	Tiprá ...	58	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	7	2	9
Total ...		280	1	-	-	2	-	-	1	-	1	-	-	-	-	-	2	-	5	2	7	22	14	41

RISLEY'S ANTHROPOMETRIC DATA FOR CHITTAGONG HILL TRIBES

The frequency distribution of discrepancies in average values and percentages are given in Tables 8 and 9. All the figures are similar to those observed in the case of Bengal tribes and castes. (*Sankhyā*, 1 (1), p. 103).

TABLE 8 FREQUENCY DISTRIBUTION OF DISCREPANCIES IN AVERAGE VALUES.

Magnitude of Discrepancies	BEFORE CORRECTION OF INDIVIDUAL FIGURES.			AFTER CORRECTION OF INDIVIDUAL FIGURES.		
	Measurements	Indices	Total	Measurements	Indices	Total
-3.5	1	...	1	...	...	...
1.0	...	...	...	...	...	...
.8	...	...	...	...	...	...
.7	...	...	...	...	...	...
.6	...	...	...	...	...	...
.5	...	...	...	...	...	...
.4	...	1	1	...	...	...
.3	1	2	3	1	5	6
.2	...	5	5	...	5	5
-.1	16	11	27	18	15	33
0	31	13	44	31	10	41
+1	2	2	4	2	2	4
.2	...	...	...	...	...	...
.8	1	1	2	1	1	2
.4	...	1	1	...	...	...
.5	1	1	2	...	...	...
.6	...	...	...	...	...	...
.7	1	...	1	1	...	1
1.0	...	...	...	...	...	...
1.1	...	2	2	...	1	1
1.7	1	...	1	1	...	1
+2.6	...	1	1	...	1	1
Total ...	55	40	95	53	40	95

TABLE-9. PERCENTAGE DISCREPANCIES IN AVERAGE VALUES BEFORE CORRECTION

BEFORE CORRECTION OF INDIVIDUAL VALUES.	MEASUREMENT (55)		INDICES (40)		COMBINED (95)	
	Total	P. C. (%)	Total	P. C. (%)	Total	P. C. (%)
No discrepancy ...	31	56.4	18	32.5	44	46.3
Not greater than 0.1 ...	49	89.1	26	65.0	75	78.9
Not greater than 0.2 ...	49	89.1	31	77.5	80	84.2
Greater than 0.2 ...	6	10.9	9	22.5	15	15.8

AFTER CORRECTION

AFTER CORRECTION OF INDIVIDUAL VALUES.	MEASUREMENT (53)		INDICES (40)		COMBINED (95)	
	Total	P. C. (%)	Total	P. C. (%)	Total	P. C. (%)
No discrepancy ...	31	58.4	10	2.5	41	43.2
Not greater than 0.1 ...	51	92.7	27	67.5	78	82.1
Not greater than 0.2 ...	51	92.7	32	80	83	87.4
Greater than 0.2 ...	4	7.2	8	12.0	12	12.6

CONCLUSION.

The results of the present scrutiny may now be summarised.

(1) There is a great preponderance of discrepancies of magnitude 0.1 and 0.2 (especially of -0.1) showing that arithmetical calculations had been stopped at the figure quoted, and was not carried through for one place more in order to obtain the correct value of the last figure.

(2) The total number of discrepancies in individual figures was very small, only 7 discrepancies in 3080 individual measurements and 31 discrepancies in 2240 individual indices. Corresponding percentages are 0.227% (measurements), 1.518% (indices), with a combined rate of only 0.771%, or about three-fourths of one per cent.

(3) Discrepancies in indices (1.518%) were thus seven times as frequent as discrepancies in measurements (0.227%). This shows that mistakes had occurred in calculating the indices rather than in recording the original data.

(4) All the discrepancies in individual indices and measurements could be traced to obvious printing mistakes, mistakes in using index tables, arithmetical slips etc., and could therefore be reconciled with practical certainty.

(5) In the case of average values there were a very large number of discrepancies of magnitude 0.1 and 0.2 which can be traced to the faulty arithmetical procedure in stopping the calculation at the figure quoted.

(6) Even neglecting discrepancies of magnitude equal to or less than 0.2, the discrepancies in average values (15.8%) were more than twenty times as frequent as discrepancies in individual values (0.771%). There can scarcely be any doubt that most of the discrepancies had occurred in the stage of calculating the average values.

We conclude therefore that just as in the case of Bengal tribes and castes, Risley's primary data for the hill tribes of Chittagong are singularly free from mistakes, and may be used with safety after using the corrections given in the present paper.

Revised averages based on corrected individual figures are given in Table 10.

TABLE 10. CORRECTED AVERAGE VALUES FOR CHITTAGONG HILL TRIBES

TRIBE				n	NI	Nm1	CI	Fz1	Vel	Vb1	Vf1	Vz1
Chakma	...	...	...	100	84.8	106.3	84.4	74.1	68.4	46.1	47.2	63.9
Kuki	...	...	...	17	85.2	106.2	76.5	75.0	68.0	47.3	48.4	64.5
Magh	...	...	...	100	81.6	107.6	82.0	74.5	67.5	46.4	46.5	62.8
Murung	...	...	...	5	76.7	108.5	76.5	74.2	64.4	45.4	46.5	62.6
Tipra	...	...	...	58	85.0	107.3	80.6	75.4	66.8	43.0	46.9	62.2

TRIBE			Nh	Nw	Bb	Nm	Cl	Cb	Fb	Bz	Hvi	Hvt	Hvc
Chakma	...	...	47.3	39.9	101.4	107.8	177.9	150.1	103.6	139.8	86.1	134.2	219.5
Kuki	...	...	46.7	39.7	99.5	105.7	187.2	142.8	101.7	135.5	78.2	134.2	210.5
Magh	...	...	48.2	39.2	102.2	110.1	181.4	148.4	102.5	137.8	84.9	134.2	220.2
Murung	...	...	49.0	37.6	100.2	108.8	185.4	142.0	102.6	138.2	81.4	138.4	220.8
Tipra	...	...	47.1	39.9	100.3	107.7	181.5	146.2	100.9	136.0	85.4	134.2	219.0