

MADRAS GOVERNMENT MUSEUM.

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ANTHROPOLOGY.

Badagas and Irulas of the Nilgiris;
Paniyans of Malabar; A Chinese-Tamil Cross;
A Cheruman Skull; Kuruba or Kurumba;
Summary of Results.

With Seventeen Plates.

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ANTHROPOLOGY.

THE BADAGAS OF THE NILGIRIS.

As the Todas are the pastoral, and the Kotas the artisan tribe of the Nilgiris, so the agricultural element on these hills is represented by the Badagas (or, as they are sometimes called, Burghers), whose number was returned as 29,613 at the Census 1891 against 24,130 at the previous Census. But, though the primary occupation of the Badagas is agriculture, there are, among their community, bricklayers, carpenters, tailors, sawyers, barbers, washermen, &c., and many work for Europeans as coolies on tea and coffee estates.

The name Badaga or Vadugan means 'northerner,' and the Badagas, who speak a language allied to Kanarese, are no doubt descended from Kanarese Hindu colonists from the Mysore country, who migrated, probably about three centuries ago, to the hills owing to famine, political turmoil, or local oppression in their own country. They have a tradition that five hundred years ago there were seven brothers living with their sister at a place called Badaghalli near Mysore. A Muhammadan Nawab fell in love with, and asked the permission of the brothers to marry the girl, and they, being afraid of him, ran away and settled on the Nilgiri plateau.

Among the Badagas six distinct septs are recognised, viz. :—

Udaya (or Wodeyar).	Lingayats ..	High caste.
Adhikāri	Do. ..	Do.
Kanaka	Do. ..	Do.
Hāruva	Saivites ..	Do.
Badaga	Do. ..	Do.
Toraya	Do. ..	Low caste.

The Hāruva, Adhikāri, Kanaka, and Badaga septs are permitted to intermarry one with the other, whereas the Udayas and Torayas may only marry into their own sept.

The Hāruvas wear the Brāhmanical thread, and it has been suggested by Mr. Natesa Sastri that they were originally poor Brāhman priests, who migrated with the Badagas to the Nilgiris. The Torayas are the lowest sept, and do menial work for the other septs, which regard them as sons or servants. Toraya women are distinguished by wearing bangles of glass and base metal round the left wrist. The Udaya, Hāruva, and Adhikāri septs are vegetarians, whereas the Kanakas, Badagas and Torayas are permitted to eat both animal and vegetable food. It is said that the vegetarian Adhikāri, if he marries into a flesh-eating caste, betakes himself to the new diet very readily—more readily, in fact, than an Englishman of my acquaintance, who had to abandon his carnivorous habits as a condition of acceptance by a vegetarian lady.

Living in extensive villages, generally on the summit of a low hillock, composed of rows of comfortable thatched or tiled houses, and surrounded by the fields which yield the crops of korāli (*Setaria italica*), sāmāi (*Panicum miliare*), &c., the Badagas would seem, at first sight, to be a prosperous and thriving community as compared with the other tribes of the Nilgiris. A great newspaper discussion was recently carried on as to their condition, and whether they are a down-trodden race, bankrupt and impoverished to such a degree that it is only a short time before something must be done to ameliorate their condition, and save them from extermination by inducing them to emigrate to the Wynād and the Vizagapatam district. After reading much, and hearing and seeing more of the Badagas, I am on the side of one who wrote to the effect that "so far from approaching ruin, the Badaga is in a far better condition than he was some years ago. The tiled houses, costing from Rs. 250 to Rs. 500, certainly point to their prosperity. They may frequently borrow from the Lubbay to enable them to build, but, as I do not know of a single case in which the Lubbay has ever seized the house and sold it, I believe this debt is soon discharged. The walled-in, terraced fields immediately around their villages, on which they grow their barley and other grains requiring rich cultivation, are well worked and regularly manured. The coats, good thick blankets, and gold ear-rings, which most Badagas now possess, can only, I think, point to their prosperity, while their constant feasts, and disinclination to work on Sundays, show that the loss of a few days' pay does not affect them."



BADAGA MAN.

The Badaga ceremonies and rites have been so fully described by others¹ that I shall only touch lightly on this already well-trodden ground.

In his religion the Badaga is polytheistic and a demonolater, worshipping a select number of major, and thirty-three crores² of minor gods, and attributing fever contracted by being out after dark, and other ailments and mishaps, to the influence of devils. Worship is performed in all manner of edifices, from a small jungle or road-side shrine to the big temple with gopurams at Karamadai at the foot of the hills, whereat the Badaga worships in common with other Hindu sects and Todas. Their gods are represented by human images of gold and silver, stone bulls and roughly-hewn stones, to which oblations of milk are offered when a cow refuses to give milk in proper quantity. In omens, both good and bad, they believe implicitly. Among the former are reckoned two Brāhmans, a jackal, or a milk-pot in front, whereas a snake passing in front, a woman with her hair down her back, a widow, or a single Brāhman going before are harbingers of evil.

The investiture of youths of the Lingayat sept with the badge of his religion, the linga or phallic emblem, which is tied round his neck, is the occasion of a solemn ceremonial, accompanied by payment of fees to the officiating priest, who acts as Grand Master of the Order, the pouring of an offering of the milk of cows and buffaloes into a rivulet, and a feast. When a Badaga lad has reached the youthful years at which he is expected to be of use to the community, he is instructed in the important duty of milking the cattle, and permitted to enter thenceforth within the milk-house (hāgōtu), wherein no female may set foot.

In the Udaya sept, according to Mr. Natesa Sastri, there is nothing in the nature of courtship, but the father settles the bride or bridegroom for his child. In the other septs a simple form of sexual selection takes place, and engagement, soon followed by marriage on an auspicious day, is announced as the result of a brief period of courtship, which affords some opportunity for testing compatibility or incompatibility. The marriage bond is not, however, really,

¹ S. M. Natesa Sastri, *Madras Christian College Magazine*, April and May 1892, Vol. IX, Nos. 10-11; Grigg, *Manual of the Nilagiri District*, 1880.

² A crore = 10,000,000.

sealed until the fifth month of the first pregnancy, when the relatives are invited to be present at the ceremony of kanni-kattēdu, or tying the marriage emblem round the neck of the woman. If, when he is performing this function, the husband gets the string entangled in his wife's hair, he is fined for carelessness. As a sign that a girl has reached puberty, and is available for matrimonial purposes, she is tattooed on the forehead with a needle dipped in the blacks collected from a cooking-pot and mixed with oil.

The funeral rites of the Badagas are carried out with a ceremonial very similar to that of the Kotas, which I have already described as an eye-witness (Bull: No. 4), and Kotas are engaged as musicians. In the course of these rites, an elder, standing by the corpse, offers up a prayer that the dead may not go to hell, that the sins committed on earth may be forgiven, and that the sins may be borne by a calf, which is let loose in the jungle, and used thenceforth for no manner of work. This Badaga custom of dedicating a scape-calf is of distinct interest, when compared with the Levitical dedication of a scape-goat. "But the goat on which the lot fell to be the scape-goat shall be presented alive before the Lord to make an atonement with him, and to let him go for a scape-goat in the wilderness, and the goat shall bear upon him all their iniquities unto a land not inhabited." (Lev. XVI, 10; 22).

A quarter of a century ago, a Badaga could be at once picked out from the other tribes of the Nilgiris by his wearing a turban. But, in the present advanced age, when 'manners and customs' are undergoing rapid modification owing to the influence of domestication and contact with Europeans, not only does the Toda occasionally appear in the national head-dress, but even Irulas and Kurumbas, who, only a short time ago, were buried in the jungles, living like pigs and bears on roots, honey, and other minor forest produce, turn up on Sundays in the Kotagiri bazār, clad in turban and coat of English cut. And, as the less civilised tribes don the turban, so the college student abandons this picturesque form of head-gear in favour of the less becoming, and less washable, pork-pie cap, while the Badaga glories in a knitted night-cap of flaring red or orange hue.

In colour the Badagas are lighter than the other hill-tribes, and the pallor of the skin is specially noticeable in the females, whom, with very few exceptions, I was only



BADAGA MAN.

able to study by surreptitious examination when we met on the roads. In physique the typical Badaga is below middle height, smooth-skinned, of slender build, with narrow chest and shoulders.

Like other Kanarese classes which I have investigated, the Badagas have, as shown in the subjoined tabular statement, a short span of the arms relative to the stature, when compared with many of the Tamil classes :—

				Span of arms relative to stature=100.	
Kotas.	Kanarese?	..	..	..	103·3
Koramas.	Kanarese	..	..	..	103·2
Kurubas.	Do.	..	..	..	104·3
Badagas.	Do.	..	..	..	104·6
Kanarese Pariahs.	Kanarese	..	..	..	105·1
Tamil Pariahs.	Tamil	..	..	..	106·1
Tamil Brāhmans.	Do.	..	..	..	106·6
Kammālans.	Do.	..	..	..	107·1
Ambattans.	Do.	..	..	..	107·2
Vellālas.	Do.	..	..	..	107·2

The average distance from the tip of the middle finger to the top of the patella (knee-cap) in the position of 'attention' with the muscles of the thigh relaxed, is in the Badagas, as in two other Kanarese classes which I have examined (Kurubas and Koramas) considerable. But this character is discussed later on (p. 48).

The average height of the Badaga, according to my measurements, is 164·1 cm. One man (not included in the averages), whose father was still taller than himself, was 183·2 cm. high. The measurements of this man, as compared with the Badaga average, were as follows :—

				Badaga average.	
				CM.	CM.
Height	..	..	..	183·2	164·1
„ sitting	..	..	..	92·8	84·5
„ kneeling	..	..	..	134	120·8
Span of arms	..	..	..	193·2	171·7
Shoulders	..	..	..	44·3	39·4
Cubit	..	..	..	50·6	46·2
Hand, length	..	..	..	19·5	17·7
Middle finger	..	..	..	13	11·5
Hips	..	..	..	30·1	26·6
Foot, length	..	..	..	28·1	25

The typical tribal costume of the Badaga men consists of langūti, white turban, and long body-cloth with red and

blue stripes wrapped round them "so loosely that, as a man works in the fields, he is obliged to stop between every few strokes of his hoe, to gather up his cloth and throw one end over his shoulder." Male adornment with jewelry is limited to gold ear-rings, a silver bangle on the wrist, and silver, copper or brass rings.

As types of female attire, jewelry and tattooing, the following 'cases' may be cited:—

Girl, aged 13. Tattooed on forehead (pl. IV-A 1). White cloth covering body, and white under-cloth tied round chest, tightly wrapped square across the breasts and reaching to knees. Gold ornament in left nostril, necklets of small glass beads, and of large glass beads with two silver ornaments.

Woman, aged 30. Body clothing the same as preceding. White cotton cap on head (pl. IV). Tattooed on forehead (pl. IV-A 1); spot on chin; double row of dots on each upper arm over deltoids (pl. IV-A 2); and pattern on right fore-arm (pl. IV-A 3). Gold ornament in left nostril. Gold ring in lobe of each ear. Necklets of small glass beads and of silver links with four-anna piece pendent. Silver armlet above right elbow. Four copper armlets above left elbow. Four silver, and seven composition bangles on left fore arm. Two silver rings on right ring-finger; two steel rings on left finger.

Woman, aged 45. Tattooed on forehead (pl. IV-A 4); single row of dots over right deltoid; pattern on left fore-arm (pl. IV-A 5); and three dots on back of left wrist.

Woman, aged 35. Tattooed on forehead (pl. IV-A 1); quadruple row of dots over right deltoid; and star on right forearm (pl. IV-A 6).

Woman, aged 30. Tattooed like the preceding on forehead and upper arm; spot on chin; elaborate device on right forearm (pl. IV-A 7); and star on back of right hand.

Woman, aged 35. Tattooed like the two preceding on forehead and upper arm; double row of dots and star on right forearm (pl. IV-A 8).

Woman, aged 40. Tattooed like the three preceding on forehead and upper arm; elaborate device on right forearm (pl. IV-A 3); triple row of dots on back and front of left wrist; and double row of dots with circle surrounded by dots across chest (pl. IV-A 9).



BADAGA WOMAN.

TABLE I.
SUMMARY OF MEASUREMENTS.
BADAGAS.

	Max.	Min.	Average.	Mean above.	Mean below.
Weight	125	90	105	115	98
Height	180·2	154	164·1	169·4	159·9
Height, sitting	89·2	80·7	84·5	87·3	82·4
Height, kneeling	130·5	114·3	120·8	124·1	117·2
Height to gladiolus	138	116	123·7	128	119·9
Span of arms	191	158·4	171·7	176·8	166·7
Chest	87	73	80·4	8·3	77·7
Middle finger to patella	17·4	7·8	12·2	14·5	10·6
Shoulders	43·8	36·2	39·4	40·7	38·3
Cubit	49·7	42·6	46·2	47·5	44·9
Hand, length	19·2	16	17·7	18·2	17·2
Hand, breadth	8·7	7·5	8·1	8·3	7·9
Middle finger	12·3	10·7	11·5	11·9	11·2
Hips	29·4	24·3	26·6	27·5	25·5
Foot, length	27·2	23·2	25	25·7	24·2
Foot, breadth	9·6	7·8	8·6	8·9	8·3
Cephalic length	20·2	18	18·9	19·4	18·4
Cephalic breadth	14·5	12·8	13·6	13·9	13·3
Cephalic index	77·5	66·1	71·7	73·9	69·5
Bigonial	10·2	8·6	9·7	10	9·3
Bisymphatic	13·5	12	12·7	13	12·4
Maxillo-symphatic index	83·6	67·2	76·9	79·4	73·9
Nasal height	5·1	4·1	4·6	4·8	4·4
Nasal breadth	3·9	3·2	3·4	3·6	3·3
Nasal index	88·4	62·7	75·6	80	71·4
Vertex to tragus	14·6	12·7	13·6	14	13·2
Vertex to chin	22·6	19·7	21·2	21·8	20·7
Facial angle	77	67	71	73	68

Note.—The results are based on the measurement of forty subjects. In this and the following tables, the weight is recorded in pounds; the measurements are in centimetres.

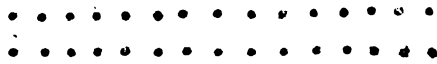
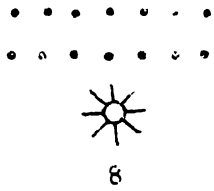
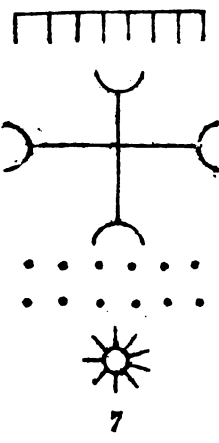
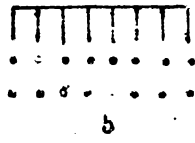
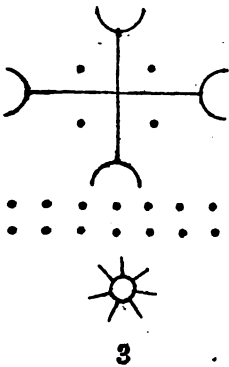
THE IRULAS OF THE NILGIRIS.

