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Nirmal Kumar Bose

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MAN IN INDIA

VOL. 35 { APRIL-JUNE 1955 { NO. 2

BIRTH INTERVALS IN TWIN-BEARING MOTHERS

By S. S. SARKAR

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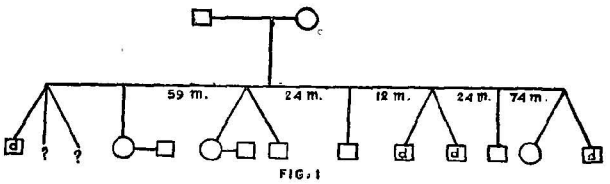
Introduction

IN a country like India where birth registration is not compulsory and hospital statistics are not good enough for correct biological analysis, the pedigree method of studying problems of human biology appears to be the only convenient and reliable method of study. In collecting data on the frequency of twin births (Sarkar 1943-44) from the birth registers of various Indian hospitals, the present writer was confronted with many defective entries. The entries on the mother's age, last mensturation, para, order of birth, etc., were gross approximations. Still-births were seldom taken into account in determining the para of birth and the birth order, while there were absolutely no records about the husband, except when some venereal complication was involved.

The present writer has been collecting twin pedigrees since 1939, whenever he has heard or known of any such birth. Many of these pedigrees are not complete with all details, though in certain cases, the zygoticity of the twins who could be brought to the laboratory, was thoroughly investigated.

A large number of pedigrees shows a characteristic fact which has not, so far as the writer's knowledge goes, been



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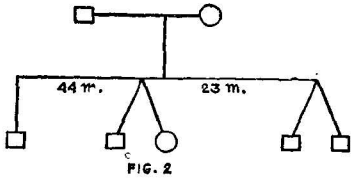

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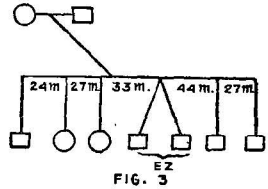

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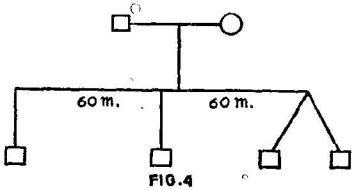

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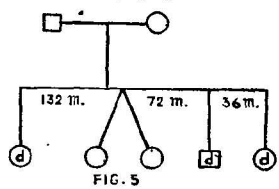

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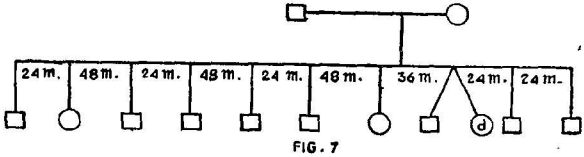

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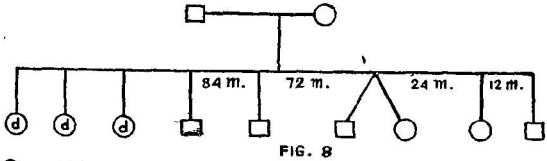

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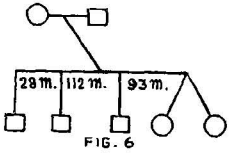

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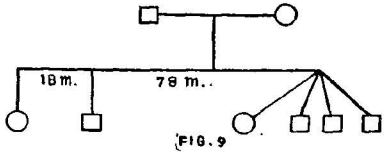

FIG. 9

reported, namely, that the twin births are, in a large number of cases, either preceded or followed by a birth interval longer than usual. It appeared that the twin-bearing mothers showed a

higher birth interval than the average. The birth interval is a 'period of readjustment and rest for the internal organs' and Yerushalmy (1945) found that both the relatively short and long intervals are associated with higher rates of still-births. Howells (1953) found no relation between birth interval and body size and expects no significant result from such elaborate survey.

The Data

Fig. 1 shows three twin births of which the first is preceded by an interval of 59 months and followed by the same of 24 months. The second twin birth is not conspicuous in having a long birth interval either before or after, while the last birth is preceded by an interval of 74 months. The first birth of the mother was probably a premature triplet as the sexes of the two foetuses were not differentiated. The dates of all the births in this case were not accurately maintained though the birth years were correct. The average of the five birth intervals works up to 38·6 months. The family belongs to the city of Calcutta.

Fig. 2 shows two twin births and the dates of birth are accurate. The first issue was born exactly 275 days after marriage. The first twin was preceded by an interval of 44 months, while the second twin was preceded by that of 23 months. The average of the two intervals works up to 33·5 months. The family belongs to the city of Lahore (W. Pakistan).

Fig. 3 shows a monozygotic twin which was diagnosed at the laboratory. The twin was preceded by a birth interval of 33 months and followed by that of 44 months. The other intervals are stated in the figure and their average works up to 21 months. The dates in this case are also accurate and the family is urban, from the city of Calcutta.

Fig. 4 shows a dizygotic pair as judged from their very highly dissimilar physical and other characteristics. The dates of birth are approximate and the average birth interval works up to 60 months. The family is rural from East Bengal.

Fig. 5 is also a rural family from the district of 24 Parganas,

West Bengal, and the twin appears to be a dizygotic one. The twin was preceded by a birth interval of 132 months and followed by that of 72 months. The average birth interval works up to 80 months. The dates of birth are accurate up to the year of birth.

Fig. 6 is of a semi-urban family from the suburb of the city of Calcutta. The twin pair was diagnosed as dizygotic in the laboratory. The twin birth was preceded by an interval of 93 months, and the average birth interval works up to 77·7 months. The dates of birth are accurate.

Fig. 7 is partly rural (East Bengal) and partly semi-urban, in the sense that the earlier children were born in the village whereas the later ones were born in semi-urban environments. The dates of birth are approximate. The twin was preceded by a birth interval of 36 months and followed by that of 24 months. The average birth interval works up to 33·2 months.

This phenomenon of a higher birth interval is also evident from two American pedigrees reproduced in Figs. 8 and 9. Davenport (1913) has described a twin birth in a feeble-minded family and it will be seen from Fig. 8 that the twin birth is preceded by an interval of 72 months and followed by that of 24 months. The average of the four available birth intervals works up to 48 months.

Fig. 9 shows the birth interval in the Kaspar Quadruplet (Gardner and Newman 1943). It was preceded by a birth interval of 78 months (the influence of contraception being unknown). The average birth interval works up to 48 months. There is no influence of contraception in the case of the Indian pedigrees.

The pedigrees (Figs. 1 to 9) presented here, therefore, indicate a maximum birth interval of 77·6 months to the minimum of 31 months as compared to the usually accepted figure of 24 months. The average birth interval works up to 38·6 months in Ped. 1 ; to 33·5 months. in Ped. 2 ; to 31 months in Ped. 3 ; to 60 months in Ped. 4 ; to 80 months in Ped. 5 ; to 77·7 months in Ped. 6 and to 33·3 months in Ped. 7. Thus the average for the above 7 twin-bearing mothers is 50·6 months.

It will be apparent from the above brief survey that the

twin-bearing mothers show a longer birth interval than the average and this is usually manifested either before or after a twin birth.

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DERMATOGLYPHICS OF BHOTIAS OF ALMORA DISTRICT (U. P.)

By S. C. TIWARI

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THE Bhotias occupy the northernmost part of the Almora District on the border of Tibet and Nepal. The Bhotias are semi-nomadic in their habits and depend on trade with Tibet, India and Nepal for their sustenance.

The following article presents an analysis of 360 finger-prints and 100 palmar configurations of 36 and 50 individuals respectively from among the Bhotias.

Finger-prints

Table I shows the frequencies of the three patterns, in percentages, for both the hands.

TABLE I

Frequency of Finger-print Patterns

Digit	*Hand*	*Whorl*	*Loops*			*Arch*
			Ulnar	*Radial*	*Total*	
	R	65.71	28.57	—	28.57	5.71
I	L	58.33	33.34	2.77	36.11	5.56
	R+L	62.02	30.95	1.38	32.34	5.63
	R	55.55	33.34	8.33	41.66	2.77
II	L	44.44	41.66	8.33	50.0	5.56
	R+L	49.99	37.50	8.33	45.83	4.16
	R	41.66	58.33	—	58.33	—
III	L	50.0	44.44	2.77	47.22	2.77
	R+L	45.83	51.38	1.38	52.77	1.38
	R	63.88	33.34	2.77	36.11	—
IV	L	63.88	36.11	—	36.11	—
	R+L	63.88	34.73	1.38	36.11	—
	R	36.11	63.88	—	63.88	—
V	L	27.78	72.22	—	72.22	—
	R+L	31.94	68.05	—	68.05	—
	R	52.58	43.49	2.22	45.71	1.69
	L	48.89	45.45	2.77	48.32	2.77
All digits	R+L	50.73	44.52	2.49	47.01	2.03

It will be seen from the above table that, when combined together, the finger-prints show unlike frequencies on the different digits of the right and left hands. On digits I, II and IV whorls are the most abundant pattern ; the frequency ranging from 64% in digit IV to 62% in I and 50% in II. Ulnar loops abound on digits V and III in the frequencies of 68% and 51% respectively, while on digits II, IV and I they are found in frequencies of 37%, 35% and 31% respectively. The radial loops show the greatest frequency on digit II (8%) and exhibit a sharp reduction on digits I, III, IV and V. The arches are found in the frequency of 6% on digit I, and show a progressive reduction onwards from digit II to V. Whorls are seen more on the right hand than on the left, while ulnar and radial loops and arches are more common in the latter.

In the following table, pattern intensity index (Cummins and Steggerda 1935), arch/whorl index of Dankmeijer (1938) and whorl/loop index of Furuhata (1927) are given.

TABLE II

Frequencies of pattern-types in%				*Index of Pattern Intensity*	*Dankmeijer's Index*	*Furuhata's Index*
Whorl	*Ulnar Loop*	*Radial Loop*	*Arch*			
50·73	44·52	2·49	2·23	14·85	4·3	108·0

The Yellow-Brown or Mongolian peoples are characterized by high intensity of patterns in fingers (Cummins and Midlo 1943). The Bhotias come very close to the Mongolians, specially Chinese (Kubo 1921), in the occurrence of whorls (50·66%), loops (ulnar 45·03%, radial 2·66%) and arches (1·4%). The Bhotias are further characterized by a remarkably high pattern intensity index, the index of 14·85 falls within the Mongoloid range (Wolfe 1950). The index of pattern intensity among the Koreans (Kubo 1918) is 14·48, Formosan Chinese (Kutsuna) is 14·86 and Chinese (Kubo 1918) is 14·91. The high index of pattern intensity in this sample reflects the abundance of whorls and less frequency of arches.

Dankmeijer's index is 4·3 which also shows low frequency of arches as compared to whorls. Furuhata's index 108·0 indicates slightly lesser number of loops than whorls.

Gene Frequencies

In the following table the frequencies of the genotypes determined from the ridge counts are given : epidermal thickness (V), radial cushioning (R) and ulnar cushioning (U).

TABLE III

Frequency of the Zygotes V, R and U

vv	66·23%	rr	8·11	uu	17·02
Vv	27·92%	Rr	52·27	Uu	54·54
VV	5·84%	RR	39·60	UU	27·92

According to Abel (1935) racial difference exists in the gene frequency, particularly for the factor of epidermal thickness (V). It is at its maximum among Europeans, Indians, Bushmen, and is rare among the Chinese. The factors for radial and ulnar cushioning (R and U) exhibit less variation among different peoples (Cummins and Midlo 1943).

Among the Chinese (Abel 1935) the factor of epidermal thickness (VV) is rare, being only 4·2 and the Bhotias come very close to them with a frequency of 5·84. The frequency of heterozygote (Vv) is lower among the Chinese (21·4) than among Europeans and other peoples, and the Bhotias with a frequency of 27·92 stand close to them. The percentage of thin epidermis (vv) is highest among the Chinese and the Eskimos. The Bhotias show a frequency of 66% in comparison with 74·2% among the Chinese.

The two peoples, namely the Bhotias and the Chinese, show the greatest difference in the frequencies of radial homozygotes (RR). The Bhotias possess 39·6% of it in comparison with 52·8% of the Chinese. Again, in the frequencies of Rr and rr, they do not resemble the Chinese. The Bhotia values are 52·4% and 8·11% respectively in comparison with 44·2% and 2·8% among the Chinese.

In ulnar cushioning the homozygote (UU) of the Bhotias (27·9%) is somewhat closer to the Chinese (31·4%). In the heterozygote (Uu), the Bhotias (54·5%) agree very closely with the Chinese (54·2%), whereas the frequency of (uu) among the Bhotias is 17·02% as compared to 14·2% in the Chinese.

Palmar Prints

Main-line Formula

It has been observed that the frequency of the three typical formulae 11.9.7.–, 9.7.5.–, and 7.5.5.– varies in different races (Wilder 1904). In the following table the frequency of the three typical formulae on the right and left hands of the Bhotias are given.

TABLE IV

Frequency of the three Typical Formulae in percentages

Formula	*Right*	*Left*	*Mean*
11. 9. 7.—	26·0	10·0	18·0
9. 7. 5.—	20·0	20·0	20·0
7. 5. 5.—	20·0	38·0	22·0

In the above table we find that the formula 11.9.7.— is more common in the right hand than in the left. Incidentally, the formula 9.7.5.— appears in equal proportion in both the hands. The formula 7.5.5.— is seen more in the left hand.

The following table shows the frequency of the three main-line formulae in different Mongoloid peoples.

TABLE V

Main-line Formula in %

People	11.9,7—	9.7.5—	7.5.5,—	Author
Eskimo	30·3	41·4	6·6	Abel, 135
Korean	18·1	17·1	32·0	Miyake, 268
Japanese	17·7	16·9	33·0	Hasebe, 552
Japanese	16·0	19·0	24·3	Wilder, 390
Raji	28·0	30·0	7·0	Tiwari, 100
Chinese	9·0	23·5	27·5	Wilder, 200
Chinese	18·1	19·3	32·0	Shino, 616
Bhotia	18·0	20·0	29·0	Tiwari, 100

It is evident from the above table that the Bhotias come very close to the Mongolians, particularly the Chinese, in the frequency occurrence of the three main-line formulae.

Patterns on the Configurational Areas of the Palm

The frequencies of true patterns in the configurational areas of the palm are given in Table VI.

TABLE VI

Frequencies of the types of Palmar Configurations

Configurational Area	*Frequency of Patterns in %*
Hypothenar	15·0
Thenar/Interdigital I	8·0
Interdigital II	7·0
Interdigital III	30·0
Interdigital IV	75·0

The frequency of the patterns in the hypothenar area is 15·0% (16% in the right and 14% in the left hand) in 100 Bhotia hands. This agrees well with that of Chinese (Shino, 16·9%; Wilder, 12·5%). The intensities of patterns in the hypothenar area are 32·07 among Indians (Biswas 1936), 37·17 among Europeans (Cummins 1943) and 41·07% among European-Americans.