For the purpose of comparing the characteristics of the five tribes which inhabit the Nilgiri hills, no better hunting ground can be selected than the Kotagiri bazar. There on market day (Sunday) may be seen gathered together Todas from the distant Kodanād mand, Kotas from the adjacent Kota village, Badagas from the surrounding villages, and, in fewer numbers, Irulas and Kurumbas, who have walked up from their homes on the lower slopes to purchase the weekly supplies, laden with which they tramp cheerfully back in the afternoon. In distinguishing a Toda, Kota, or Badaga, no difficulty is experienced even on very slight acquaintance with them, but to decide between Irula and Kurumba is not nearly so easy; and, when I have seen both together on a coffee estate, I have several times committed an error of diagnosis. The manager of an estate, after several years acquaintance with them, said he could always, without fail, distinguish a Kurumba from an Irula, although unable to explain exactly how he did so. He thought the difference was mainly in the more prominent cheek-bones and shorter and flatter noses of the Irulas.³ In the Manual of the Nilgiri District, 1880, Mr. H. B. Grigg states that "the Irulas belong to a still more primitive race than the Kurumbas, namely, the Bedas or hunters of the forests of the peninsula. The opinion that the Nilgiri Irulas are allied to these Bedas receives confirmation from the fact that they, like the Mysore Bedas, are worshippers generally of Vishnu, a remarkable circumstance considering the almost universal Sivaism of the aboriginal tribes of South India." It was suggested, on the other hand, by Colonel Ross King⁴ that the Irulas and Kurumbas were originally one, and that the slight physical differences between them may have resulted from the nature of their respective situations and consequent modes of life. At the present day both Irulas and Kurumbas are occasionally found living in the same hamlet (or *motta*).

The hill Kurumbas (or Kurumans) it may be noted, *en passant*, are sub-divided by the Census Commissioner, 1891, into Mulla Kurumans, Vetta Kurumans, Ūrāli Kurumans, Tēn Kurumans, and Tac'chanādan Muppan. Of these five sub-divisions my persuasive powers have so far permitted of my measuring only four Ūrāli Kurumans—a meagre result

³ Breeks' Primitive Tribes of the Nilgiris.

⁴ Aboriginal Tribes of the Nilgiri hills.



for a long march. There is, however, a further sub-division calling themselves Pála Kurumans, who, like the Irulas, live on coffee estates or in the jungles of the eastern slopes of the Nilgiris, and of these, with great difficulty, I succeeded in measuring eleven male individuals. Comparing their principal measurements, though the number is confessedly very few, with those of twenty-five Irulas, and, as a 'control,' with those of the short, broad-nosed Paniyans of the Wynád, the results pan out (to use a mining phrase) as follows :—

	Irula.	Kurumba.	Paniyan.
Height	159·8	158	157·4
Span of arms	169·8	168·9	165·2
Span of arms relative to stature = 100	106·3	106·9	106
Middle finger to patella	10·7	10·7	7·3
Middle finger to patella relative to stature=100	6·7	6·8	4·6
Cubit	45·8	45·5	45·3
Hand, length	17·5	17·5	18·5
Foot, length	24·9	24·9	25
Hips	25·4	25·3	24·3
Cephalic length	18	18	18·4
Cephalic breadth	13·7	13·7	13·6
Bigoniac	9·7	9·6	10
Bizygomatic	12·7	13	12·6
Nasal height	4·4	4·3	4
Nasal breadth	3·7	3·8	3·8
Nasal index	84·9	88·7	95·1
Vertex to chin	20·7	20·6	19·8

Further investigation of the Pála Kurumbas is, of course, necessary (though experience leads me to anticipate no

marked variation from the averages obtained), but the figures afford, I think, evidence of a close affinity between the Irulas and Kurumbas.

In my hunt after Irulas it was necessary to invoke the assistance and proverbial hospitality of various planters, without which my researches would have been barren. On one occasion news reached me that a party of Irula men, women, and children, collected for my benefit under a promise of substantial remuneration, had arrived at a planter's bungalow, whither I proceeded. The party included a man who had been 'wanted' for some time in connection with the shooting of an elephant on forbidden ground. He, suspecting me of base designs, refused absolutely to be measured on the plea that he was afraid the height-measuring standard was the gallows. Nor would he let me take his photograph, doubtless fearing (though he had never heard of Bertillonage) lest it should be used for the purpose of criminal identification.

As the Badagas are the fairest, so the Irulas are the darkest-skinned of the Nilgiri tribes. The name Irula, in fact, as has often been pointed out, means darkness or blackness (Tamil *irul*), whether in reference to the dark jungles in which the Irulas, who have not become domesticated by working as contractors or coolies on planter's estates, dwell, or to the great darkness of their skin, is doubtful. Though the typical Irula is dark-skinned, with broad nose and high nasal index, I have noted some who possessed skins of markedly paler hue and narrow noses. The nasal index of those who were examined ranged between 70 and 80 in seven, between 80 and 90 in eleven, and between 90 and 100 in seven cases; the height of the nose ranging between 4·8 and 3·9 cm. and the breadth between 4·3 and 3·2 cm.

The language of the Irulas is a corrupt form of Tamil. In their religion, they are worshippers of Vishnu under the name of Rangaswāmi, to whom they do puja at their own rude shrines, or at the Hindu temple at Karamadai, where Brāhmin priests officiate. In his 'Primitive Tribes of the Nilgiris' Breeks says that, "an Irula pujāri lives near the temples, and rings a bell when he performs puja to the gods. He wears the Vishnu mark on his forehead. His office is hereditary, and he is remunerated by offerings of fruit and milk from Irula worshippers. Each Irula village pays about



IRULA WOMAN.

two annas to the puĵari in May or June. They say that there is also a temple at Kallampalla in the Sattiyamangalam taluk, north of Rangaswāmi's peak. This is a Siva temple, at which sheep are sacrificed: the puĵari wears the Siva mark. They don't know the difference between Siva and Vishnu. At Kallampalla temple is a thatched building containing a stone called Mariamma, a form of Durga, the well-known goddess of small-pox, worshipped in this capacity by the Irulas. A sheep is led also to this temple, and those who offer the sacrifice sprinkle water over it, and cut its throat. The puĵari sits by, but takes no part in the ceremony. The body is cut up, and distributed among the Irulas present including the puĵari."

A village on a coffee estate, which I inspected, was, at the time of my visit, in the possession of pariah dogs and nude children, the elder children and adults being away at work on the estate. The village was protected against nocturnal feline and other feral marauders by a rude fence, and consisted of rows of single-storied dwelling houses, with verandah in front, made of split bamboo and thatched, detached huts, and an abundance of fowl-houses, and cucurbitaceous plants twining up rough stages. Surrounding the village were a dense grove of plantain trees, castor-oil bushes, and cattle-pens.

When not engaged in work on estates, the Irulas cultivate, for their own consumption, rāgi (*Eleusine Coracana*), sāmāi (*Panicum miliare*), tenai (*Setaria italica*), tovarai (*Cajanus indicus*), maize, plantains, &c. They will not attend to cultivation on Saturday or Monday. At the season of sowing Badagas bring cocoanuts, plantains, milk and ghī, and give them to the Irulas, who, after offering them before their swāmi, return them to the Badagas.

The Irulas will (so they say) not eat the flesh of buffaloes or cattle, but will eat sheep and goat, fowls, deer and pig (which they shoot), hares (which they snare with skilfully made nets), jungle-fowl, pigeons, and quail (which they knock over with stones).

The Irulas, as a rule, have one wife. A young man of marriageable age selects a girl for himself, and gives her parents a present of money, varying from thirteen to twenty-five rupees, as a dowry. There is no marriage tali. At the marriage feast, which is of a very simple nature, a sheep is killed, and the guests make a present of four to

eight annas to the bridegroom, who ties up the money in a cloth and goes to the bride's house to conduct her to her future home. Widows are permitted to re-marry. If a woman is barren, her husband may marry a second wife, but has to support the first.

When an Irula dies, two Kurumbas come to the village, and one shaves the head of the other. The shorn man is fed and presented with a cloth, which he wraps round his head. This quaint ceremonial is supposed, in some way, to bring good luck to the departed. Outside the house of the deceased, in which the corpse is kept till the time of the funeral, men and women dance to the music of the Irula band. The dead are buried in a sitting posture with the legs crossed tailorwise. Each village has its own burial ground. A circular pit is dug, from the lower end of which a chamber is excavated, in which the corpse, clad in its own clothes, jewelry, and a new cloth, is placed with a lamp and grain. The pit is then filled in, and the position of the grave marked by a stone. The following description of an annual memorial service was given to me. A lamp and oil are purchased, and rice is cooked in the village. They are then taken to the shrine at the burial ground, offered upon stones on which some of the oil is poured, and puja done. At the shrine a pujāri, with three white marks on the forehead when on duty, officiates. Like the Badaga dēvadāri, the Irula pujāri at times becomes inspired by the god.

The leading characteristics of the Irukals, the system of tattooing, and personal adornment, are summed up in the following cases —

1. Man, aged 30. Sometimes works on a coffee estate. At present engaged in the cultivation of various grains, pumpkins, jack-fruit, and plantains. Goes to the bazar at Mettupālaiyam to purchase rice, salt, chillies, oil, &c. Acquires agricultural implements from Kotas at Kotagiri, to whom he pays annual tribute in grain or money. Wears brass ear-rings acquired from Kotas in exchange for vegetables and fruit. Wears turban and plain loin-cloth, wrapped round body and reaching below the knees. Bag containing tobacco and betel slung over shoulder inside cloth. Skin very dark. Moustache and slight beard. Hair cut short in front, long and tied in a knot behind. Hair feebly developed on body and limbs. Bushy eye-brows,

small, twinkling eyes. Ears outstanding. Prominent cheek bones. Lips thin, not everted.

Height	..	..	..	158.6 cm.
Weight	..	..	..	100 lb.
Chest	..	..	..	79.5 cm.
Shoulders	..	..	..	37.8 "
Span of arms	..	..	..	168 "
Cubit	..	..	..	44.3 "
Hand, length	..	..	..	16.6 "
Foot, length	..	..	..	23.7 "
Cephalic length	..	..	..	18 "
Cephalic breadth	..	..	..	13.5 "
Bigoniae	..	..	..	9.8 "
Bizygomatic	..	..	..	12.8 "
Nasal height	..	..	..	4.4 "
Nasal breadth	..	..	..	3.2 "
Nasal index	..	..	..	72.7
Facial angle (of Cuvier)	..	..	..	69

2. Man. Body cloth as No. 1 supplemented by coloured print cloth with brass buttons, and plain loin-cloth. Hair of head not shaved or cut, straggling and tied in a knot behind. Moustache, untrimmed whiskers, and billy-goat beard. Prominent cheek-bones and zygomatic arches. Silver bangle on right wrist.

3. Man. Conjunctivæ pigmented. Slight moustache. Bridge of nose broad. Hair rising in very stiff curls all over head.

4. Man. Pale by contrast with surrounding men. Hair when undone reaches in wavy locks to middle of back. Ornamental brass ear-rings in each lobe. Brass and glass bead ornaments in each helix. Steel ring on left little finger.

5. Man. Wears turban, body-cloth with red and blue stripes, and loin-cloth. Hair curly with no parting, tied in a knot on top. Brass ear-ring in each lobe. Two brass rings on left little finger.

6. Man. Head shaved on top *à la Hindu*, and tied in a knot behind.

7. Man. Two brass rings in lobe of each ear. Silver bangle on right wrist.

8. Man. Brass ear-ring in lobe of each ear. Brass bangle on right wrist. Greenish-yellow irides. Brown moustache.

9. Thin brass ring in helix of each ear. Brass link necklace.

10. Man. Brass ear-ring of Badaga pattern in right lobe. Brass and glass ornament in left lobe. Brass ring on left little finger. Grass necklace.

11. Man. Plug of wood in lobe and helix of each ear. One brass ring and two steel rings on left little finger.

12. Man. Facial angle 60° (very low as compared with the average).

13. Man suffering from leucoderma. Skin of face black with pink patch on forehead. Skin of body and extremities pink and white with dark and light brown patches. Growing bald. Only recognisable as an Irula by very dark face and broad nose.

14. Boy, *æt.* 10. String round neck and right wrist to drive away sickness.

15. Woman, *æt.* 30. Height 144.8 cm. Hair curly, without parting, tied in a bunch behind round black cotton swab. Wears a plain waist-cloth and print cotton body-cloth, worn square across breasts and reaching below knees. Tattooed on forehead. A mass of glass bead necklaces. Gold ornament in left nostril. Brass ornament in lobe of each ear. Eight brass bangles on right wrist; two brass and six glass bangles on left wrist. Five brass rings on right first finger; four brass and one tin ring on right ring-finger.

16. Woman, *æt.* 25. Height 153.3 cm. Hair parted in middle, wavy, tied in a bunch behind. Bushy eyebrows. Red cajan roll in dilated lobes of ears. Brass and glass bead ornament in helix of right ear. Brass ornament in left nostril. A number of bead necklets, one with young cowry shells pendent, another consisting of a heavy roll of black beads. The latter is very characteristic of Irula female adornment (*pl.* VII). One steel bangle, eight brass bangles, and one chank-shell bangle on right wrist; three lead, six glass bangles, and one glass bead bangle on left wrist; one steel and one brass ring on left little finger.

17. Woman, *æt.* 35. Wears loin-cloth only. Breasts fully exposed. Cap of Badaga pattern on head. Massive brass ornament in lobe of each ear. Brass ornament in left nostril. Thirteen brass and two lacquer bangles on right forearm. Four brass rings on right thumb. Four brass



IRULA GIRL.

rings on right second finger. Five brass rings on right ring finger. Six brass rings on right little finger. Five brass rings on left thumb. Four brass rings on left first finger. Four brass rings on left second finger. Seven brass rings on left ring finger. Seven brass rings on left little finger.

Brass ring on second, third and fourth toe of each foot.

18. Woman, æt. 30. Elaborately tattooed across forehead. Red cajan plug in lobe of each ear. Brass and glass bead ornament in each helix. Silver ornament in left nostril. Brass link and glass bead necklaces, one with young cowry shells pendent. A black thread necklet with thread tassel pendent. Ten brass bangles, one chank, and one bead bangle on right wrist. Two silver, three lead, seven glass, and three composition bangles on left wrist. Two silver rings on left little finger. Two brass rings on right second toe.

19. Girl, æt. 16. Red cajan rolls in lobe of each ear. A number of bead necklets. Three steel armlets on right forearm. Nine brass bangles and one chank bangle on right wrist. One chank, two brass, and seven glass bangles on left wrist. Four brass rings on right little finger; three brass rings on left first finger; one brass and one steel ring on left ring-finger.

20. Girl, æt. 14. Height 146.4 cm. Length of foot 23.7 cm. (=16.2 relative to height=100). Very fair in contrast with the surrounding men. Bridge of nose broad and flat (a common type). Body-cloth of striped cotton, worn straight across breasts, and reaching below knees. Print cotton cloth thrown over shoulders and tied in knot in front. Wooden plug in left nostril. Mass of glass bead necklets. Four glass bangles on left wrist. One brass ring on left ring-finger. Two base metal rings on right second toe; a single base metal ring on left second toe.

21. Girl, æt. 15. Tattooed on forehead. Pleasant expression of countenance. Hair without parting, long, wavy. Mass of glass bead necklets. Gold ornament in lobe of each ear. Five glass bangles and one brass bangle on right wrist; four glass bangles, and one brass bangle on left wrist.

22. Girl, æt. 8. Tattooed on forehead. Lobe of each ear being dilated by a number of wooden sticks like matches. Two glass bead necklets, and a necklet consisting of a

heavy roll of black beads. Left nostril pierced. Hair cut short, except a long lock carried over top of head and behind left ear.

23. Girl, æt. 8. Hair parted in middle, long, wavy. Bushy eyebrows. Long, fine hairs on forehead merging into hair of head. (The same hairy growth on the forehead I have noticed as being very prevalent among the Cheruman women of Malabar.) Gold ornaments in left nostril and in lobe of each ear. One brass and eight glass bangles on right wrist; one glass bead and six glass bangles on left wrist.

24. Girl, æt. 9. Tattooed on forehead. Wooden plug in left nostril. Mass of glass bead necklets, one with pendent beads and cowries. Nine brass bangles on right wrist; four brass bangles on left wrist.

25. Baby in arms. Brass ring in lobe of each ear. Steel bangle on left ankle.

TABLE II.
TABLE OF MEASUREMENTS.
IRULAS.

	Max.	Min.	Average.	Mean above.	Mean below.
Weight	140	90	101	125	94
Height	168	152	159·8	162·9	156·8
Height, sitting	86·8	78·7	82	83·6	80·4
Height, kneeling	124·2	111	117·5	119·9	115·6
Height to gladiolus	124·6	115·6	118·7	121·5	116·9
Span of arms	179·6	160	169·8	174·2	165·2
Chest	89	73	79·4	82·5	76·5
Middle finger to patella	14·6	7	10·7	12·9	9·4
Shoulders	42	35·8	38·5	40	37·7
Cubit	49	42·5	45·8	47·2	44·4
Hand, length	19·1	16·3	17·5	18·1	16·7
Hand, breadth	8·6	7·3	8·1	8·4	7·8
Middle finger	12·3	10·5	11·3	11·7	10·9
Hips	26·9	24·1	25·4	26·1	24·8
Foot, length	26·2	23	24·9	25·5	24·1
Foot, breadth	9·4	7·8	8·7	9	8·3
Cephalic length	19·1	17	18	18·4	17·6
Cephalic breadth	14·3	13·1	13·7	14	13·3
Cephalic index	80·9	70·8	75·8	78	73·8
Bigoniac	11·1	9·1	9·7	10·1	9·3
Bizygomatic	13·4	11·9	12·7	13·1	12·3
Maxillo-zygomatic index	84·6	71·9	75·7	78·5	72·7
Nasal height	4·8	3·9	4·4	4·6	4·2
Nasal breadth	4·3	3·2	3·7	3·9	3·5
Nasal index	100	72·3	84·9	93·2	78·4
Vertex to tragus	14·5	11·6	13·5	13·9	13·1
Vertex to chin	22·4	19·2	20·7	21·4	20
Facial angle	72	60	68	70	64

Note.—The results are based on the measurement of twenty-five subjects.

THE PANIYANS OF MALABAR.

The Paniyans are a dark-skinned tribe, short in stature, with broad noses and curly hair, inhabiting the Wynâd and those portions of the Ernâd, Calicut, Kurumbranâd, and Kottayam taluks of Malabar which skirt the base of the ghâts, and the Mudanâd, Cherangôd, and Namblakôd amshams of the Nilgiri district.

A common belief, based on their general appearance, prevails among the European planting community that the Paniyans are of African origin, and descended from ancestors who were wrecked on the Malabar coast. This theory, however, breaks down on investigation. Of their origin nothing definite is known. The Nair Janmis say that, when surprised in the act of some mischief or alarmed, the Paniyan calls out 'Ippi' ! 'Ippi' ! as he runs away, and they believe this to have been the name of the country whence they came originally ; but they are ignorant as to where Ippimala, as they call it, is situated. Kapiri (Africa or the Cape ?) is also sometimes suggested as their original habitat, but only by those who have had the remarks of Europeans communicated to them. The Paniyan himself, though he occasionally puts forward one or other of the above places as the home of his fore-fathers, has no fixed tradition bearing on their arrival in Malabar, beyond one to the effect that they were brought from a far-country, where they were found living by a Râja, who captured them, and carried them off in such a miserable condition that a man and his wife only possessed one cloth between them, and were so timid that it was only by means of hunting nets that they were captured.

The number of Paniyans, returned at the Census 1891, was 33,282, and nine sub-divisions were registered ; but, as Mr. H. A. Stuart, the Census Commissioner, observes :—
 “ Most of these are not real, and none has been returned by any considerable number of persons.” Their position is said to be very little removed from that of a slave, for every Paniyan is some landlord's 'man' ; and, though he is, of course, free to leave his master, he is at once traced, and good care is taken that he does not get employment elsewhere.

In the fifties, when planters first began to settle in the Wynâd, they purchased the land with the Paniyans living on it, who were practically slaves of the land-owners. The Paniyans used formerly to be employed by rich receivers as



PANIYAN MAN.

professional coffee thieves, going out by night to strip the bushes of their berries, which were delivered to the receiver before morning. Unlike the Badagas of the Nilgiris, who are also coffee thieves, and are afraid to be out after dark, the Paniyans are not afraid of bogies by night, and would not hesitate to commit nocturnal depredations. My friend, Mr. G. Romilly, on whose estate my investigation of the Paniyans was mainly carried out, assures me that, according to his experience, the domesticated Paniyan, if well paid, is honest, and fit to be entrusted with the responsible duties of night watchman.

In some localities, where the Janmis have sold the bulk of their land, and have consequently ceased to find regular employment for them, the Paniyans have taken kindly to working on coffee estates, but comparatively few are thus employed. The word Paniyan means labourer, and they believe that their original occupation was agriculture, as it is, for the most part, at the present day. Those, however, who earn their livelihood on estates, only cultivate rice and rāgi (*Eleusine coracana*) for their own cultivation; and women and children may be seen digging up jungle roots, or gathering pot-herbs for food. They will not eat the flesh of jackals, snakes, vultures, lizards, rats, or other vermin. But I am told that they eat land-crabs, in lieu of expensive lotions, to prevent baldness and grey hairs. They have a distinct partiality for alcohol, and those who came to be measured by me were made more than happy by a present of a two-anna piece, a cheroot, and a liberal allowance of undiluted fiery brandy from the Meppādi bazār. The women are naturally of a shy disposition, and used formerly to run away and hide at the sight of a European. They were at first afraid to come and see me, but confidence was subsequently established, and all the women came to visit me, some to go through the ordeal of measurement, others to laugh at and make derisive comments on those who were undergoing the operation.

Practically the whole of the rice cultivation in the Wynād is carried out by the Paniyans attached to the edoms (houses or places) or dévasoms (temple property) of the great Nair landlords; and Chettiyars and Moplabs also frequently have a few Paniyans, whom they have bought or hired by the year at from four to eight rupees per family from a Jenmi. When planting paddy or herding cattle,

the Paniyan is seldom seen without the kontay or basket-work protection from the rain. This curious, but most effective substitute for the umbrella-hat of the Malabar coast, is made of split reeds interwoven with arrow-root leaves, and shaped something like a huge inverted coal-scoop turned on end, and gives to the individual wearing it the appearance of a gigantic mushroom. From the nature of his daily occupation the Paniyan is often brought in contact with wild animals, and is generally a bold, and, if excited, as he usually is on an occasion such as the netting of a tiger, a reckless fellow. The young men of the villages vie with each other in the zeal which they display in carrying out the really dangerous work of cutting back the jungle to within a couple of spear-lengths of the place where the quarry lies hidden, and often make a show of their indifference by turning and conversing with their friends outside the net.

Years ago it was not unusual for people to come long distances for the purpose of engaging Wynnâd Paniyans to help them in carrying out some more than usually desperate robbery or murder. Their mode of procedure, when engaged in an enterprise of this sort, is evidenced by two cases, which had in them a strong element of savagery. On both these occasions the thatched homesteads were surrounded at dead of night by gangs of Paniyans carrying large bundles of rice straw. After carefully piling up the straw on all sides of the building marked for destruction, torches were, at a given signal, applied, and those of the wretched inmates who attempted to escape were knocked on the head with clubs, and thrust into the fiery furnace.

The Paniyans settle down happily on estates, living in a settlement consisting of rows of huts and detached huts, single or double storied, built of bamboo and thatched. During the hot weather, in the unhealthy months which precede the advent of the south-west monsoon, they shift their quarters to live near streams, or in other cool, shady spots, returning to their head-quarters when the rains set in.

They catch fish either by means of big flat bamboo mats, or, in a less orthodox manner, by damming a stream, and poisoning the water with herbs, bark, and fruit, which are beaten to a pulp and thrown into the water. The fish, becoming stupified, float on the surface, and fall an easy and unfairly earned prey.

The Paniyan language is a debased Malayalam patois, spoken in a curious nasal sing-song, difficult to imitate; but most of the Paniyans employed on estates can also converse in Kanarese.

Wholly uneducated and associating with no other tribes, the Paniyans have only very crude ideas of religion. Believing in devils of all sorts and sizes, and professing to worship the Hindu divinities, they reverence especially the god of the jungles, Kād Bagavādi, or according to another version, a deity called Kūli, a malignant and terrible being of neither sex, whose shrines take the form of a stone placed under a tree, or sometimes a cairn of stones. At their rude shrines they contribute as offerings to the swāmi rice boiled in the husk, roasted and pounded, half-a-cocoonut, and small coins. The banyan and a lofty tree, apparently of the fig tribe, are revered by them, inasmuch as evil spirits are reputed to haunt them at times. Trees so haunted must not be touched, and, if the Paniyans attempt to cut them, they fall sick.

Some Paniyans are believed to be gifted with the power of changing themselves into animals; and there is a belief among the Paniyan dwellers in the plains that, if they wish to secure a woman whom they lust after, one of the men gifted with this special power, goes to her house at night with a hollow bamboo, and encircles the house three times. The woman then comes out, and the man, changing himself into a bull or dog, works his wicked will. The woman, it is believed, dies in the course of two or three days.

Monogamy appears to be the general rule among the Paniyans, but there is no obstacle to a man taking unto himself as many wives as he can afford to support.

Apparently the bride is selected for a young man by his parents, and, in the same way that a wealthy European sometimes sends his betrothed a daily present of a bouquet, the more humble Paniyan bridegroom-elect has to take a bundle of firewood to the house of his fiancée every day for six months. The marriage ceremony (and the marriage knot does not appear to be very binding) is of a very simple nature. The ceremony is conducted by a Paniyan Chemi (a corruption of Janmi). A present of sixteen fanams (coins) and some new cloths is given by the bridegroom to the Chemi, who hands them over to the parents of the bride. A feast is prepared, at which the Paniyan women (Panichis)

dance to the music of drum and pipe. The tali (or marriage badge) is tied round the neck of the bride by the female relations of the bridegroom, who also invest the bride with such crude jewelry as they may be able to afford. The Chemi seals the contract by pouring water over the head and feet of the young couple. A man may, I was told, not have two sisters as wives; nor may he marry his deceased wife's sister. Re-marriage of widows is permitted. Adultery and other forms of vice are adjudicated on by a panohayat (or council) of headmen, who settle disputes and decide on the fine or punishment to be inflicted on the guilty. At nearly every considerable Paniyan village there is a headman called Kuttan, who has been appointed by the Nair Janmi to look after his interests, and be responsible to him for the other inhabitants of the village. The investiture of the Kuttan with the powers of office is celebrated with a feast and dance, at which a bangle is presented to the Kuttan as a badge of authority. Next in rank to the Kuttan is the Mudali or head of the family, and they usually constitute the panchayat. Both Kuttan and Mudali are called Moopenmar or headman. In a case of proved adultery a fine of sixteen fanams (the amount of the marriage fee), and a sum equal to the expenses of the wedding, including the present to the parents of the bride, is the usual form of punishment.

No ceremony takes place in celebration of the birth of children. One of the old women of the village acts as midwife, and receives a small present in return for her services. As soon as a child is old enough to be of use, it accompanies its parents to their work, or on their fishing and hunting expeditions, and is initiated into the various ways of adding to the stock of provisions for the household.

The dead are buried in the following manner:—A trench, four or five feet deep, and large enough to receive the body to be interred, is dug, due north and south, on a hill near the village. At the bottom of this excavation the earth is scooped out from the western side on a level with the floor throughout the length of the grave, so as to form a receptacle for the corpse, which, placed on a mat, is laid therein upon its left side with the head pointing to the south and the feet to the north. After a little cooked rice has been put into the grave for the use of the departed spirit, the mat, which has been made broad enough for the purpose, is

folded up and tucked in under the roof of the cavity, and the trench filled up. It has probably been found by experience that the corpse, when thus protected, is safe from the ravages of scavenger jackals and pariah dogs. For seven days after death a little rice gruel is placed at distance of from fifty to a hundred yards from the grave by the Chemi, who claps his hands as a signal to the evil spirits in the vicinity, who, in the shape of a pair of crows, are supposed to partake of the food, which is hence called *kāka conji* or crow's rice.

The noombu or mourning ceremonies are the *tī polay*, seven days after death; the *kāka polay* or *karuvelli* held for three years in succession in the month of Magaram (January-February); and the *matham polay* held once in every three or four years, when possible, as a memorial service in honour of those who are specially respected. On all these occasions the Chemi presides, and acts as a sort of master of the ceremonies. As the ceremonial carried out differs only in degree, an account of the *kāka polay* will do for all.

In the month of Magaram the noombu karrans or mourners (who have lost relatives) begin to cook and eat in a pandal or shed set apart from the rest of the village, but otherwise go about their business as usual. They wash and eat twice a day, but abstain from eating meat or fish. On the last day of the month, arrangements are made, under the supervision of the Chemi, for the ceremony which brings the period of mourning to a close. The mourners, who have fasted since daybreak, take up their position in the pandal, and the Chemi, holding on his crossed arms two winnowing sieves, each containing a seer or two of rice, walks round three times, and finally deposits the sieves in the centre of the pandal. If, among the male relatives of the deceased, one is to be found sufficiently hysterical, or actor enough, to simulate possession and perform the functions of an oracle, well and good; but should they all be of a stolid temperament, there is always at hand a professional corresponding to the Komaran or Villichipād of other Hindus. This individual is called the *Patalykaran*. With a new cloth (*mundu*) on his head, and smeared on the body and arms with a paste made of rice flour and *ghī* (clarified butter), he enters on the scene with his legs girt with bells, the music of which is supposed to drive away the attendant evil spirits (*payan mar*). Advancing with

short steps and rolling his eyes, he staggers to and fro, sawing the air with two small sticks which he holds in either hand, and works himself up into a frenzied state of inspiration, while the mourners cry out and ask why the dead have been taken away from them. Presently a convulsive shiver attacks the performer, who staggers more violently and falls prostrate on the ground, or seeks the support of one of the posts of the pandal, while he gasps out disjointed sentences, which are taken to be the words of the god. The mourners now make obeisance, and are marked on the forehead with the paste of rice flour and ghī. This done, a mat is spread for the accommodation of the headmen and Chemi; and the Patalykarān, from whose legs the bells have been removed and put with the rice in the sieves, takes these in his hands, and, shaking them as he speaks, commences a funeral chant, which lasts till dawn. Meanwhile food has been prepared for all present except the mourners, and when this has been partaken of, dancing is kept up round the central group till daybreak, when the pandal is pulled down and the kākā polay is over. Those who have been precluded from eating make up for lost time, and relatives, who have allowed their hair to grow long, shave. The ordinary Paniyan does not profess to know the meaning of the funeral orations, but contents himself with a belief that it is known to those who are initiated.