The frequency of the patterns in the thenar/Ist interdigital area is 8·0% among the Bhotias. This value is very near to that obtained by Wilder (7·5%) and Shino (11·5%) for the Chinese.

The Bhotias show a larger percentage of patterns in III and IV interdigital areas than the Chinese. The Bhotias have patterns in III and IV interdigital areas in proportions of 30·0% and 75·0% respectively, while the Chinese have 22·7% and 55·1% (Shino 1925). The proportion between the III and IV interdigital areas is, on the other hand, very nearly the same in the Chinese (1 : 2·42) and the Bhotias (1 : 2·45).

The three combination formulae O-O-L, O-L-O and O-O-O appear in Bhotia hands in 59·15, 13·35 and 10·45 percentages respectively. In this also the Bhotias exhibit very close resemblance to the Chinese where these formulae occur in 54·1, 15·1 and 13·9 percentages respectively.

Axial Triradius

In the following table are given the different positions of the axial triradius as observed in the Bhotia hands.

TABLE VII

Positions of Axial Triradii

Axial triradii	*Right*	*Left*	*Total*
t	32	36	68
t′	8	8	16
tt′	5	3	8
tt″	1	—	1
tt′ t″	1	1	2
p	1	2	3
?	2	—	2
Total.	50	50	100

Thus we find that among the Bhotias the axial triradii are mostly seen in the t position. It occurs in 68·0%, t′ (middle axial triradius) in 16%, tt″ (carpal triradius with central triradius) in 1%, and tt′t″ (carpal triradius with middle axial and central triradius) in 2%. Parting (p) occurs in 3% [In 2 cases it was difficult to locate the position of axial triradius as the prints were incomplete.]

Summary

In the above tables, finger prints and palmar dermatoglyphics of the Bhotias have been analysed and comparisons made with the Mongoloids nearest to them, i.e. the Chinese.

The Bhotias agree with the Mongolians (specially Chinese) to a considerable extent as regards the occurrence of pattern types in the fingers.

In epidermal thickness the Bhotias resemble very closely the Chinese according to the values reported by Abel. The factors for radial and ulnar cushioning exhibit some variation.

The palmar main lines in the Bhotias show longitudinal alignment, which is characteristic of the Mongolian people. The Bhotias are further characterized by reduction of patterns in the hypothenar, 2nd and 3rd interdigital areas. The similarity

with the Chinese in the occurrence of pattern loop in the thenar and the Ist interdigital area is also noticeable.

In the proportion of the loops in the III and IV interdigital areas and the combination formulae O-O-L, O-L-O and O-O-O, the Bhotias agree very closely with the Chinese.

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MATERNITY STATISTICS FROM GAUHATI

By S. M. SINHA

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THIS paper gives a statistical analysis of certain data extracted from the obstetric registers of the American Baptist Mission Hospital, Gauhati, for the years 1940-1949.

The Number of Cases

TABLE I

Maternity Statistics from Gauhati.

Year	*Number of Confinements*	*Number of Maternal Deaths*	*Number of Still-births*		*Abortions*
			Male	*Female*	
(1)	(2)	(3)	(4)	(5)	(6)
1940	82	4	14	7	7
1941	92	2	13	11	4
1942	66	1	5	5	3
1943	78	2	6	5	9
1944	91	1	7	15	3
1945	104	3	10	18	8
1946	130	2	10	11	2
1947	152	3	15	14	4
1948	156	2	28	9	9
1949	182	2	12	10	11
Total ..	1133	22	120	105	60

The present analysis is based on 1,133 cases covering the period 1940-1949, the details of which are given in Table I. Table I contains the number of confinements[1], maternal deaths, male still-births, female still-births and abortions. It will be noticed that there was a steady growth in the annual number of confinements.

1. The number of confinements consists of deliveries in the hospital *including abortions* and cases of delivery at home but admitted to the hospital within 24 hours of delivery.

Fluctuation in the Number of Confinements by Month

The monthly number of confinements[2] for the years 1940-1949 were taken from the obstetric registers of the hospital and the totals for different months over the whole period are calculated. The expected number of cases over the whole period is 94·42. The difference between the actual number of confinements in each month and this expected number is shown in column 3 of Table II. Squaring these differences, dividing each by the expected value and summing, the value of chi^2 = 56·269 is obtained for 12 cells. The probability of such discrepancies between the observed and the expected values in now calculated with the help of R. A. Fisher's

TABLE II

Number of Confinements by Months.

Months	*Number of confinements*	*Difference from average*
(1)	(2)	(3)
January	98	3·58
February	55	39·42
March	101	6·58
April	63	-31·42
May	86	-8·42
June	77	-17·42
July	103	8·58
August	112	17·58
September	84	-10·42
October	119	24·58
November	127	32·58
December	108	13·58
Average.....	94·42	

Table III (*Statistical Methods for Research Workers,* 10th edition, 1948). From Fisher's Table, it is noted that P (chi^2 = 56·269) for n = 11, is less than ·01.

The monthly differences are therefore clearly significant. The minimum number of confinements occurs in the month of February and the maximum in November. This shows that the optimum condition for pregnancy occurs in January-

2. It is to be noted that confinements include abortions, but being only a small percentage of the total cases, the error due to this inclusion is negligible.

February, that is, towards the beginning of the spring season and the condition for minimum pregnancy occurs in April-May, that is, towards the beginning of the summer season.[3]

*Male Still-birth**

There were 120 cases of still-birth out of 579 total male births, during the period 1940-1949. The average still-birth rate was therefore 20·73 percent with a standard error of 1·684 percent among males.

The hypothesis of a constant rate of male still-births may now be tested. The expected values are obtained by multiplying the total number of births in each year by ·2073, the average still-birth rate ; and are shown in column 4 of Table III. The

TABLE III

Male Still-Births

Year	*Number of Male Births*	*Still-Births*			*Actual* (%) *Still-Birth Rate*
		Actual	*Expected*	*Difference*	
(1)	(2)	(3)	(4)	(5)	(6)
1940	40	14	8·29	5·71	35·00
1941	48	13	9·95	3·05	27·08
1942	35	5	7·26	-2·26	14·29
1943	37	6	7·67	-1·67	16·22
1944	47	7	9·74	-2·74	14·89
1945	46	10	9·54	0·46	21·74
1946	74	10	15·34	-5·34	13·51
1947	76	15	15·75	-0·75	19·74
1948	79	28	16·38	11·62	35·44
1949	97	12	20·11	-8·11	12·37

Average still-birth rate..... ·2073 *Per hundred

3. It is interesting to compare similar results for Bengal in Sir Kedarnath Das, P. C. Mahalanobis and A. C. Nag's paper : 'A Preliminary Note on the Rates of Maternal Deaths and Still-Birth in Calcutta, published in *Sankhya*, Vol. 1, and for Madras in K. R. Nair's paper : 'Maternity Statistics from Madras,' published in *Sankhya*, Vol. 2.

* Still-births vary with the age of the mother, and this line of enquiry should now be pursued. The author's observation regarding the equality of the male and female still-birth ratio is not supported by larger studies. For west Europe in a sample of 46 million births (1929-37) the male still-birth ratio was found to be 126·7 per 100 females, while in another U. S. A. sample of 14 million births (1941-45) it was found to be 124·1 per 100 females. See Tietze, Christopher, 'A Note on the Sex-ratio of Abortions', *Human Biology*, Vol. 20, 1948.—Editor.

actual number of still-births is given in column 3 and the difference between the actual and the expected value in column 5. The value of chi^2 = 20·244 for 10 cells is obtained. The probability of such discrepancies is found to lie between ·01 and ·02, which shows that there is no constancy in the male still-birth rate.