The women attend the ceremony, but do not take part in the dance. In fact, the nearest approach to a dance that they ever attempt (and this only on festive occasions) resembles the ordinary occupation of planting rice, carried out in dumb show to the music of a drum. The bodies of the performers stoop and move in time with the music, and the arms are swung from side to side as in the act of placing the rice seedlings in their rows. To see a long line of Paniyan women, up to their knees in the mud of a rice field, bobbing up and down and putting on the pace as the music grows quicker and quicker, and to hear the wild yells of Hou! Hou! like a chorus of hungry dogs, which form the vocal accompaniment as they dab the green bunches in from side to side, is highly amusing.

The foregoing account of the Paniyan death ceremonies was supplied by Mr. Colin Mackenzie, to whom, as also to Mr. Fred. Fawcett, Mr. George Romilly, and Mr. Martelli.

I am indebted for many of the facts recorded in the present note. From Mr. Fawcett the following account of a further ceremony was obtained :—

At a Paniyan village, on a coffee estate where the annual ceremony was being celebrated, men and boys were dancing round a wooden upright to the music of a small drum hanging at the left hip. Some of the dancers had bells round the leg below the knee. Close to the upright a man was seated, playing a pipe, which emitted sounds like those of a bagpipe. In dancing, the dancers went round against the sun. At some little distance a crowd of females indulged in a dance by themselves. A characteristic of the dance, specially noticeable among the women, was stooping and waving of the arms in front. The dancers perspired freely, and kept up the dance for many hours to rhythmic music, the tune of which changed from time to time. There were three chief dancers, of whom one represented the goddess, the others her ministers. They were smeared with streaks on the chest, abdomen, arms and legs, had bells on the legs, and carried a short stick about two feet in length in each hand. The sticks were held over the head, while the performers quivered as if in a religious frenzy. Now and again the sticks were waved or beaten together. The Paniyans believe that, when the goddess first appeared to them, she carried two sticks in her hands. The mock goddess and her attendants, holding the sticks above the head and shivering, went to each male elder, and apparently received his blessing, the elder placing his hand on their faces as a form of salutation and then applying his hand to his own face. The villagers partook of a light meal in the early morning, and would not eat again until the end of the ceremony, which concluded by the man-goddess seating himself on the upright and addressing the crowd on behalf of the goddess concerning their conduct and morality.

Games.—A long strip of cane is suspended from the branch of a tree, and a cross-bar fixed to its lower end. On the bar a boy sits and swings himself in all directions. In another game a bar, twelve to fourteen feet in length, is balanced by means of a point in a socket on an upright reaching about four feet and-a-half above the ground. Over the end of the horizontal bar a boy hangs, and, touching the ground with the feet, spins himself round.

The Paniyans are, as already stated, of low stature, dark-skinned, with curly hair and broad noses. The great

breadth relative to the height of the nose is brought out by the following table of nasal indices, which ranged between 83·7 and 108·6 in the men, and between 82·5 and 119·4 in the women :—

NASAL INDEX.

Men.	No.	Women.	No.
80-90	6	80-90	6
90-100	9	90-100	2
100-110	10	100-110	3
	—	110-120	1
	25		—
	—		12
			—

The average height of the men, according to my observations, is 157·4 cm., and of the women 146 cm. The men have very long hands and feet. The average length of the latter (25 cm.), in fact, exceeds the average breadth of the hips (24·3 cm.) by 7 cm.—a difference in favour of the foot greater than in any of the other tribes which I have as yet investigated. The average distance from the middle finger to the patella is (in men) only 4·6 cm. relative to stature = 100, and approximates very closely to the recorded results of measurement of long-limbed African Negroes.

The leading characteristics of the Paniyans, and their decoration with cheap jewelry, are summed up in the following descriptive cases :—

1. Man, æt. 30. Of sturdy build and muscular. Skin very dark. Hair of head clipped short in front so as to form a fringe. Long, wavy curls reaching down to shoulders. Long tail of matted hair worn as a vow, hanging down back. Thread tied round right wrist as a charm to drive away fever, from which he suffers. Hair of body only well developed in axillæ and over pubic region. Conjunctivæ injected and pigmented. Iris very dark. Large, pendulous lobes to ears, which are pierced. Five brass rings in right ear, four in left. Nose as broad as high. Lips thick, everted. Not prognathous. Three copper, three brass rings, and a single steel ring on right ring-finger. Clothing consists of a plain loin-cloth reaching below knees, langūti, and belt of European design round loins.

Height	154·6	cm
Weight	94	lb.
Chest	84	cm.
Shoulders	36·4	„
Span of arms	160·4	„
Cubit	44	„
Hand, length	17·5	„
Foot, length	24·6	„
Cephalic length	18·4	„
Cephalic breadth	14	„
Bigoniac	10	„
Bizygomatic	12·4	„
Nasal height	3·8	„
Nasal breadth	3·8	„
Nasal index	100	
Facial angle (of Cuvier)	66°	

2. Man, æt. 25. Hair of head a dense mass of short curls with no parting. Lower lip much everted. Lobes of ears large and pendulous. Conjunctivæ injected. Square face. Nasal index 108·6. Twelve brass rings, removed from fingers while he is at work, tied up in loin-cloth. Thread round right wrist to ward off fever.

3. Man, æt. 40-45. Hair exceptionally well developed on chest, abdomen, legs, and back. Bald on top of head. Seven steel rings on little finger.

4. Man, æt. 25. Mass of tufted curly hair standing out like a mop. Pot-bellied.

5. Man. Steel bangle on right forearm. Three brass rings on each ring-finger; two brass rings on each little finger. Three brass rings in each ear.

6. Man. Two brass rings on right little finger; one copper and one steel ring on left little finger.

7. Man. Short, thin, matted tail, and long, broad, matted tail of hair hanging down back, worn as a vow.

8. Man. Thread round left ankle as a charm against sickness.

9. Man. Chunam (lime) smeared over throat to cure cough.

10. Boy, æt. 8. Long, curly hair parted in middle line. Brass ear-rings. Steel bangle on right wrist.

11. Woman, {æt. 20-25. Fat, squat, and uncomely. Skin very dark. Hair of head a dense mass of short curls

without parting, reaching behind to nape of neck. Nose considerably broader than long. Lips thick and everted. Lobes of ears enormously dilated by cajan ornaments. Iris very dark. Square face. Tattooed with a circle between eye brows. Two brass bangles on left wrist. Brass ring on left little finger. Outer clothing consists of a plain dirty cloth covering the body and tied in front in a knot.

Height	..	..	..	144·8 cm.
Weight	..	..	..	92 lb.
Shoulders	..	..	..	34·2 cm.
Cubit	..	..	..	40·1 ,,
Hand, length	..	..	..	17 ,,
Foot, length	..	..	..	23·4 ,,
Cephalic length	..	..	..	18 ,,
Cephalic breadth	..	..	..	13·7 ,,
Bigoniac	..	..	..	10 ,,
Bizygomatic	..	..	..	12 ,,
Nasal height	..	..	..	3·1 ,,
Nasal breadth	..	..	..	3·7 ,,
Nasal index	..	..	..	119·4
Facial angle	..	..	..	66°

12. Woman, æt. 25-30. Long, curly hair reaching below shoulders. Lobes of ears completely torn across as the result of dilatation by cajan ornaments. Long, brass link ear-rings in helix of ears. Steel bangle on left wrist.

13. Woman. Thirty-one brass and steel rings tied up in her cloth. Left nostril pierced and plugged with wood.

14. Woman. Wears string round neck as charm to cure sores.

15. Woman. Hair of head cut short all over as a sign of mourning for her dead husband. Four brass bangles on left forearm. Glass bead necklet.

16. Girl, æt. 8. Hair in long, wavy curls; cut in front so as to form a fringe. Left nostril pierced and plugged with wood. Brass ear-rings in helix of each ear. Lobes of ears being gradually dilated by cajan-roll ornaments.

TABLE III.
SUMMARY OF MEASUREMENTS.
PANIYAN MEN.

	Max.	Min.	Average.	Mean above.	Mean below.
Weight	120	89	99.6	104	94
Height	171.6	152	157.4	161.4	153.6
Height, sitting	87	77.6	81.3	83.4	79.4
Height, kneeling	125.6	111.7	115.9	118.5	113.9
Height to gladiolus	130.8	111.4	117.1	120.1	114.7
Span of arms	180.2	148.4	165.2	170	160.7
Chest	86.5	77.5	81.5	83.4	79.6
Middle finger to patella ...	10.2	4.2	7.3	8.5	5.8
Shoulders	38.5	34.2	35.9	36.9	34.9
Cubit	49.4	40	45.3	46.9	44
Hand, length... ..	20	15	18.5	19.1	17.7
Hand, breadth	8.6	7	7.8	8.2	7.5
Middle finger	12.1	10.1	11.4	11.8	11.1
Hips	26.2	23	24.3	25.1	23.7
Foot, length	26.7	22.5	25	26	24.2
Foot, breadth	9	7.7	8.2	8.5	8
Cephalic length	19.3	17.5	18.4	18.7	18
Cephalic breadth	14.9	13	13.6	14.1	13.3
Cephalic index	81.1	69.4	74	76.3	72
Bigoniac	11.1	9.1	10	10.4	9.5
Biszygomatic	13.4	11.8	12.6	13	12.4
Maxillo-zygomatic index ...	86.6	72.7	78.9	80.9	75.3
Nasal height	4.8	3.3	4	4.2	3.7
Nasal breadth	4.2	3.2	3.8	4	3.6
Nasal index	108.6	88.7	95.1	100.9	88.2
Vertex to tragus	12.8	11.6	12.3	12.6	12
Vertex to chin	21	18.5	19.8	20.1	19.3
Facial angle	71	65	67	69	66

Note.—The results are based on the measurements of twenty-five subjects.

TABLE IV.
SUMMARY OF MEASUREMENTS.
PANIYAN WOMEN.

	Max.	Min.	Average.	Mean above.	Mean below.
Weight	101	72	84·8	92	78·3
Height	155	134·1	146	150·9	141·2
Height, sitting	80·8	71·6	75·1	78·3	72·9
Height, kneeling	114·6	100	107·9	111·4	104·4
Span of arms	161·2	138·8	152	156·9	146·4
Shoulders	36·8	31·5	33·2	34·4	32·4
Cubit	43·8	37·8	43·3	43·5	40·7
Hand, length	18·8	15·5	17·1	18	16·5
Hand, breadth	7·6	6·8	7·2	7·5	7
Middle finger	11·7	9·8	10·8	11·3	10·4
Foot, length	24·2	20·7	22·8	23·6	21·9
Foot, breadth	8·1	7·1	7·6	7·8	7·3
Cephalic length	18·5	17	17·5	18·1	17·2
Cephalic breadth	13·7	12·2	13·1	13·4	12·8
Cephalic index	80·6	70·8	74·9	77·3	72·6
Bigoniac	10	9	9·5	9·7	9·3
Bizygomatic	12·9	11·7	12·1	12·5	11·9
Maxillo-zygomatic index	83·3	73·2	78·5	81	76·2
Nasal height	4·3	3·1	3·6	4	3·4
Nasal breadth	3·7	3	3·4	3·6	3·2
Nasal index	119·4	82·5	94·3	105·7	87·5
Vertex to tragus	12·5	11·4	11·9	12·3	11·7
Vertex to chin	19·8	17·7	18·5	19·1	18
Facial angle	72	64	67	69	65

Note.—The results are based on the measurements of twelve subjects.

ON A CHINESE-TAMIL CROSS.

Halting in the course of a recent anthropological expedition on the western side of the Nilgiri plateau, in the midst of the Government Cinchona plantations, I came across a small settlement of Chinese, who have squatted for some years on the slopes of the hills between Naduvatam and Gudalūr, and developed, as the result of 'marriage' with Tamil pariah women, into a colony, earning an honest livelihood by growing vegetables, cultivating coffee on a small scale, and adding to their income from these sources by the economic products of the cow. An ambassador was sent to this miniature Chinese Court with a suggestion that the men should, in return for monies, present themselves before me with a view to their measurements being recorded. The reply which came back was in its way racially characteristic as between Hindus and Chinese. In the case of the former, permission to make use of their bodies for the purposes of research depends essentially on a pecuniary transaction, on a scale varying from two to eight annas. The Chinese, on the other hand, though poor, sent a courteous message to the effect that they did not require payment in money, but would be perfectly happy if I would give them, as a memento, copies of their photographs.

The measurements of a single family, excepting a widowed daughter whom I was not permitted to see, and an infant in arms, who was pacified with cake while I investigated its mother, are recorded in the following table :

TABLE V.

		Cephalic length.	Cephalic breadth.	Cephalic index.	Nasal height.	Nasal breadth.	Nasal index.
Tamil Pariah	... Mother of children.	18·1	13·9	76·8	4·7	3·7	78·7
Chineseo	... Father of children.	18·6	14·6	78·5	5·3	3·8	71·7
Chinese-Tamil	... Girl, aged 16	17·6	14·1	80·1	4·7	3·2	68·1
Chinese-Tamil	... Boy, aged 10	18·1	14·3	79	4·6	3·3	71·7
Chinese-Tamil	... Boy, aged 9	17	14	82·4	4·4	3·3	72·7
Chinese-Tamil	... Boy, aged 5	17·1	13·7	80·1	4·1	2·8	68·3

The father was a typical Chinaman, whose only grievance was that, in the process of conversion to Christianity, he had been obliged to 'cut him tail off.' The mother was a typical Tamil Pariah of dusky hue. The colour of the children was more closely allied to the yellowish tint of the father than to the dark tint of the mother; and the semi-mongol parentage was betrayed in the slant eyes, flat nose, and (in one case) conspicuously prominent cheek-bones.

To have recorded the entire series of measurements of the children would have been useless for the purpose of comparison with those of the parents, and I selected from my repertoire the length and breadth of the head and nose, which plainly indicate the paternal influence on the external anatomy of the offspring. The figures given in the table bring out very clearly the great breadth, as compared with the length of the heads of all the children, and the resultant high cephalic index. In other words, in one case a mesaticephalic (79), and, in the remaining three cases, a sub-brachycephalic head (80·1; 80·1; 82·4) has resulted from the union of a mesaticephalic Chinaman (78·5) with a sub-dolichocephalic Tamil Pariah (76·8). How great is the breadth of the head in the children may be emphasised by noting that the average head-breadth of the adult Tamil Pariah man is only 13·7 cm., whereas that of the three boys, aged ten, nine, and five only, was 14·3, 14, and 13·7 cm. respectively.

Quite as strongly marked is the effect of paternal influence on the character of the nose; the nasal index, in the case of each child (68·1; 71·7; 72·7; 68·3), bearing a much closer relation to that of the long nosed father (71·7) than to the typical Pariah nasal index of the broad-nosed mother (78·7).

It will be interesting to note, hereafter, what is the future of the younger members of this quaint little colony, and to observe the physical characters, temperament, improvement or deterioration, fecundity, and other points relating to the cross-breed resulting from the union of Chinese and Tamil.

NOTE ON A CHERUMAN SKULL.

The Cherumans are a large caste, of low stature, very dark-skinned, and platyrrhinian (with wide nasal skeleton), inhabiting Malabar, where they were formerly agrestic slaves, and now work for the most part as field labourers.

The skull, which forms the subject of the present note, is that of an old man without the lower jaw.

Alveolar process of superior maxilla absorbed. Superciliary ridges feebly developed. Serrations of coronal suture between frontal and parietal bones not developed for about 3.6 cm. on each side of the median line; lateral serrations fine. Serrations of sagittal and lambdoid sutures coarse. Parietal eminences very prominent, the skull narrowing gradually from a breadth of 13.1 cm. across these eminences to a maximum breadth of 10.6 cm. across the lateral surfaces of the frontal bone. A small wormian bone, 1.5 cm. long and 1 cm. maximum breadth, in the position of the anterior fontanelle at the junction of the coronal and sagittal sutures. A large wormian bone, 2 cm. long and 3 cm. maximum breadth, in the position of the posterior fontanelle at the junction of the sagittal and lambdoid sutures. Axes of orbits nearly horizontal.

Profile of nasal bones concave. Nasal spine large. Antero-posterior arch elevated in parietal region. Horizontal arch prominent in parietal region. Transverse arch somewhat pointed in parietal region.

Max : length from glabella	..	..	..	17.5 cm.
Max : transverse breadth	..	..	..	13.1 "
Cephalic index	..	..	..	74.9
Min : frontal breadth	..	..	..	9.1 cm.
Horizontal circumference	..	..	..	50 "
Ant-posterior curve (nasion to basion) :—				
Frontal	..	Tape 12.3 cm.	Callipers	10.5 cm.
Parietal ⁶	..	Do. 14.7 "	Do.	12.2 "
Occipital	..	Do. 14 "	Do.	10.5 "
Basio-nasal length	..	..	..	9.4 cm.
Basio-alveolar length	..	..	..	8.2 "
Bizygomatic breadth	..	..	..	12.3 "
Nasio-alveolar length	..	..	..	5.1 "
Nasal height	..	..	..	4.6 "
Nasal breadth	..	..	..	2.4 "
Nasal index	..	..	..	54.3
Orbital breadth	..	..	..	3.9 cm.
Orbital height	..	..	..	2.8 "

⁶ Including wormian bones.

The following averages of the head-measurements of twenty-five living Cheruman men are recorded for comparison, so far as is possible, with those of the single skull :—

			Living subject.	Skull.
			CM.	CM.
Cephalic length	..	..	18·3	17·5
Cephalic breadth	..	..	13·5	13·1
Cephalic-index	..	..	73·9	74·9
Bigoniac	..	..	9·9	..
Bizygomatic	..	..	12·6	12·3
Maxillo-zygomatic index	..	..	79·6	..
Nasal height	..	..	4·4	4·6
Nasal breadth	..	..	3·4	2·4
Nasal index	..	..	78·1	54·3

A character, with which I am very familiar, when measuring all sorts and conditions of Natives of Southern India, and is well marked in the Cheruman skull and skulls of Pariahs, 'Hindus,' 'Telugus' and a Brāhman in my possession, is the absence of convexity of the segment formed by the posterior portion of the united parietal bones. The result of this absence of convexity is that the back of the head, instead of forming a curve gradually increasing from the top of the head towards the occipital region, as in the European skull figured in plate xi. 1, forms a flattened area of considerable length almost at right angles to the base of the skull as in the 'Hindu' skull represented in plate xi. 2. And to the existence of this character is due, in large measure, the short length of head in Irulas, Kongas and Koramans, which is referred to hereafter (p. 50).

Some time ago, when passing through the Museum library, I found a student busily engaged in copying extracts from one of my publications, and sympathetically asked him with what object he was so doing. The uncomplimentary, but innocent, reply came forth : "Unfortunately for us it is one of our text-books." The same fate is presumably destined for the present bulletin, which will, I fear, have to be studied by candidates for the M.A. degree of the Madras University in history, which includes ethnology with special reference to the Indian Peninsula. It is, therefore, not out of place to record (*vide* Tables vi and vii) as a lesson in comparative craniometry, the more important measurements of a series of skulls, the property of the Madras Medical College, which constitute a loan-collection in the anthropological section of the Museum, where they are available



SKULLS OF EUROPEAN AND HINDU.

for study. The number of the skulls is confessedly small for the purpose of generalisation, but analysis of the measurements, combined with examination of the skulls, will nevertheless not be labour lost. As a guide to the main points which should be observed, the following summary may be of use :—

(a) The greater maximum length and horizontal circumference of the skulls of the Europeans and Jew, as compared with the others.

(b) The brachycephalic character, and consequent high cephalic index of the Mongolian, Andamanese, Cinghalese, and Burmese skulls.

(c) The prevailing narrow frontal region of the skulls of the four South Indian classes, Muhammadans, Hindus, Brāhman, and Cheruman.

(d) The difference between the nasal skeletons of the platyrrhine (broad-nosed) Negro, with high nasal index, and the leptorrhine (narrow-nosed) European.

(e) The marked prognathism of the skulls of Negroes.

TABLE VI.
COMPARISON OF MEASUREMENTS OF SKULLS.

	Maximum length from glabella.	Maximum transverse breadth.	Cephalic index.	Minimum frontal breadth.	Horizontal circumference.	Nasal height.	Nasal breadth.	Nasal index.
European	19	14·2	74·7	9·9	55	4·7	2·5	53·2
European	18·6	14·6	78·5	9·7	53·5	5·6	2·1	37·5
Jew	19·8	14·9	74·1	10·8	56·8	5·8	2·6	44·8
Muhammedan	18·2	13	71·4	9·2	51·6	5·2	2·6	50
Muhammedan	17·2	13·6	79·1	9·2	49·5	4·8	2·4	50
Muhammedan	17·6	13·5	76·7	8·7	50·2	4·3	2·1	48·8
Muhammedan	17·5	12·6	72	9·1	49·7	4·4	2·5	56·8
Tamil Hindu	17·5	13·5	77·1	9·3	51	4·7	2	42·6
Tamil Hindu	17·5	13·1	74·9	9·1	49·8	5·4	2·5	46·3
Tamil Hindu	17·3	12·9	74·6	9·1	50	4·8	2·5	52·1
Tamil Hindu	18	13·4	74·4	10	51·5	4·5	2·6	57·8
Tamil Hindu	18·4	13·9	75·5	9·5	52·8	4·8	2·1	43·8
Tamil Hindu	17·4	13	74·7	9·6	50	5	2·5	50
Tamil Hindu	18	13·4	74·4	9·1	51·8	4·9	2·5	51
Brahman	17·7	13·3	75·1	9·1	49·7	4·5	2·5	55·6
Cheruman	17·5	13·1	74·9	9·1	50	4·6	2·4	52·2
Negro	17·1	12·9	75·4	9	49·6	4·5	2·4	53·3
Negro	17·8	12·9	72·5	9·9	51	4·6	2·8	60·9
Mongolian	17·6	14·3	81·2	9·5	52·1	4·8	2·6	54·2
Mongolian	17·8	14·5	81·5	9·2	52·8	5·2	2·6	50
Andamanese	16·1	13·4	83·2	8·5	48	4	2·2	55
Cinghalese	17·4	14·8	85·1	9·9	53	5·2	2·5	48·1
Burmese	16·4	14·2	86·6	9·8	51·3	5·4	2·5	46·3

TABLE VII.
AVERAGES OF MEASUREMENTS OF SKULLS.

	Maximum length from glabella.	Maximum trans- verse breadth.	Cephalic index.	Minimum frontal breadth.	Horizontal circum- ference.	Nasal height.	Nasal breadth.	Nasal index.
2 Europeans ...	18.8	14.4	76.6	9.8	54.3	5.2	2.3	45.4
1 Jew ...	19.3	14.9	74.1	10.8	56.3	5.8	2.6	44.8
4 Muhammadans ...	17.6	13.2	74.8	9.1	50.3	4.7	2.4	51.4
7 Hindus ...	17.7	13.3	75	9.4	50.1	4.9	2.4	49.1
1 Brahman ...	17.7	13.3	75	9.1	49.7	4.5	2.5	55.6
1 Cheruman ...	17.5	13.1	74.9	9.1	50	4.6	2.4	54.3
2 Negroes ...	17.5	12.9	74	9.5	50.3	4.6	2.6	57.2
2 Mongolians ...	17.7	14.4	81.4	9.4	52.5	5	2.6	52.1
1 Andamanese ...	16.1	13.4	88.2	8.5	48	4	2.2	55
1 Cinghalese ...	17.4	14.8	85.1	9.9	53	5.2	2.5	48.1
1 Burmese ...	16.4	14.2	86.6	9.8	51.3	5.4	2.5	46.3

KURUBA OR KURUMBA ?

As an introduction to the study of this intricate question, it will be best to commence by quoting the opinions of various writers, who have entered superficially into it.

Madras Census Report, 1891.—“The Kurumbas or Kurubas are numerous in Kurnool, Cuddapah, Bellary, Anantapur, North Arcot, South Arcot, Salem, Coimbatore, Trichinopoly and Madura. They are the modern representatives of the ancient Kurumbas or Pallavas, who were once so powerful throughout Southern India, but very little trace of their greatness now remains. In the seventh century the power of the Pallava Kings seems to have been at its zenith; but shortly after this, the Kongu, Chóla and Chálúkyá chiefs succeeded in winning several victories over them. The final overthrow of the Kurumba sovereignty was effected by the Chóla king Ádondai about the seventh or eighth century A.D., and the Kurumbas were scattered far and wide. Many fled to the hills, and in the Nilgiris and the Wynaad, in Coorg and Mysore, representatives of this ancient race are now found as wild and uncivilised tribes. Elsewhere the Kurumbas are more advanced, and are usually shepherds and weavers of coarse woollen blankets.”

“Kuruman.—This caste is found in the Nilgiris and the Wynaad, with a slight shrinking in the Nilambúr and Attapádi hills in Malabar. Their principal occupations are wood-cutting and the collection of forest produce. The name is merely another form of Kurumban, but, as they differ considerably from the ordinary Kurumbas, it seemed better to show them separately. I think, however, that they were originally identical with the shepherd Kurumbans, and their present separation is merely the result of their isolation in the fastnesses of the Western Ghâts, to which their ancestors fled or gradually retreated after the downfall of the Kurumba dynasty. The name Kurumbranád, a sub-division of Malabar, still bears testimony to their once powerful position.”—H. A. STUART.

Mysore Census Report, 1891—Kádu Kuruba or Kurumba. —“The tribal name of Kuruba has been traced to the primeval occupation of the race, *vis.*, the tending of sheep, perhaps when pre-historic man rose to the pastoral stage. The civilised Úor ru Kurubas, who are genuine tillers of the soil, and who are dotted over the country in populous and thriving communities, and many of whom have under the present ‘Pax Britannica’ further developed into enterprising trades-



KURUBA MAN.

men and withal lettered Government officials, are the very antipodes of the Kádu or wild Kurubas or Kurumbás. The latter, like the Iruligás and Sóligás, are the denizens of the south and south-western backwoods of the country, and have been correctly classed under the aboriginal population."—V. N. NARASIMAIYENGAR.

OPPERT: Original inhabitants of India—Kurubas or Kurumbas.—“However separated from each other and scattered among the Dravidian clans with whom they have dwelt, and however distant from one another they still live, there is hardly a province in the whole of Bharatavarasha which cannot produce, if not some living remnants of this race, at least some remains of past times which prove their presence. Indeed the Kurumbas must be regarded as very old inhabitants of this land, who can contest with their Dravidian kinsmen the priority of occupation of the Indian soil.”

“The terms Kuruba and Kurumba are originally identical, though the one form is in different places employed for the other, and has thus occasionally assumed a special local meaning. Mr. H. B. Grigg appears to contradict himself when, while speaking of the Kurumbas, he says that ‘in the low country they are called Kurubas or Cúrúbaru, and are divided into numerous families, such as the Áné or elephant, náya or dog, Málé or hill Kurumbas.’⁶ Such a distinction between mountain-Kurumbas and plain-Kurubas cannot be established. The Rev. G. Richter will find it difficult to prove that the Kurubas of Mysore are only called so as shepherds, and that no connection exists between these Kurubas and the Kurumbas. Mr. Lewis Rice calls the wild tribes as well as the shepherds Kurubas, but seems to overlook the fact that both terms are identical, and refer only to the ethnological distinction.

“The stunted growth of animals and plants in cold, wet, and high elevations is a well-known natural law, to which the human species has also to submit. In consequence of their loneliness and comparative physical weakness, the small mountaineers, when they meet their taller but less clever neighbours of the plains, display often a spiteful distrust, use poisoned arrows, and frighten them by their mysterious proceedings into abject superstition. This is the reason why the Kurumbas of the Nilgiri hills are so shunned.”

⁶ Manual of the Nilgiri District, 1880.

KING : Aboriginal Tribes of the Nilgiri Hills—Kurumbas. —“This tribe is of another race from the shepherd Kurumbas, described by Sir Walter Elliot as having a distinct priesthood, and worshipping the god Bhyra. The Nilgiri tribe have neither cattle nor sheep, and, in language, dress, and customs, have no affinity whatever with their namesakes.”

The above extracts amply suffice for the purpose of showing that the distinction between Kuruba and Kurumba, and their relationship towards each other, call for a ‘permanent settlement’ by the application of scientific methods; and the problem, which is no easy one, appears to depend essentially on anthropometric observations and a study of physical characters for its solution. This research, which must be carried out among the Kurumbas or Kurubas of the plains of Southern India, the Kurubas of the Mysore plateau, and the Kurumbas who inhabit the jungles, must of necessity be prolonged; and I am at present unable to undertake it in its entirety. As a basis for future operations, I may, however, place on record the results of my investigations, so far as the jungle Kurumbas of the eastern slopes of the Nilgiris and the more highly civilised Ūru Kurubas of the Mysore province are concerned.

The picture, which is drawn by King⁷ of the Nilgiri Kurumbas, is not a pleasant one. “Their chief food,” he says, “is wild roots and berries, or grains soaked in water, with occasional porcupines or polecats. Their dwellings are nothing more than a few branches piled up together like heaps of dead brushwood, in a plantation, often simply holes or clefts among the rocks. Their clothing is, with the males, a small dirty cloth round the loins; and, with the females, a rag thrown on any way that its condition and size render most available. The appearance of these rude people is wretched, and even disagreeable. Low in stature, they are also ill-made; the complexion is of an unhealthy hue, and their heads are thinly covered with mangy-looking hair. They have bleared eyes, a rather wide mouth, and often projecting teeth. Spare to leanness, there is also a total absence of any apparent muscle, and the arms and legs are as much like black sticks as human limbs. No such ceremony as marriage exists among these people, who live together like the brute creation.” A quarter of a century has elapsed since this description was written, and the *fin de siècle*

⁷ Aboriginal tribes of the Nilgiris, 1870.



KURUMBA MAN:

Kurumba, who works for regular wages on planters' estates, is more domesticated, better fed, better nourished, and better clothed. But by no stretch of the imagination, can the dark-skinned, broad-nosed Kurumba, whose portrait appears on plate xiii be regarded as an example of a high type of civilisation. Nor would the light-skinned Ūru Kuruba, with sharp-cut features, and aquiline nose, whose portrait is reproduced on plate xii, appreciate being linked in the bonds of common ancestry with the Kurumba.

The average measurements of the Nilgiri Kurumbas and the Ūru Kurumbas of Shimoga in the Mysore Province (some of whom are traders, or in the service of Government) are given in table VIII. I would, however, invite more special attention to the subjoined tabular statement, wherein the averages, and maxima and minima of the more important measurements, from a comparative point of view, are recorded with the object of bringing out the main points of difference between Kuruba and Kurumba.