Seasonal Fluctuation in Male Still-Births :—It will now be tested whether there is any seasonal variation in the male still-birth rate. The expected values are obtained by multiplying the total number of births in each month by ·2073, the average still-birth rate. The actual number of male-births is shown in column 3 and the expected values on the assumption of a constant still-birth rate in column 4 of Table 4. The actual still-birth rate in each month is shown in column 6. The probability P (chi^2 = 10·1622) on 11 degress of freedom is slightly less than ·50. It may be considered therefore that there is no seasonal fluctuation in the male still-birth rate.

TABLE IV

Male Still-birth by Month

Month	*Number of Births*	*Number of Still-births*		*Difference*	*Actual Still-birth Rate* (%)
		Actual	*Expected*		
(1)	(2)	(3)	(4)	(5)	(6)
January	55	14	11·40	2·60	25·45
February	37	13	7·67	5·33	35·13
March	52	7	10·78	-3·78	13·46
April	29	8	6·01	1·99	27·59
May	42	10	8·71	1·29	23·81
June	39	9	8·08	0·92	23 08
July	51	9	10·57	-1·57	17·65
August	54	11	11·19	-0·19	20·37
September	43	11	8·91	2·09	25·58
October	61	12	12·65	-0·65	19·67
November	66	10	13·68	-3·68	15·15
December	50	·6	10·36	-4·36	12·00

Female Still-births

Out of 515 total cases of female birth over the whole period, there were 105 cases of still-birth. The still-birth rate among the females was therefore $20{\cdot}39 \pm 1{\cdot}775$ percent.

The hypothesis of a constant rate of female still-birth is tested as in the case of male still-birth. As explained previously, the expected values are calculated by multiplying the total number of births in each year by ·2039, the average still-birth rate. The actual number of still-births is given in column 3 and the corresponding still-birth rates in column 6 of Table V. The expected values obtained on the assumption of a constant still-birth rate are show in column 4. The observed value of $chi^2 = 16{\cdot}061$ for 10 cells. The probability P is found to lie between ·05 and ·10. Hence it may be concluded that the female still-birth rate remained practically constant throughout the period.

TABLE V

Female Still-birth

Year	*Number of Female Births*	*Still-births*		*Difference*	*Actual Still-birth Rate* (%)
		Actual	*Expected*		
(1)	(2)	(3)	(4)	(5)	(6)
1940	37	7	7·54	-0·54	18·92
1941	40	11	8·16	2·84	27·50
1942	30	5	6·12	-1·12	16·67
1943	35	5	7·14	-2·14	14·29
1944	42	15	8·56	6·44	35·71
1945	52	18	10·60	7·40	34·61
1946	56	11	11·42	-0·42	19·64
1947	76	14	15·50	-1·50	18·42
1948	70	9	14·27	-5·27	12·86
1949	77	10	15·70	-5·70	12·99

Seasonal Fluctuation in Female Still-births :—As in the case of male still-births, the hypothesis of a constant female still-birth rate over the seasons is now tested. The actual number of still-births is given in column 3 of Table VI, and the expected values calculated on the assumption of a constant still-birth rate in column 4. The corresponding value of $chi^2 = 4{\cdot}184$ for 12 cells. The probability P is found to lie between ·95 and ·98 and hence it may be considered that there is no seasonal fluctuation in the female still-births also.

TABLE VI

Female Still-birth by Month

Months	*Number of Female Births*	*Still-births*		*Difference*	*Actual Still-birth Rate (%)*
		Actual	*Expected*		
(1)	(2)	(3)	(4)	(5)	(6)
January	42	7	8·56	—1·56	16·67
February	18	5	3·67	1·33	27·78
March	45	10	9·18	0·82	22·22
April	28	6	5·71	0·29	21·43
May	41	8	8·36	—0·36	19·51
June	34	7	6·93	0·07	20·59
July	49	13	9·99	3·01	26·53
August	50	8	10·19	—2·19	16·00
September	41	7	8·36	—1·36	17·07
October	56	15	11·42	3·58	26·79
November	57	10	11·62	—1·62	17·54
December	54	9	11·01	—2·01	16·67

Maternal Deaths

During the period under review, there were 22 maternal deaths out of 1133 cases. The average death rate was therefore 19·42 per thousand with a standard error of 4·099 per thousand. The detailed data are given in Table VII.

TABLE VII

Maternal Death

Year	*Number of Cases*	*Number of Deaths*	*Maternal Death Rate* (per mille)
(1)	(2)	(3)	(4)
1940	82	4	48·90
1941	92	2	21·74
1942	66	1	15·15
1943	78	2	25·64
1944	91	1	10·99
1945	104	3	28·85
1946	130	2	15·40
1947	152	3	19·74
1948	156	2	19·42
1949	182	2	10·99

Statistics relating to Para

It will now be tested to see whether there exists any association between para of mother and abortions. A four-fold contingency table is constructed (Table VIII). The numbers in brackets give the expected values on the assumption of complete independence between the attributes. The observed value of $chi^2 = 3·702$. The probability P ($chi^2 = 3·702$) on 1 degree of

TABLE VIII

Association between Para and Abortion

	Primi-para	*Multi-para*	*Total*
Abortions	14 (20·65)	46 (39·35)	60
Deliveries (Not Abortions)	376 (369·35)	697 (703·65)	1073
Total	390	743	1133

freedom is slightly greater than ·05. Hence it cannot be said that there is any association between para of mother and abortions.

Similar tests of association between para of mother and still-births and between para of mother and maternal deaths were

done. In both the cases the observed value of chi² did not show any significant association between the attributes.

Twins

During the period under review, there were 21 twin-births out of a total of 1,133, the percentage being 1·96. The detailed data are given in Table IX.* There were only 2 cases of primi-para with twin births among 376 deliveries and 19 cases of multi-para among 697 deliveries. The percentage of twin-

TABLE IX

Cases of Twin Birth

	Twins	*Number of Deliveries*	*Percentage*
Primi-para	2	376	·53
Multi-para	19	697	2·73
Total	21	1073	1·96

births is therefore ·53 among primi-para cases and 2·73 among multi-para. The standard error of the difference is ·25. Hence it can be said that the twin births are generally associated with multi-para cases[4].

Sex Ratio

Over the whole period, there were 515 female births out of a total number of births of 1094. The percentage of female births was therefore ·4707 with a standard error of ·0151.

The hypothesis of a constant sex ratio is now tested. The expected number of female births are calculated by multiplying the total number of births in each year by ·4707. The actual number of female births are given in column 3 of Table X and the expected values in column 4. The corresponding value of $chi^2 = 1·870$ for 10 cells. The probability P is very high, and it may be considered that the sex proportion of births remained practically constant throughout the period.

* Sarkar found 3 cases of twins in 1,153 pregnancies from Ganesh Das Hospital, Shillong, during 1936-42. 'The frequency of multiple births in India', *Trans. Bose Res. Inst, XVI.* 1943-44.—Editor.

4. Chi² test shows that the samples of primi-para and multi-para mothers cannot reasonably be considered to have come from the same parental population.