	Kuruba.			Kurumba.		
	Maxima.	Minima.	Average.	Maxima.	Minima.	Average.
Height	CM. 176·4	CM. 155	CM. 163·9	CM. 163·6	CM. 149·6	CM. 157·5
Span of arms	184·4	155·2	171	173·4	156·6	167·5
Do. rel. to stature=100 ...	...	...	104·3	...	...	106·3
Middle finger to patella ...	16·2	9	12·3	12·6	6	9·8
Do. rel. to stature=100.	...	...	7·5	...	...	6·2
Hips ... ..	...	...	26·3	...	...	24·5
Foot, length ... ..	...	...	25·1	...	...	24·6
Cephalic length	19·6	17	18·3	18·7	16·9	17·9
Cephalic breadth	15	13·1	13·9	14·5	13	13·7
Cephalic index	82·1	71·6	75·8	83·3	71·8	77
Nasal height	5·3	4·2	4·7	4·4	3·6	4·2
Nasal breadth	3·9	3·1	3·4	4·2	3·4	3·8
Nasal index	85·9	62·3	73·2	111·1	79·1	88·8



KURUMBA GIRL.

Standing first in importance as distinguishing characters are stature and nose measurements. Coming under the heading 'below middle height' (163.9 cm.), with a maximum recorded height of 176.4 cm. (very tall), the Kuruba is clearly differentiated from the Kurumba of low stature (157.5 cm.), whose maximum recorded height does not even reach the Kuruba average. More important, however, than stature, is the relation of height to breadth of nose; and it is obvious that there is a very wide distinction between the Kurubas with an index (average 73.2) ranging between 85.9 and 62.3, and the Kurumbas, whose index (average 88.8) ranges between 111.1 and 79.1. And, to take extreme cases, a light-skinned, leptorrhine Kuruba, with long, narrow nose, 5.3×3.3 cm. (index 62.3) cannot reasonably be linked together with a dark-skinned platyrrhine Kurumba with short, broad nose, 3.6×4 cm. (index 111.1).

Relatively to stature, the span of the arms is greater in the semi-domesticated Kurumba than in the more civilised Kuruba. And, in consequence of the greater length of the upper extremity relative to stature, the hand reaches nearer to the knee in the former than in the latter. In the Kurumbas the breadth of the hips across the iliac spines and the length of the foot are approximately the same, whereas, in the Kuruba, the breadth of the hips is considerably (1.2 cm.) greater than the foot length. In length and breadth of head, as might be expected, the Kuruba is in advance of the Kurumba, and the maxima recorded in the former are considerably in excess of those recorded in the latter.



KURUMBA GIRL.

TABLE VIII.
COMPARISON OF MEASUREMENTS.
KURUBAS AND KURUMBAS.

	Kurubas.	Kurumbas.
Height	163·9	157·5
Height, sitting	84	80·5
Height, kneeling	120·5	115·4
Height to gladiolus	123·3	116·4
Span of arms	171	167·5
Span of arms rel. to stature=100	104·3	106·3
Chest	83·8	79·8
Middle finger to patella	12·3	9·8
Middle finger to patella rel. to stature=100	7·5	6·2
Shoulders	39·5	37·5
Cubit	45·7	45·2
Hand, length	18·3	17·8
Hand, breadth	8	7·9
Middle finger	11·5	10·7
Hips	26·3	24·5
Foot, length	25·1	24·6
Foot, breadth	8·6	8·2
Cephalic length	18·3	17·9
Cephalic breadth	13·9	13·7
Cephalic index	75·8	77
Bigonial	10·1	9·8
Bisymphic	12·9	12·9
Maxillo-zygomatic index	77·7	76
Nasal height	4·7	4·2
Nasal breadth	3·4	3·8
Nasal index	73·2	88·8
Vertex to tragus	14·1	13·3
Vertex to chin	21·2	20·4

SUMMARY OF RESULTS.

When, as sometimes happens, I am, owing to fear or superstitious objection on the part of the members of a tribe to undergo the entire course of treatment at my hands, reduced to the necessity of selecting a few only out of the series of twenty-one measurements, which I am in the habit of recording, I select, as being most useful for the purposes of classification and correlation, the stature, length and breadth of head, and height and breadth of nose. With these data to work on, it is comparatively easy to fit any community approximately into its proper place in the South Indian anthropological puzzle.

Some of the measurements, *e.g.*, chest girth and breadth of shoulders (*vide* tables xiv and xv), though useful as a guide to physical development, possess no racial value. Others, though important for comparison between the inhabitants of Southern India and other parts of the world, have little or no value as factors in differentiating between the various castes, tribes, etc., of Southern India. The facial angle, for example, though of great importance in separating prognathous from so-called orthognathous races, is of little use as an aid to comparison and classification of the different communities of Southern India, in whom the average of the angle of Cuvier (with its vertex at the edge of the incisor teeth) ranges, in the people examined by me, between 67° and 71° , as shown in the subjoined statement.

Badagas	..	..	..	..	71
Kotas	..	..	..	..	70
Kammālans	..	..	..	..	70
Brāhmans (Madras City)	..	..	..	..	69
Pallis	..	..	..	..	69
Vellālas	..	..	..	..	69
Tiyyans	..	..	..	..	69
Muppas	..	..	..	..	69
Pāl Kurumbas	..	..	..	..	69
Kongas	..	..	..	..	69
Todas	..	..	..	..	68
Pattar Brāhmans	..	..	..	..	68
Malaiālis	..	..	..	..	68
Tamil Pariahs	..	..	..	..	68
Kanarese Pariahs	..	..	..	..	68
Irulas	..	..	..	..	68
Sheik Muhammadans	..	..	..	..	67
Paniyans	..	..	..	..	67

In tables ix to xiii I have brought together, for the purpose of comparison, statistical evidence relating to the average stature, head, and nose measurements of the different classes which I have so far investigated. The most troublesome heads to measure were those of my hairy Toda friends, whose dense locks constituted an effective obstacle to easy shifting of the callipers, while the desired maximum was being groped for in the dark; the easiest were those of men with heads clean shaved in observance of some religious or domestic rite.

An examination of the section of the Madras Census Report, 1891, devoted to 'caste, tribe, and race,' will show how hopeless, to a worker with only one collaborateur, must be the prospect of making even a semblance of an approach to a complete anthropological survey of the multifarious tribes and castes inhabiting the vast tract of country comprising Southern India, which is included in my beat. All I can hope to do, amid other duties of a manifold nature, is to examine the more important communities when at head-quarters in Madras, and to make periodical roving expeditions with a view to carrying on the research in selected tribe-hunting grounds. In this way the material summarised in tables ix to xv has been brought together during the last two years; and including, as it does, examples of dwellers in the plains, on the hill tops, in the jungles at the bases of the hills, and on the Mysore plateau, it may, I think, be taken as fairly representative, and used for the purpose of generalisation. The nature and extent of the material collected up to the present time, and utilised in the following summaries of results, is shown by the subjoined tabular statement:—

Class.	Habitat.	Number measured.	
		Male.	Female.
Todas	Plateau of the Nilgiri hills.	25	25
Kotas	Plateau of the Nilgiri hills.	25	20
Badagas	Plateau of the Nilgiri hills.	40	..

Class.	Habitat.	Number measured.	
		Male.	Female.
Irulas	Lower slopes of the Nilgiri hills.	25	..
Kurumbas	Lower slopes of the Nilgiri hills.	15	..
Sholigas	Base of Mysore hills	3	..
Malaialis	Shevaroy hills	36	..
Paniyans	Wynād, Malabar	25	12
Muppas	Do.	24	..
Tiyyans	Calicut, South Malabar.	25	25
Cherumans	Do. do.	25	25
Pattar Brāhmans	Do. do.	25	..
Kongas	Coimbatore District	20	..
Tamil Brāhmans (poorer classes).	Madras City	40	..
Tamil Pariahs	Do.	40	..
Kammālans	Do.	40	..
Pallis	Do.	40	..
Vellalas	Do.	40	..
Muhammadans	Do.	75	..
Kanarese Pariahs	Mysore Province	33	..
Kurubas	Do.	25	..
Koramas	Do.	25	..
Lambādis (nomad).	Do.	40	40
	Total	711	147

1. STATURE.

The tallest men whom I have come across are a Toda (185 cm.) and Badaga (183·2 cm.); the shortest a Muppa (144·6 cm.), Cheruman (145·8 cm.), Kammālan (146·4 cm.) and Tamil Pariah (149·4 cm.).

The following table shows the average heights of the classes investigated :—

Very tall 170 cm. and upwards.

..
Above middle height 170 to 165 cm.

Todas 169·6

Below middle height 165 to 160 cm.

Sheik Muhammadans ..	164·5
Lambadis	164·3
Pattar Brāhmans ..	164·3
Badagas	164·1
Kurubas	163·9
Malaiālis	163·9
Tiyyans	163·7
Kotas	162·9
Brāhmans (Madras city)	162·5
Pallis	162·5
Vellālas	162·4
Tamil Pariahs	161·9
Kanarese Pariahs ..	161·8

Low stature below 160 cm.

Irulas	159·8
Kammālans	159·7
Koramas	159·3
Kongas	159
Muppas	157·7
Cherumans	157·5
Urāli Kurumbas ..	157·5
Pāl Kurumbas ..	157·5
Paniyans	157·4

In Keane's 'Ethnology,' Hindus and Dravidians are (after Topinard) aggregated together, in an anthropological conglomerate, as possessing an average height of 164·5 cm., which I take to be rather exaggerated. In the foregoing table a very large majority of Hindu-Dravidians are undoubtedly included, but the aberrant Todas alone reach this average. The Todas, according to my estimate, possess approximately the same stature as the Irish (169·7 cm.), and just miss the dignity of being included with the English among the very tall races of the world. The hairy Ainu of Japan, it may be noted, is placed by Keane, in company with the Toda, in a siding on the family tree of *Homo Caucasica*. The average height of the stalwart, black-haired Toda (5 feet 7½ inches) is, according to Mr. Savage Landor's measurement⁸ of five typical examples, conspicuously in excess of that of the short, sometimes red-haired Ainu (5 feet 2½ inches).

Between the Todas and the next tallest class, the Sheik Muhammadans, there is a well-defined gap of 5·1 cm. But

⁸ Alone with the hairy Ainu.

from Sheiks to Pariahs there is a gradual decrease in height, with a break of 2 cm. between the lowest representatives of middle stature and the tallest of low stature. Among the classes of middle height, the uniformity of the height of Brāhmans, Pallis, and Vellālas, and of Tamil and Kanarese Pariahs is noteworthy. So also is the presence of the Kam-mālans among the classes of low stature, amid the humble environment of Irulas, Koramas, and Kongas.

The length of the upper extremities, in the classes under consideration, relative to stature, as estimated by the determination of the distance from the tip of the middle finger to the top of the knee-cap (patella), when the subject is at attention with the extensor muscles of the thigh relaxed, is shown by the following table:—

	Average.	Average relative to stature=100.
Koramas	13·3	8·3
Kurubas	12·3	7·5
Badagas	12·2	7·4
Lambādis	11·7	7·1
Pattar Brāhmans	11·3	6·9
Irulas	10·7	6·7
Kotas	10·7	6·6
Malaiālis	10·8	6·6
Sheik Muhammadans	10·7	6·5
Tiyyans	10·6	6·5
Vellālas	10·4	6·4
Kongas	9·9	6·2
Tamil Brāhmans	10·1	6·2
Kanarese Pariahs	9·8	6·1
Tamil Pariahs	9·4	5·8
Pallis	9·5	5·8
Kammālans	8·4	5·3
Todas	9	5·3
Muppas	8·2	5·3
Cherumans	7·8	4·6
Paniyans	7·3	4·4

The more the distance diminishes, the greater is the length of the upper extremities. The arm then is shortest in the Kanarese Koramas, Kurubas, and Badagas, and longest in the short, broad-nosed Paniyans, who approach the Negro average (4·37).

As examples of inordinately long upper extremities (not included in the averages), which brought to mind the

Hindu ideal of the long-armed Ráma, "whose hands reach to the knees," the two following cases are worthy of being placed on record. The one was a venerable, white-haired Kuruba; the other a Tamil Pariah, who is referred to later on in connection with his nose.

	Kuruba. cm.	Pariah. cm.
Height	177·8	160·8
Span of arms	199·2	183·8
Difference between span and height.	21	23
Cubit	53	
Middle finger to patella	5·7	6·4
Middle finger to patella relative to stature=100.	3·2	4

2. HEAD MEASUREMENTS.

For the benefit of my amateur readers, to whom the meaning of the term 'cephalic index' may not be clear, it may be stated that this index, which expresses the ratio of the length to the breadth of the head, is estimated by multiplying the maximum breadth by 100, and dividing the product by the maximum length.

Examples.

$$\begin{array}{l} \text{Toda } \left\{ \begin{array}{l} \text{cephalic length} \quad 20 \text{ cm.} \\ \text{cephalic breadth} \quad 14 \text{ cm.} \end{array} \right. \\ \frac{14 \times 100}{20} = 70 = \text{cephalic index.} \end{array}$$

$$\begin{array}{l} \text{Bráhma} \left\{ \begin{array}{l} \text{cephalic length} \quad 18·2 \text{ cm.} \\ \text{cephalic breadth} \quad 15 \text{ cm.} \end{array} \right. \\ \frac{15 \times 100}{18·2} = 82·4 = \text{cephalic index.} \end{array}$$

The terms used in the headings of the columns in table ix, in which the nomenclature of Broca is followed, have the following significance:—

Dolichocephalic	Index 75 and under.
Sub-dolichocephalic	„ 75·01 to 77·77.
Mesaticephalic	„ 77·78 to 80.
Sub-brachycephalic	„ 80·01 to 83·83.
Brachycephalic	„ 83·84 and upwards.

Turning now to table ix. Conspicuous by its almost complete absence is the brachycephalic head, which, were I dealing with the Burmese instead of the inhabitants of Southern India, would be very largely represented, with a corresponding decrease in the numbers of dolicho- and sub-dolichocephalic heads. The columns in table ix would, in fact, have been inverted. The solitary heads, which prevent the brachycephalic column from being a perfect and absolute blank, were the property of a Kanarese Koraman, and a Tamil Brāhman guru (religious instructor) who shares with a Toda the honour of possessing the maximum head-breadth (15·2 cm.) recorded in my notes. But the length of the Toda's head was 19·6 cm. against the Brāhman's 18·1 cm. The only other brachycephalic heads, which I have met with during the examination of nine hundred subjects, belonged to two broad-headed Lambadi lassies, whose cephalic indices were 83·9 and 85·5 respectively.

It is worthy of notice that the tribes, which stand first and second in the list, so far as head length is concerned, are the Todas and Kotas—the two oldest existing tribes of the Nilgiri plateau—in whom alone the average head length exceeds 19 cm. The maximum head lengths recorded, in the classes under review, reached, or slightly exceeded 20 cm. only in the Todas, Kotas, and Badagas of the Nilgiri plateau, and in the Tiyyans and Pattar Brāhmans of Malabar. In the other classes investigated, the maximum head-length ranged between 19·9 cm. in the Brāhmans of Madras city (belonging to the poorer classes) and 19·1 in the Irulas and Kongas, whose mental development is of a very low order. The Irulas, it may be mentioned, *en passant*, are an uncultivated jungle tribe, who have only in recent years been brought by the European planting community under the influence of civilisation; and the Kongas are a degraded sub-division of the Vellālas, who occupy a low position in the Vellāla community. “No other Vellāla,” it is said,⁹ “would take his meals with them because they employ Uppiliyans and other low caste people as cooks for their marriages, &c.”