TABLE X

Sex Ratio at Birth

Year	*Number of Births*	*Number of Female Births*		
		Actual	*Expected*	*Difference*
(1)	(2)	(3)	(4)	(5)
1940	77	37	36·24	0·76
1941	88	40	41·42	—1·42
1942	65	30	30·59	—0·59
1943	72	35	33·89	1·11
1944	89	42	41·89	0·11
1945	98	52	46·13	5·87
1946	130	56	61·19	—5·19
1947	152	76	71·55	4·45
1948	149	70	70·13	—0·13
1949	174	77	81·90	—4·90

Summary

This paper presents the results of an analysis of certain maternity statistics collected from the original records of the American Baptist Mission Hospital, Gauhati, for the period 1940-1949.

(1) There was a steady growth in the annual number of confinements in the hospital.

(2) There were large fluctuations in the number of confinements in different months. The maximum number of cases occurred in the month of November and the minimum in February.

(3) The average still-birth rate among males was 20·73 percent.

(4) The average still-birth rate among females was 20·39 percent.

(5) There was no significant seasonal variation of still-birth rate among the males or females.

(6) The average maternal death rate was 19·42 per mille.

(7) Twin-births were generally associated with multi-para mothers.

(8) The proportion of female births was 47·07 percent of the total births, on the average.. The sex ratio remained practically constant throughout the period under review.

NOTES ON THE BIRHORS

By BIJAY KANTA SEN*
Hazaribagh

Introduction

DURING the Mohammedan rule, the present Chota Nagpur Division and the adjacent political states of Orissa and Madhya Pradesh were known by the name of Jharkhand. In the early British days they were termed the 'Jungle Mahals' of Chota Nagpur. Later on, a political agency was established at the headquarters of the district of Lohardaga (Ranchi). The whole of the present Chota Nagpur Division together with the tributary and political states of Chota Nagpur, consisting of the states of Bonai, Changbhakar, Gangpur, Jashpur, Kharsawan, Korea, Seraikella, Sirguja and Udaipur, were administered by the Political Agent. Manbhum and Palamau were subdivisions of Lohardaga District. Later on, these subdivisions were converted into separate districts, the political agency was replaced by the commissionership of 'Chutia Nagpur' Division with the same jurisdiction.

The Maharaja of Chota Nagpur who was acknowledged as the owner of the Jungle Mahals is a Nagbangsi Rajput, claiming descent from a legendary Pundarik who is said to have appeared in the form of a snake in a tank at Pithoria. The headquarters of the state was known as Nagpur, with the name of the village Chutia (adjacent to Ranchi railway station) added to it to differentiate it from the town of that name in Madhya Pradesh. Chutia Nagpur, for convenience, has now been changed into Chota Nagpur, and the Commissioner's jurisdiction limited to the five districts of Ranchi,

* The author who is a retired Magistrate and Collector is a celebrated hunter, and has had wide experience, in course of his hunting and land settlement or land acquisition work, about the inhabitants of the jungles of Chota Nagpur. On the invitation of the editors, he has agreed to record some aspects of the life of the Birhors.

Hazaribagh, Manbhum, Singhbhum and Palamau. The nine tributary and political states were transferred early in the present century from the Commissioner's jurisdiction to that of a Political Agent for these states and the feudatory and the political states of Orissa and Madhya Pradesh.

In January 1899, the name of Lohardaga District was changed by a notification to Ranchi District.

The whole of Chota Nagpur has been the home of some of the most important aboriginal tribes of India. Some of these tribes have died out or are dying. Even those that still maintain a precarious existence are fast losing their individuality and language. The Birhors are one such tribe who speak a language belonging to the Mundari family. They form numerically the smallest group among the speakers of the Mundari language.

During the census of India in 1911, there were 3,085 Birhors in the whole of India* :

	Persons	*Male*	*Female*
Hindu	1,941	938	1,003
Animist	1,144	551	593
Total	3,985	1,489	1,596

They were distributed as follows :

	Persons	*Male*	*Female*
Bihar & Orissa	2,340	1,104	1,236
Elsewhere	745	385	360

Those in Bihar and Orissa were again divided into :

	Male	*Female*	*Total*
Hindus	644	743	1387
Animists	460	493	953
Total	1104	1236	2340

They were distributed as follows :

	Hindus		*Animist*	
	Male	*Female*	*Male*	*Female*
Chota Nagpur—Hazaribagh	407	374	116	127
Ranchi	151	276	235	265
Palamau	12	15	—	—
Manbhum	—	—	57	47
Singhbhum	—	—	22	26
Total	570	665	430	465

* Vide Table XIII, Caste, Tribe Race, or Nationality etc., in *Census of India 1911*, Vol. I, Part II, p. 186.

	Hindu		*Animist*	
	Male	*Female*	*Male*	*Female*
Santal Parganas	—	—	20	21
Orissa States	74	78	10	7
Total	644	743	460	493

Out of there 3,085 persons, 1,093 only used the Birhori language as their mother tongue.*

	Persons	*Male*	*Female*
Bihar & Orissa	941	481	460
Other Provinces	152	85	67
Total	1093	566	527

They were distributed in the several districts of Chota Nagpur Division and Santal Parganas and the Orissa states as follows† :

	Persons	*Male*	*Female*
Hazaribagh	504	256	248
Ranchi	244	128	116
Palamau	—	—	—
Manbhum	102	55	47
Singhbhum	50	22	28
Santhal Parganas	41	20	21
Total	900	491	439
	941	481	460
Orissa States	72	38	34

The Birhors formed one of the sixteen tribes of the Munda language group of aboriginals during 1921 census. In his *Report of Census 1921, Bihar and Orissa,* Mr. P. C. Talbut I. C. S., the Superintendent of Census, observed : 'Birhor and Birijia have both decreased in the last 10 years, Birhor from 1,013 to 258 and Birijia from 1,323 to 768 ; the estimated numbers of persons speaking these languages according to the Linguistic Survey are 1,234 and 3,000 respectively. It is clear that they hold their lease of life on slender terms ; even when he produced Vol. IV of the Linguistic Survey nearly twenty years ago Sir George Grierson considered that the days of the

* Vide Table X : Language, part III. Territorial distribution of Language, *Census of India 1911*, Vol. I, Part II, p. 100.

† Table of Languages, *Census of India 1911*, Vol. V, Part III, p. 60.

Birhor were numbered and could make little of the specimens he received of the Birijia dialect which appeared to be that of "Such Birijias as have forgotten their own language." '*

In the census of 1951, the corresponding language numbers were only :

		Total	*Male*	*Female*
Birhor—	Hazaribagh	30	14	23
	Ranchi	7		
	Total	37		
Birijia—	Palamau	2163	797	376
	Ranchi	510	—	—
	Total	2,673		

It seems that the language of the Birhor is dying fast through their expansion and migration to the more civilized areas, while the Birijias have been concentrating in selected jungle areas in and about Palamau.

Birhor Settlements

The most striking feature in the culture of the Birhors is that they have never formed any permanent tie with the land, either having a permanent place of abode or house, or through agriculture and cultivation. They live on forest products and small game, trapped, snared or killed in the forest. The Birhors live in family groups : father, sons, daughters, grandsons and family members and such near relatives, half a dozen to a dozen families at a time in some temporary settlement. They change their place of abode with the change of season and convenience, usually four times a year, and sometimes even as often as six times if needed. Their settlement of leaf-huts has almost the same size and appearance everywhere, each hut looking like a truncated cone. They put up their huts on the gentle slope of a commanding height at the fringe of a jungle on the outskirts of a village cultivation, near which the village jungle begins. This is done with an eye to water facilities either from a brook or a natural spring (*dari*), or a village well within reach. They do not camp within the deep forests.