The average head-length ranges between 19·4 cm. in the Todas and 17·8 cm. in the Kongas and Koramas. The latter are inhabitants of the Mysore plateau, very dark-skinned and short of stature, “with crime and vice writ

⁹ Madras Census Report, 1891.

large on their physiognomy," who combine professional burgling, and animal and bird-snaring with ingenious contrivances, with the more orthodox occupation of basket making. Only under marked protest, and with the assistance of the police, did the Koramas permit me to use them for the purposes of anthropometry, and my recollection of my sojourn among them is far from a happy one.

The coincidence of the head length in four out of the five Hindu classes examined in Madras City—Brāhmans, Vellālas, Pallis, and Pariahs—appears to me suggestive. In the fifth class, the Kammālans, the head-length was slightly less.

As in length, so in breadth of head, the Todas and Kotas of the Nilgiris stand out conspicuously in the first rank, but, in this case, bracketed equal with the Brāhmans of Madras city (14·2 cm.), who are close followed by the Pattar Brāhmans of Malabar, descended from Tamil Brāhmans who migrated to Malabar from the east coast, and have, I imagine, become modified as regards physical characters by alliances contracted in the home of their adoption (*vide* table xvi). In the remaining classes, the average head-breadth ranges between 13·8 cm. and 13·5 cm. and calls for no special remark, except that breadth of head exceeding 15 cm. occurred only among the Todas (15·2), Kotas (15·1), Brāhmans of Madras City (15·2), and Pattar Brāhmans (15·1).

Arranging the classes under review in sequence, according to the cephalic index, the results are as follows:—

Dolichocephalic.

Badagas	..	..	..	..	71·7
Muppas	..	..	..	..	72·3
Tiyyans	..	..	..	..	72·7
Pallis	..	..	..	..	73
Todas	..	..	..	..	73·1
Tamil Pariahs	..	..	..	..	73·6
Cherumans	..	..	..	..	73·9
Paniyans	..	..	..	..	74
Kotas	..	..	..	..	74·1
Vellālas	..	..	..	..	74·1
Malaiālis	..	..	..	..	74·4
Pattar Brāhmans	..	..	..	..	74·5
Kammālans	..	..	..	..	75

Sub-dolichocephalic.

Lambadis	75·4
Kurubas	75·8
Sheik Muhammadans	76·2
Brähmans (Madras city)	76·5
Kanarese Pariahs	76·8
Kongas	77
Koramas	77·5

Only, as shown in table ix, in the Todas, Badagas, and Muppas, was the head confined to the dolichocephalic and sub-dolichocephalic types; the remaining classes possessing a greater or less proportion of mesaticephalic (intermediate) and sub-brachycephalic heads. In the majority of the classes examined, the head was dolichocephalic in more than half the cases; and it is clear from the foregoing statistics that the dolichocephalic head is the prevailing type, so far as Southern India is concerned. The classes, in which the head was dolichocephalic in less than half the cases, were the Brähmans and Sheik Muhammadans of Madras City, Irulas, Kongas, Kurubas, Kanarese Pariahs, and Koramas. A glance at table ix shows at once the high proportion of sub-dolichocephalic heads in the Brähmans and Kurubas, and mesaticephalic heads in the Koramas. I have already (Bulletin No. 4) dealt with the great breadth of the Brähman head in comparison with that of the other classes examined in Madras. The Lambadis, Kurubas and Sheik Muhammadans come intermediate between the Brähmans and a group composed of Kanarese Pariahs, Irulas, Koramas, and Kongas, all people of low origin, whose high cephalic index is explained, not as in the case of the Brähmans, by the great breadth of the head in proportion to its length, but, as shown in the following summary, by the shortness of its length in relation to its breadth:—

	Length. Breadth.	
	cm.	cm.
Brähmans	18·6	14·2
Lambadis	18·4	13·9
Kurubas	18·3	13·9
Sheik Muhammadans	18·2	13·8
Kanarese Pariahs	18	13·8
Irulas	18	13·7
Koramas	17·8	13·9
Kongas	17·8	13·7



TAMIL PARIAH.

3. THE NOSE.

Readers of Marryat's novels will doubtless remember that Japhet, in search of his father, borrowed from Mr. Cophagus a book containing a dissertation upon the human frame, sympathies, antipathies, and those features and peculiarities most likely to descend from one generation to another, wherein it was asserted that the nose was the facial feature most likely to be transmitted. The nose I regard as an all-important element, so far as the people in whom I am interested are concerned, as a basis of classification, and as an aid to the elucidation of the ancestry of caste and tribe. Not, however, the shape of the nose, but the relation of its height to its breadth (nasal index), is that to which a prominent place must be assigned in a study of the comparative anthropography of the people of Southern India. "Le plus important des caractères cephalométriques," says Topinard,¹⁰ "est l'indice nasal. C'est le seul caractère se mesurant qui partage tous les types de l'humanité en trois groupes fondamentaux répondant à la division classique de Cuvier en races blanches (leptorrhiniennes, nez long, et étroit), races jaunes (mésorrhiniennes, nez large et bas). Cet indice varie, dans les moyennes, de 63 dans une série de 100 Français dolichocéphales et blondes mesurés par le docteur Collignon à 109 dans une série de Tasmaniens mesurés pour nous sur leurs moulages; et dans les cas particuliers, de 50 et moins chez des Européens à 153 chez un Australien."

A photograph (pl. xv), which I regard with some affection, has been challenged on the ground that it must have been deformed. It may, therefore, be stated that noses disfigured by small-pox and other diseases, or pugilistic encounters, are invariably rejected.

Once more, for the amateur, it may be explained that the nasal index expresses the relation of the height of the nose, measured from the under surface (not the tip), to the breadth measured across the widest part of the nostrils when at rest. This index is, like the cephalic index, estimated by multiplying the breadth by 100, and dividing the product by the height.

¹⁰ *L'Homme dans la Nature.*

Examples.—

Brāhman { nasal height 5·5 cm.
nasal breadth 3·4 cm.

$$\frac{3\cdot4 \times 100}{5\cdot5} = 61\cdot8 = \text{nasal index.}$$

Kurumba { nasal height 4 cm.
nasal breadth 4 cm.

$$\frac{4 \times 100}{4} = 100 = \text{nasal index.}$$

Paniyan { nasal height 3·5 cm.
nasal breadth 3·8 cm.

$$\frac{3\cdot8 \times 100}{3\cdot5} = 108\cdot6 = \text{nasal index.}$$

These examples, taken from my case-book, show (1) that the greater the height in proportion to the breadth, the lower is the index; (2) that, when the height is exactly equal to the breadth, the index is 100; (3) that, when the breadth is greater than the height, the index exceeds 100.

Turning now to tables xi-xiii, it will be seen that the average nasal index of the people investigated ranges from 69·1 in the tall, light-skinned, and long narrow-nosed Lambādis (who speak an Aryan language), to 95·1 in the short, dark-skinned, and short, broad-nosed Paniyans; and that the indices recorded range between a minimum of 59·2 in a Lambādi and a maximum of 108·6 in a Paniyan. The maximum index, however, which I have met with, was in the case of a Paniyan woman, who possessed a nose 3·1 cm. in height and 3·7 cm. in breadth, and a nasal index of 119·4.

In table xii the noses are arranged according to their height. But the actual sequence of nasal indices is recorded in table xi, which shows, in each case, the maxima and minima observed, the average, and the range. In the same table, the noses are further classified according as the average index is from 60-70, 70-80, 80-90, or 90-100; and the main interest, to my mind, lies in the connection which exists between the noses in the earlier and later series. Assistance in tracing this connection will, I think, be found in table xiii, in which statistics relating to twenty to twenty-five members of the various classes examined are given, showing the frequency of noses with indices of 50-60, 60-70, 70-80, 80-90, 90-100, and 100-110.

Only in one case—the Lambādīs—do noses occur with an index below 60. The most popular columns, so far as number of entries is concerned, are those containing noses ranging between 70 and 80 and between 80 and 90, which contain respectively 236 and 146 out of 515 noses examined. Occupying a very prominent position in the column of noses between 80 and 90 are the Tamil Pariahs, Irulas, and Muppas, all of whom get into double figures. In the column containing noses with indices from 90 to 100, the Paniyans and Irulas hold a high place, and the same two classes monopolise, in the proportion of 10 : 1, the final column, which contains those wondrous noses, of which the breadth exceeds the height. In this column the Kurumbas and Sholigas would figure largely, but the material at my disposal is too scanty for record in the table.

On a coffee estate in the Ouchterlony valley, I was introduced to a Sholiga dwarf, the son and brother of dwarfs with hereditary polydactyly, who was very angry at my measuring operations, and kept on muttering that such a thing would not have been permitted when Mr. Ouchterlony was alive. The big but normal nose of this little man, measuring 4×4.1 cm., with nasal index of 102.5, presented an irresistibly comical appearance, but he failed to appreciate my lively interest in it.

In the subjoined tabular statement the various castes and tribes are classified according to the range of their nasal indices, *i.e.*, the difference between the maximum and minimum recorded in each case.

	10—20.		
Badagas	..	..	.. 15.7
Todas ..	..	..	.. 17.9
Kotas ..	..	..	.. 18.9
	20—30.		
Tiyyans	..	..	.. 21.8
Muppas	..	..	.. 21.8
Kurubas	..	..	.. 23.6
Lambādīs	..	..	.. 24.5
Paniyans	..	..	.. 24.9
Sheik Muhammadans	..	..	.. 25.1
Kanarese Pariahs	..	..	.. 26.6
Kammālans	..	..	.. 27.6
Irulas ..	..	..	.. 27.7
Koramas	..	..	.. 28.2
Kongas	..	..	.. 28.7
Cherumans	..	..	.. 29.3

30—40.			
Pattar Brāhmans	..	..	30·1
Vellālas	..	..	30·7
Malaiālis	..	..	34·2
Pallis	..	..	34·3
Brāhmans (Madras City)	..	..	35·1
Tamil Pariahs	..	..	39

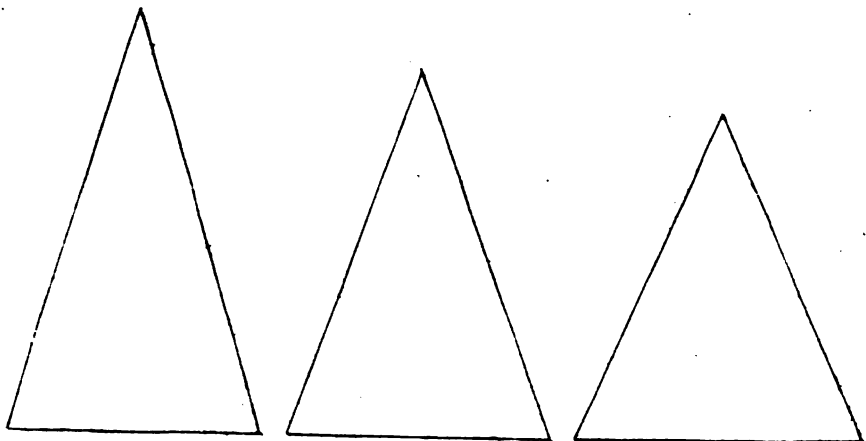
It is noteworthy that the tribes, whose nasal indices have the least variation, are the three which inhabit the plateau of the Nilgiri hills, where they lived an isolated existence until the settlement of the English on these hills in recent times; and that the owners of the greatest variation (exceeding 30) constitute a group of Tamil classes made up of Brāhmans, Vellālas, Pallis, and Pariahs of Madras city, the Malaiālis of the Shevaroy hills, (descended, it is said, from Vellālas of Conjeveram), and the Pattar Brāhmans descended from east-coast Tamil Brāhmans.

Very suggestive are the following measurements of a very dark-skinned Tamil Pariah cooly, whom I met by chance when changing camp in the course of a recent wandering, and detained, much against his will, until the measuring instruments came up.

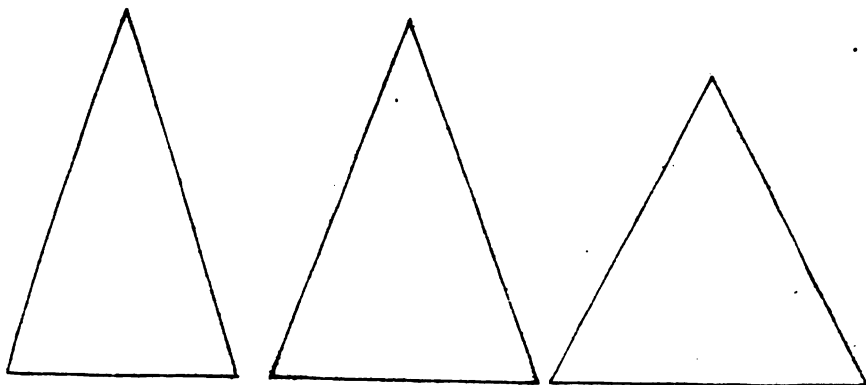
Height	..	..	160·8	cm.
Nasal height	..	..	4	„
Nasal breadth	..	..	4·2	„
Nasal index	..	..	105	„

Looking at the portrait of this man (pl. xv), there is an irresistible impulse to connect him, in the ties of ethnical relationship, with the jungle tribes; and I regard this man, and other Pariahs of a kindred nature, whom I have come across, as important witnesses in support of my belief that the constantly recurring high nasal index among existing Aryo-Dravidians and Dravidians must be traced to the influence of a platyrrhine (broad-nosed) ancestor.

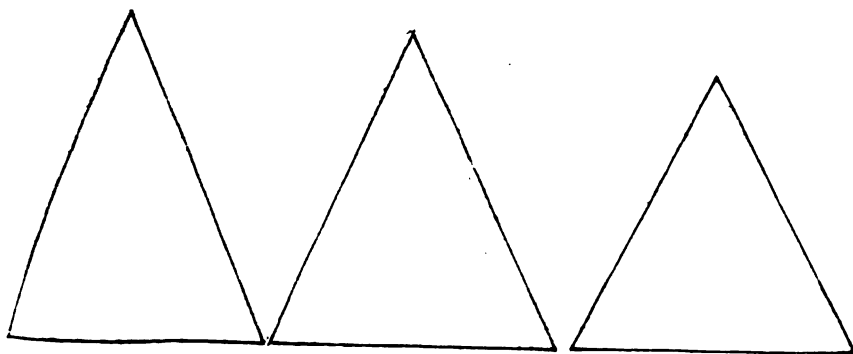
The Sheik, Pathān, and Saiyad Muhammadans of Madras claim to be descendants of immigrants from the north, and to be distinct from the converted Dravidians, the Māppilas and Labbais. Their claim is no doubt justified; but well-marked signs of admixture of Dravidian blood are conspicuous in some members of their communities, whose dark skin and high nasal index betray their non-Aryan ancestry.