* *Census of India 1921*, Vol VII, Part I, p. 1.

They keep no cattle nor even a cow, nor do they have any beasts of burden to carry their belongings at the time of shifting from one camp to another. Their only earthly belongings consist of a couple of earthen pots for cooking and perhaps an all-purpose aluminium bowl and plate, besides of course their hunting nets, axes, bows and arrows, which they carry themselves. They leave their leaf-huts behind never to re-enter it again, and build fresh ones whenever and wherever they go. The Birhor women carrry all-purpose baskets of split bamboo which is almost inseparable from them, and in which either a child or fowl are carried, may be, *mahua* flowers during season. Their earthly belongings would cost less then even five annas per head. But this self-imposed poverty, this refusal to respond to the call of Mother Earth, to agriculture and the fruits thereof, the security and comforts of a fixed home, shelter from weather and hunger, are things for which they are not prepared to surrender their freedom. Freedom to roam the wilds, freedom from the nightmare of domination, freedom from the thralls of conventional domestic life are things which they seem to prize above all else. They suffer privations under present-day conditions and restrictions of the forest laws which sometimes compel them to go without food for a day or two. They often live on edible roots, fruits andflowers of the wild which the civilized world cannot even conceive of touching. Still they are healthy and happy in their own way.

Huts

In building their huts, they use about 12 pieces of 10 ft. long branches of any available tree, leaning against each other in the form of a cone and held together at the apex by forked branches, about six feet high from the ground level. Four or five lines of horizontal poles tied with *chop* or *mahulan* (*Bauhinia vahlii*) fibre hold these pieces together on to the ground. The leaves of any jungle tree which are tough and would not crumble away when dry, preferably *sakhua*, *putri*, *bar*, *mahulan*. etc., are used in thatching the slopes of the cone. Twigs of these trees with leaves are laid pretty thick top downwards from the base upwards to the apex. These

twigs are made fast to the horizontal pieces of the frame with *chop* fibres. The inside is thus well protected from high blasts of wind as well as from rain. Pieces of heavy wood and stone are placed round the base leaning against the leaf cover to keep the structure in place. There is only one door facing the east for ingress and egress. The doorway is about 3 ft. high and 1 ft. 6 in. at the base and has got a separate piece for closing up at night. The whole is finished with a trench along the inside perimeter about 9 in. wide and 3 to 4 in. deep. This is meant as a catch-water drain from the upper side of the slope and are let out at the sides forming more or less a semi-circular **U**. In the centre of this conical leaf-hut, there is a small fire-place dug into the ground for use during winter or as necessary. The people inside sleep on narrow mats of wild date palm leaves collected from the jungle and woven by themselves. The people sleep round the fire which makes the interior warm and comfortable.

Furniture

The usual articles found inside the huts are bows, arrows may be, a flute, a basket, roll of mats, rolls of skins of wild games, often that of the black-faced monkey, whose meat they do not hesitate to eat.

In front of the huts are ovens where their daily meal is cooked. A few earthen pots near about and either an aluminium bowl or a plate make up all the utensils of their daily use. Over the roof is flung their trapping net made from *chop* fibre.

Trapping

The Birhors trap only small game, specially hares, pea-fowl, jungle fowl, spur fowl, small deer, such as are usually found near the agricultural fields of villages. They trap the monkey (black faced) as a side industry and sell the skin to the people of the Ghasi caste for making drums known as *madals*. The usual price fetched by these untanned skins is two rupees. Pigs and even panthers are occasionally ensnared, but the Birhors generally avoid dangerous and big games for which they have no use. Some of the members in a party

carry axes, bows and arrows, and like they Mundas they always carry a bamboo stick while roaming in the jungle. The trapping net is their main weapon. They are good trackers and have a sharp eye for signs of games in the jungle.

Like all other aboriginals they are early risers. With the first streak in the east, long before sunrise, the Birhors are up, the get ready for the day, generally taking the remnants of the previous night's cooked rice soaked in water, after which they start on their daily venture in the jungles. Their women folk accompany them. The old and infirm who are no longer able to face the hardships, stay back in charge of the huts and look after the children. They keep dogs but they do not take them in hunting lest the games are driven too fast and become erratic, or the scared birds take to their wings.

Their trapping nets are generally of two varieties, used in different manners. All their nets are made of *chop* fibre, split and twisted into strings of adequate thickness. All through the winter, *chop* is collected from the young *mahulan* creepers which had begun their life the previous winter and are ½ to 1 in. in thickness. These young shoots are cut to 3, 6 or 8 ft. lengths and split into two or four at first, the bark is then stripped off the wood. Next the bark is doubled inwards so that the stiff outside coating breaks at the bend, the soft fibrous *chop* is then pulled off the stiff bark.

Now comes the process of seasoning the *chop*, for which it is embedded in soft clay under water in a water-hole or tank. Fortyeight hours are enough to season it and make it soft and pliable. *Chop* thus seasoned is split into thin strips as required, and these are twisted into ropes of desired thickness and length. Nets made of *chop* fibre thus seasoned keep well for a couple of years.

The all-purpose net is about four feet wide and may easily be stretched to a height of about six feet for trapping small deer or pigs. These are usually twenty to thirty feet long and have got two stout cords along either edge for the whole length of the net and some additional lengths too.

The Birhors possess an excellent knowledge about the ways and habits of different games, passed on to them by

their forefathers who had acquired it after long and close study ; and they make adequate use of this knowledge in tracking game or in setting their nets. For instance, they know that a small deer will seldom cross land broken by erosions and cut up into small ravines in preference to plain or sloping ground. They will run a good distance ahead of the beaters and avoid going into bushes and undergrowth or broken ground. Deer depend more on speed than on dodging. The jungle fowl and pea-fowl, particularly the latter, walk rather than take to their wings if driven at a walking pace. They seldom take to their wings unless it is to cross broken land or ravines. In flight they are particularly afraid of falcons and hawks ; for once they are within the sight of these birds of prey, they are pursued for hours at a time, and very often those birds succeed in the end in running down their quarry.

The pea-fowl and partridges have a habit of dodging a pursuer from bush to bush and the Birhors take advantage of this in driving them into the net which they lay across a small strip of forest through which the game are driven towards the main forest near by.

The long or general purpose net is adjusted to suit the height of the game. When a suitable level piece of ground in an opening amidst jungle and bushes is decided upon, two cords at either edge of the net are fastened to a peg or the trunk of a tree at ground level, the net is loosely run along the open land and the cord at the other end is similarly made fast, care being taken that there are bushes or bushy trees at either end of the net. Two thin sticks then slantingly prop up the net almost like the letter A, without the cross piece, holding up the upper edge of the net, the lower lying flat on the ground. Branches of jungle trees are laid on the ground trailing up to a distance of 50 feet or more on either end of the net very close to each other to form a barrier or to give a hedge-like appearance. When games are tracked to a piece of jungle, two persons are detailed to lay the net, while others surround the jungle and await a signal from them to start beating. These two, after lay-

ing the snare wait at either side from where they run when game is trapped. They keep a watch on the net. If the patch of jungle be big or difficult, with several runs-off, two or more nets have to be used. The Birhor hunters, men and women, surround the jungle and start beating about 40 or 50 ft. or more apart in a line, and they gradually close up as they come towards the net. As soon as the game in their flight across the open space touch the net, the sticks supporting the net fall off and the upper edge of the net falls and doubles upon the lower on the ground trapping the game within. The net holds the game within, even if it tries to run sideways in an attempt to escape, as the loops at the edge slide over the fixed cord. The watch at either end runs up and deals with the trapped animal or bird immediately. Usually a length of 400 yards or so of ground is taken and the whole operation lasts less than half an hour.

The second variety of net is the short net used for catching rabbits, birds, fast-moving animals like mongoose, badger, porcupine etc.

(To be continued)

A STUDY OF ARLENG (MIKIR) KINSHIP TERMINOLOGY

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THE general account of the Arlengs (Mikirs) of Assam was first published by E. Stack and Sir C. Lyall. The first author collected his information from Duar Baguri (Nowgong) as early as in 1882-83, while the second author edited, arranged, and supplemented Stack's report in 1908. Stack recorded important data on the social, political, cultural, and religious life of the Arlengs, but his data were not exhaustive. Lyall tried to improve Stack's report and in this noble endeavour he took additional notes on several more important topics including kinship. His data on kinship were, later on, added to the original report of Stack.[1] In this paper, the writer has mainly dealt with the characteristic features of the Arleng kinship terminology, limited however only to Diphu area of the United North Cachar and Mikir Hills District, Assam. In December 1952, the present author collected his data on kinship terms.

The main bulk of the Arleng population of Assam is found in North Cachar and Mikir Hills District of Assam. They are also widely scattered in the districts of Nowgong, Sibsagar, Khasi and Jaintia Hills, and Kamrup. The total population of the Arlengs is 1, 49, 797 (1941 Census) among whom males and females occur in the strength of 51·50% and 48·50% respectively.

Regarding Lyall's data on 'Mikir words for family relationship', the author points out that those 'words' are not adequate enough to study the full setting of the Arleng kinship terminology, and moreover there is no evidence to prove that Lyall's data were collected according to the genealogical method and as such some essential information have become obscure.

As far as the limitations of this paper are concerned, the writer intends to say that his information on Mikir words for family relationship were collected from Sri Keshab Timung (50) of Diphu, and it was not possible for the author to verify through routine methods of cross-checking how far his data concur with or differ from those used in other areas of the Mikir Hills. But since the author had collected all information strictly by the geneelagical method, his data are representative of the particular area of Diphu and its neighbouring places. Attempts were also made to furnish the exhaustive list of the set of terms used in addressing or speaking of relatives among the Arlengs.

It is needless to mention that the terms of relationship are not merely forms of speech used in addressing or referring to people, they stand for actual social relationship, i.e., there are certain obligations, privileges, rights, etc., and these terms of relationship are, on the other hand, inherently dependent upon the very superstructure of society. Due to this fact it is imperative to learn what is the functional contribution of the two very important components of the social organization, namely clan and family, towards the structural features of Arleng kinship terminology.

Stack and Lyall reported that the Arlengs were divided into three sections, Chintong, Ronghang, and Amri, and they also remarked, 'these names, however, do not indicate true tribal divisions, supposed to be derived from a common ancestor and united in blood...The real tribal exogamous divisions run through all three, and are called *kur*. Each of the three sections of the race has within it the same *kurs*, and the individuals belonging to these *kurs*, whether in Chintong, Ronghang, or Amri, observe the same rules of exogamy'. It has already been shown elsewhere[2] that the Arlengs recognize five principal *kurs*, under which the small groups or sub-*kurs* are ranged widely. These 'sub-groups are, of course, as parts of the larger groups, also exogamous'. Now it should clearly be understood that the formation of sub-*kurs* interferes in no way with the intrinsic relation that exists between the principal *kur* and its smaller units.

From field investigation the author has come to learn

that the Arlengs always give unquestionable importance to the principal *kurs* at the time of marriage negotiation. This importance was correctly understood by Stack who remarked, 'An individual belonging to *kur* Ingti must go outside that *kur* for his wife and similarly Terang, Lekthe, and Timung cannot marry wives drawn from within the *kur*'. He further reported that 'the children are counted to their father's *kur*, and cannot marry within it. They may, however, marry their first cousins on the mother's side, and indeed this appears to have been formerly the most usual match'. Among the Arlengs monogamy is the general rule. From the informant and also from the collected genealogies the author learnt that descent is patrilineal and marriage is patrilocal. In the social organization of the Arlengs each patrilineal-patrilocal group is exogamous.

A study and analysis of the Arleng kinship system clearly reveals certain remarkable traits which are, on the other hand, intrinsically woven into the matrix of terms used in addressing or speaking of relatives in Arleng society. Lyall had examined these traits to some extent and noted the the following facts : (i) 'The remarkable point about these names is that most of them are the same for both sexes, and that the sexes are distinguished only by words indicating gender where this is required. *Po* is the index for the males, *pi* that for the females'. (ii) 'Again, the same word appears to be used in different senses, *e.g.*, *ong* is maternal uncle, but *ong-so* (*so* is the syllable indicating a diminutive) is the wife's brother, the "little uncle" ; *osa* is both nephew (sister's son) and son-in law (pointing to the custom of intermarriage of first cousins on the mother's side). *Te* is sister, but *tepi* (*pi* indicates greatness) is brother's wife. Similarly, *kor* is sister (or brother), *korpi* is wife's sister, *korpo* sister's husband', and further, (iii) 'It will be observed that brothers and sisters, and brothers-in-law and sisters-in-law use different forms of address when speaking of their relationship *inter se*'.

The author likes to remark in addition to what has been said by Lyall that in his genealogical enquiry for the kinship terms he has discovered that among the

Arlengs the kinship terms are distinguished with regard to seniority and juniority in age between the siblings, (iv) but in general usage, qualifying terms like *ik, mu* and *so* are very frequently used to express distinct senses of seniority or otherwise in age. These words mean elder, younger and little, respectively, in the language of the Arlengs. It has also been gathered from the informant that (v) the female speaker always denotes her *own* brothers as *chekle* and sisters as *te* in contrast to the common usages of *kor* or *korte* (denoting both brother and sister in general). (vi) In addition to these, another term *ingjir-pi* is also in use to denote elder sister, but this usage is, according to the informant, allowed on the part of male speakers only. (vii) An interesting fact is revealed from the genealogy of the informant that among the Arlengs though *oso* and *osopi* are two very common words to denote a boy and a girl, yet they address the sons and daughters by the terms *sopo* and *sopi* respectively, and moreover the speaker adds the genetive prefix *ne* to *sopo* and *sopi* in order to emphasize his or her *own* sons and daughters. In Arleng language *ne* means 'my' or 'our'.

It is admitted here that the author in his short stay at Diphu could not go deep into the Arleng kinship system and thus it was not possible to record more data regarding the manifold features of that system. The author could also find no time to note the extension of the kinship terms to more distant relatives. He did not attempt to examine the basic pattern-behaviour of kins to one another, which, on the other hand, constitutes a significant aspect of the study of kinship. Further investigation in this line may yield interesting results in future. Simultaneously it also remains to explore how and to what extent socio-economical and psychological factors have acted upon the Arleng kinship system in building up the present structure and also how kinship terms are changing through contact with the Assamese-speaking peoples. The historical basis of Arleng kinship terminology also remains to be studied in future.