Brahman



Pariah



Min

**Paniyan
Average**

In plate xvi are figured a series of triangles representing (natural size) the maxima, minima, and average nasal indices of Brāhman of Madras city (belonging to the poorer classes) Tamil Pariahs, and Paniyans. There is obviously far less connection between the Brāhman minimum and the Paniyan maximum than between the Brāhman and Pariah maxima and the Paniyan average; and the frequent occurrence of high nasal indices, resulting from short, broad noses, not only in Brāhman and Pariahs, but also in Cherumans, Muppas, Kongas, and others, has to be accounted for.

Sir. A. Lyall somewhere refers to the gradual Brāhmanising of the aboriginal Non-Aryan, or casteless tribes. "They pass," he says, "into Brāhmanists by a natural upward transition, which leads them to adopt the religion of the castes immediately above them in the social scale of the composite population, among which they settle down; and we may reasonably guess that this process has been working for centuries." In the Madras Census report, 1891, the Census Commissioner, Mr. H. A. Stuart, states that "it has often been asserted, and is now the general belief, that the Brāhman of the south are not pure Aryans, but are a mixed Aryan and Dravidian race. In the earliest times the caste division was much less rigid than now, and a person of another caste could become a Brāhman by attaining the Brāhmanical standard of knowledge, and assuming Brāhmanical functions. And when we see the Nambudiri Brāhman, even at the present day, contracting alliances, informal though they be, with the women of the country, it is not difficult to believe that, on their first arrival, such unions were even more common, and that the children born of them would be recognised as Brāhman, though perhaps regarded as an inferior class. However, those Brāhman, in whose veins mixed blood is supposed to run, are even to this day regarded as lower in the social scale, and are not allowed to mix freely with the pure Brāhman community."

Between a Brāhman of high culture, with fair complexion, and long, narrow nose on the one hand, and a less highly-civilised Brāhman with dark skin and short, broad nose on the other, there is a vast difference, which can only be reasonably explained on the assumption of admixture of races. And it is no insult to the higher members of the Brāhman community to trace, in their more lowly brethren, the result of crossing with a dark-skinned,

broad-nosed race of short stature. Whether the jungle tribes—Irulas, Kurumbas, Sholigas, and others—are the existing microscopic remnant of a pre-Dravidian people, or of Dravidians driven by a conquering race to the seclusion of the jungles, it is to the lasting influence of some such broad-nosed ancestor that the high nasal index and short stature of many of the inhabitants of Southern India must, it seems to me, be attributed. Viewed in the light of this remark, the connection between the following mixed collection of individuals, all of very dark colour, short of stature, and with nasal index exceeding 90, calls for no explanation: —

	Stature.	Nasal height.	Nasal breadth.	Nasal index.
	CM.	CM.	CM.	
Kammalan	154.4	4.4	4	90.9
Korama	159.8	4.6	4.2	91.3
Saiyad Muhammadan..	160	4.4	4	90.9
Vellala	154.8	4.7	4.3	91.6
Muppa	151.2	3.7	3.4	91.9
Malaiali	158.8	4	3.7	92.5
Konga	157	4.1	3.8	92.7
Pattar Brāhman ..	157.6	4.2	3.9	92.9
Kurumba	159.6	4.4	4.1	93.2
Smārta Brāhman ..	159	4.1	3.9	95.1
Palli	157.8	4.1	3.9	95.1
Irula	155.4	4.1	3.9	95.1
Paniyan	157.8	4.1	3.9	95.1
Irula	158.6	4.3	4.3	100
Tamil Pariah	160	4	4.2	105
Paniyan	158.8	3.8	4	105.3

Though the present chapter is entitled 'Summary of Results,' it aims at no finality, but must be regarded in the light of a preliminary summary based on the evidence collected up to date. Absence from India will create a breach of continuity in my work in connection with the anthropological survey of Southern India, which I hope to resume, with renewed vigour, in 1898.

"The more remote and unknown the race or tribe," it has been said, "the more valuable is the evidence afforded by the study of its institutions, from the probability of

their being less mixed with those of European origin." Tribes which, only a few years ago, were living in a wild state, clad in a cool and simple garb of forest leaves, and buried away in the depths of the jungle, have now come under the domesticating, and sometimes detrimental, influence of contact with Europeans, with a resulting modification of their conditions of life, morality, and even language. The Paniyans of the Wynád, and the Irulas who inhabit the slopes of the Nilgiris, now work regularly for daily wage on planters' estates; and I was lately shocked by seeing a Toda boy studying for the third standard in Tamil, instead of tending the buffaloes of his mand. The Todas, whose natural drink is milk, now delight in bottled beer, and mixture of port wine and gin, which they purchase in the Ootacamund bazar. On one occasion, I am told, a planter met two stalwart Todas returning from a funeral ceremony, and carrying across their shoulders a bundle, which, on examination, resolved itself into a Toda woman in a very advanced stage of intoxication.

"The rapid extermination of savages at the present time, and the rapidity with which they are being reduced to the standard of European manners, renders it of urgent importance to correct these sources of error as soon as possible." Ample proof can be adduced in support of the fact that European influence, import trade with other countries, and the struggle for existence, are bringing about a rapid change (said from an ethnographic standpoint) among the native inhabitants of Southern India, both civilised and uncivilised. The employment of tiles and kerosine tins in lieu of primitive thatch; the import of cotton piece goods, which represents roughly 40 per cent. of the total import trade, and of umbrellas to the value of over 40,000,000 rupees annually; cooly trade and migration by sea to Assam, Burma and Ceylon; the decline of the national turban in favour of the less becoming porkpie cap or knitted night cap of gaudy hue; the replacement of peasant jewelry of indigenous manufacture by the importation of beads and imitation jewelry made in Europe, and accurately copied, in many instances, from specimens sent to exhibitions, and purchased by the agents of the manufacturers; the abandonment of the use of indigenous vegetable dyes in favour of the cheaper and more rapidly operating anilin and alizarin dyes; the use of lucifer matches by 'aboriginal' tribes, who formerly made fire by friction; the supply of new

forms of food, and of beer and spirits, in the bazaars; the influence of the Government in suppressing thuggi, suttu, the human (meriah) sacrifices of the Khonds, and Toda infanticide; the administration of justice; the spread of education; religious teaching:—these and many other factors are the causes, or signs of, a radical change in the ethnographic conditions of the country.

A Toda lassie curling her ringlets with the assistance of a cheap looking-class; a Toda man smeared with Hindu sect marks, doing pūja, and praying for male offspring at a Hindu shrine; a Bengali babu with close-cropped hair and bare head, clad in patent leather boots, white socks, dhuti, and conspicuous unstarched sbirt of English device; a Hindu or Parsi cricket eleven engaged against a European team; the increasing struggle for small-paid appointments under Government:—these are a few examples of changes resulting from the refinement of modern civilization.

It has recently been said that “there will be plenty of money and people available for anthropological research, when there are no more aborigines”; and it behoves our museums to waste no time in completing their anthropological collections.

TABLE IX.

CLASSIFICATION OF HEADS.

	Dolichocephalic.	Sub-dolichocephalic.	Mesaticephalic.	Sub-brachycephalic.	Brachycephalic.
Todas	22	3	...	...	...
Badagas	21	4	...	...	...
Pallis	20	2	3	...	...
Tiyyans	20	2	2	1	...
Muppas	19	5	...	...	...
Vellālas	19	5	1	...	...
Tamil Pariahs	18	6	1	...	...
Kotas	17	6	2	...	...
Cherumans	17	5	2	1	...
Malaiālis	17	3	4	1	...
Peniyans	15	8	1	1	...
Kammālans	14	6	3	2	...
Pattar Brāhmans	14	6	3	2	...
Lambādis	13	7	2	3	...
Irnās	11	8	5	1	...
Sheik Muhammadans	10	7	6	2	...
Kanarese Pariahs	8	7	5	5	...
Tamil Brāhmīns	7	12	3	2	1
Kurubas	7	13	4	2	...
Kongas	6	8	9	2	...
Koramās	6	3	13	1	2

TABLE X.

AVERAGES.

CEPHALIC LENGTH, BREADTH, AND INDEX.

	Length.	Breadth.	Index.
	cm.	cm.	—
Todas	19·4	14·2	73·3
Kotas	19·2	14·2	74·1
Badagas	18·9	13·6	71·7
Tiyyans	18·9	13·7	72·7
Pattar Brāhmans	18·8	14	74·5
Tamil Brāhmans	18·6	14·2	76·5
Tamil Pariahs	18·6	13·7	73·6
Vellālas	18·6	13·8	74·1
Pallis	18·6	13·6	73
Muppes	18·5	13·4	72·3
Lambādis	18·4	13·9	75·4
Kammālans	18·4	13·7	75
Paniyans	18·4	13·6	74
Kurubas	18·3	13·9	75·8
Malaialis	18·3	13·7	74·4
Cherumans	18·3	13·5	73·9
Sheik Muhammadans	18·2	13·8	76·2
Kanarese Pariahs	18	13·8	76·8
Irulas	18	13·7	75·8
Kongas... ..	17·8	13·7	77
Koramas	17·8	13·9	77·5

TABLE XI.
NASAL INDEX.

	Max.	Min.	Average.	Range.
60-70.				
Lambadis	83·7	50·2	69·1	24·5
Sheik Muhammadans	85·1	60	70	25·1
70-80.				
Vellalas	91·5	60·8	73·1	30·7
Kurubas	85·9	62·3	73·2	23·6
Todas	89·1	61·2	74·9	17·9
Tiyyans	83·3	61·5	75	21·8
Kotas	92·9	64	75·5	18·9
Badagas	88·4	62·7	75·6	15·7
Koramas	90·9	62·7	75·7	28·2
Kanarese Pariahs	88·1	61·5	75·9	26·6
Pattar Brāhmans	95·3	64·7	76·5	30·1
Brāhmans (Madras city)	95·1	60	76·7	35·1
Kammalans	90·9	63·3	77·3	27·6
Malaiālis	100	63·8	77·8	34·2
Pallis	95·1	60·8	77·9	34·3
Cherumans	88·9	69·6	78·1	29·3
Kongas	92·7	64	79·9	28·7
80-90.				
Tamil Pariahs	10·5	66	80	39
Muppas	92·3	70·5	81·5	21·8
Irulas	100	72·3	84·9	27·7
Pal Kurumbas ... ..	...	...	87	...
90-100.				
Urāli Kurumbas ... ..	...	...	93·4	...
Sholigas ... ..	...	...	94·4	...
Paniyans	108·6	83·7	95·1	24·9

TABLE XII.
AVERAGES OF NASAL HEIGHT, BREADTH,
AND INDEX.

	Height.	Breadth.	Index.
Lambadis	4·9	3·4	69·1
Sheik Muhammadans	4·9	3·4	70
Vellalas	4·7	3·4	73·1
Kurubas	4·7	3·4	73·2
Tiyyans	4·7	3·5	75
Todas	4·7	3·6	74·9
Pattar, Brāhmans	4·7	3·6	76·5
Brāhman (Madras city)	4·7	3·6	76·7
Kanarese, Pariahs	4·7	3·6	75·9
Badagas	4·6	3·4	75·6
Koramas	4·6	3·4	75·7
Malaiālis	4·6	3·5	77·8
Kammālans	4·6	3·6	77·3
Pallis	4·6	3·6	77·9
Kotas	4·5	3·5	77·2
Kongas	4·5	3·5	79·9
Tamil Pariahs	4·5	3·6	80
Cherumans	4·4	3·4	78·1
Irulas	4·4	3·7	84·9
Pal Kurumbas	4·3	3·7	87
Sholigas	4·2	3·9	94·4
Muppas	4·1	3·3	81·5
Urāli Kurumbas	4·1	3·8	98·4
Paniyans	4	3·8	95·1

TABLE XIII.

COMPARISON OF NASAL INDICES OF 20-25 MEMBERS
OF VARIOUS CLASSES.

	50-60	60-70	70-80	80-90	90-100	100-110
Lambadis	2	13	6	4	...	...
Sheik Muhammadans	13	11	1	...	...
Vellalas	9	13	3	...	...
Kurubas	8	14	3	...	...
Koramas	6	12	4	1	...
Kanarese Pariahs	6	10	9	...	...
Tiyyans	5	13	7	...	...
Todas	4	13	8	...	...
Kotas	4	11	8	1	...
Brahmans (Madras city)	4	12	8	1	...
Pattar Brahmans	4	15	4	2	...
Badagas	3	14	8	...	...
Malaialis	3	12	9	1	...
Kammalans	2	16	6	1	...
Kongas	2	7	8	3	...
Pallis	1	14	7	3	...
Tamil Pariahs	1	9	14	1	...
Cherumans	1	16	8	...	...
Muppas	11	11	2	...
Irulas	7	11	6	1
Paniyans	5	9	10

TABLE XIV.

CHEST GIRTH.

	Average.	Average relative to stature = 100.
Paniyans	CM. 81·5	51·8
Kurubas	83·8	51·1
Kotas	83	51
Pal Kurumbas	79·2	50·3
Lambâdis	82·5	50·2
Kanarese Pariahs	81·3	50·2
Tiyyans	82	50·1
Brahmans (Madras city)	81	49·8
Koramas	79·4	49·8
Kongas	79·2	49·8
Irulas	79·4	49·7
Muppas	77·4	49·1
Cherumans	78·4	49·1
Vellâlas	79·8	49·1
Badagas	80·4	49
Todas	83	48·9
Tamil Pariahs	79·3	48·9
Kammâlans	78	48·8
Malaiâlîs	80	48·8
Pallis	79·2	48·7

The measurements were taken round the nipples, the arms being above the head, and hands joined.

The English average = 93·9, *i.e.*, 54 relative to stature = 100 (Topinard).

TABLE XV.
BREADTH OF SHOULDERS.

	Average.	Average relative to stature = 100.
Tiyyans	CM 40·3	24·6
Kammālans	39·2	24·5
Vellālas	39·7	24·4
Tamil Pariahs	39·4	24·3
Kongas	38·7	24·3
Brahmans (Madras city)	39·3	24·2
Pallis	39·4	24·2
Kurubas	39·5	24·1
Irulas	38·5	24·1
Badagas	39·4	24
Kanarese Pariahs	38·8	24
Lāmbādis	39·5	24
Pal Kurumbas	37·8	24
Malaiālis	38·8	23·7
Kosamas	37·7	23·7
Cherumans	37	23·5
Todas	39·3	23·2
Kotas	37·7	23·1
Paniyans	35·9	22·8
Muppas	35·3	22·4

TABLE XVI.

SUMMARY OF MEASUREMENTS OF BRÄHMANS OF MADRAS
CITY AND PATTAR BRÄHMANS OF MALABAR.

	Madras.	Pattar.
Weight	115 lb.	112 lb.
Height	162.5 cm.	164.3 cm.
Height, sitting	85.4	85.6
Height, kneeling	119.2	121.3
Height to gladiolus	122.1	122.7
Span of arms	173.3	173
Chest	81	83.9
Middle finger to patella	10.1	11.3
Shoulders	39.3	41
Cubit	46	46.2
Hand, length	18.3	18.6
Hand, breadth	8	8.2
Middle finger	11.6	11.8
Hips	26	27.1
Foot, length	25.9	25.8
Foot, breadth	8.7	8.9
Cephalic length	18.6	18.8
Cephalic breadth	14.2	14
Cephalic index	76.5	74.5
Bigoniac	10	10.1
Bisymphatic	12.9	12.9
Maxillo-zygomatic index	77.7	78.4
Nasal height	4.7	4.7
Nasal breadth	3.6	3.6
Nasal index	76.7	76.5
Facial angle	69	68