The list of kinship terms collected by the author is given below and along with that the 'words for family relationship'

noted by Lyall are cited for ready reference and comparison. The relevant data at once show that Lyall's terms are not comprehensive. In the author's data a detailed account of the kinship terms may be found, excepting a few relatives having step-relationships. This exception is due to the fact that instances of such relatives did not occur in the genealogies taken from Keshab Timung. Lyall recorded the kinship terms in a very generalized manner and, as such, on the basis of the sex-difference of the speaker, those terms were not noted systematically. In many cases, Lyall is not clear on the question of the seniority or juniority of the speaker in his own generation and the seniority or juniority of the relatives with regard to the informant's father or mother in their generation. In this connection it may be pointed out that the author could not find from the informant the usages of terms recorded by Lyall.

AUTHOR'S COLLECTION (1952)*		LYALL'S COLLECTION (1908)	
Relationship	*Kinship Term*	*Relationship*	*Kinship Term*
F	Po	F	Po
Z	Nc-sopo	Z	Sopo
D	Ne-sopi	D	Sopi
M	Pei	M	Pei, Pi
F.e.B	Pesar	F. B	Punu
F.y.B	Pnnu-so		
y.B.Z (m.s.)	Mu-asopo	B.Z	Kor-aso
e.B.Z (m.s.)	Ik-asopo	e.B.Z	Ik-aso
y.B.D (m.s.)	Mu-asopi		
e.B.D (m.s.)	Ik-asopi		
F.e.B.W	Ni	F.B.W	Ni
F.y.B.W	Ni-so		
H.y.B.Z	Osopo		
H.e.B.Z	Osopo		
H.y.B.D	Osopi		
H.e.B.D	Osopi		

*Abbreviations used in the list of kinship terms are as follows : F—Father ; M—Mother ; W—Wife ; H—Husband ; B—Brother ; S—Sister ; Z—Son ; D—Daughter ; e—elder ; y—younger ; o—older ; m. s.—man speaking ; w.s.—woman speaking.

Relationship	*Kinship Term*	*Relationship*	*Kinship Term*
F.e.S	Pinu-pi	F.S	Pinu
F.y.S	Pinu		
y.B.Z (w.s.)	Chekle-muso		
e.B.Z (w.s.)	Chekle-ikso		
y.B.D. (w.s.)	Chekle-muso		
e.B.D. (w.s.)	Chekle-ikso		
F.e.S.H	Pinu-arlopo		
F.y.S.H	Pinu-arlo-mupo		
W.y.B.Z	Ong-sopo		
W.e.B.Z	Ong-sopo		
W.y.B.D	Ong-sopi		
W.e.B.D	Ong-sopi		
M.e. B	Ong	M.B	Ong, Nihu
M.y.B	Nihu		
y.S.Z (m.s.)	Osa	S.Z	Osa
e.S.Z (m s.)	Osa	(Nephew in general)	Philipo
y.S.D (m.s.)	Philipi		
e.S.D (m.s.)	Philipi	(Niece in general)	Philipi
M.e.B.W.	Ong-pi		
M.y.B.W.	Nihu-pi		
H.y.S.Z	Armo-sopo		
H.e.S.Z	Armo-sopo		
H.y.S.D	Armo-sopi		
H.e.S.D	Armo.sopi		
M.e.S	Ik-pei		
M.y.S	Mu-pei		
y.S.Z (w.s.)	Osa	S.Z	Osa
e.S.Z (w.s.)	Osa		
y.S.D (w.s.)	Mu-sopi		
e.S.D (w.s.)	Te-sopi		
M.e.S.H	Ik-pei-arlo		
M.y.S.H	Mu-pei-arlo		
W.y.S.Z	Korpi-sopo		
W.e. S.Z	Korpi-sopo		
W.y.S.D	Korpi-sopi		
W.e.S.D	Rorpi-sopi		
e.B (m.s.)	Ik	e.B	Ik
e.B (w.s.)	Chekle	e.B	Chekle
y.B	Mu	y.B	Mu
e.S (m.s.)	Ingjirpi	e.S	Ingjirpi
e.S (w.s.)	Te	e.S	Te
y.S	Ne-ingjir	y.S	Mu
F.B.Z (o)	Ik-kor	(B in general)	Kor, Korte
F.B.Z (y)	Mu-korte		
F.B.D (o)	Ik.kor	(S in general)	Kor, Korte

Relationship	*Kinship Term*	*Relationship*	*Kinship Term*
F.B.D (y)	Mu.korte		
F.S.Z (y)	Pinu-so, Kor		
F.S.Z (y)	Pinu-so, Kor		
F.S.D (o)	Kor		
F.S.D (y)	Kor		
M.B.Z (o)	Nihu-sopo, Kor		
M.B.Z (y)	Nihu-sopo, Kor		
M.B.D (o)	Nihu-sopi, Kor		
M.B.D (y)	Nihu-sopi, Kor		
M.S.Z (o)	Kor		
M.S.Z (y)	Kor		
M S.D (o)	Korte		
M.S.D (y)	Korte		
W	Oi, Peso	W	Peso
H	Oi, Peng-an	H	Peng-an
W.e.B	Ong.so	Brother-in-law	Ong-so
W.y.B	Ong-so		
y.S.H (m.s.)	Korpo	S.H.	me, ingjir-arle and korpo
e. S.H. (m.s.)	Mei, me		
W.e.S	Korpi	W.S	Korpi
W.y.S	Korpi		
y.S.H (w.s.)	Korpo		
e.S.H (w.s.)	Tepo		
W.e.B.W	Ong-so-peso		
W.y.B.W	Ong-so-peso		
W.e.S.H	Soidu		
W. y. S. H.	Soidu		
H.e.B	Tepo-hai		
H.y.B	Korpo-hai		
y.B.W (m.s.)	Korpi		
e.B.W (m.s.)	Tepi	B.W	Tepi
H.e.S	Armo		
H.y.S	Armo		
y.B.W (w.s.)	Neng	B.W	Neng
e.B.W (w.s.)	Neng-pi		
H.e.B.W	Tepi		
H.y.B.W	Korpi		
H.e.S.H	Armo-Arlo		
H.y.S.H	Armo-Arlo		
F.F	Phu	F.F.	Phu
F.M	Phi	F.M	Phi
M.F	Suningdo		
M.M	Phisar-pi		
W.F	Hupo	W.F	Hupo, Onghai
W.M	Nipi	W.M	Nipi, Nihai

Relationship	*Kinship Term*	*Relationship*	*Kinship Term*
H F	Lok-hai	H.F	Lok-hai
H.M	Lok-hai		
Z.W	Mun-hai		
D.H	Osa	D.H	Osa
Z.Z	Supo	Z.Z	Supo
Z.D	Snpi	Z.D	Supi
D.Z	Supo		
D.D	Supi		

The last significant fact may be mentioned here, namely, that the Arlengs (Mikirs) of Kamrup District, at least, do not have the usages of the above-mentioned typical kinship terms which are, on the other hand, so definite and original in character throughout Diphu and its neighbouring areas of United North Cachar and Mikir Hills District. The author has tried on several occasions to substantiate the traditional survival and extension of the usages of these typical kinship terms among the plains-Mikirs, but as yet he has not been able to proceed with this line of research. As a matter of fact, the Mikirs of Kamrup have ordinarily adopted, to an astonishing extent, the kinship terms of the Assamese-speaking peoples. It is still an interesting problem to probe how and under what influences the plains-Mikirs have completely lost their own traditional system of addressing or speaking of relatives, which is, on the other hand, maintained strongly by the hill-Arlengs (Mikirs).

REFERENCES

1. Stack, Edward & Lyall, Charles : 1908, *The Mikirs*, pp. 20-1.
2. *Ibid.* pp. 16, 23-27, and Pakrasi, K : 'A Note on the *Kurs* and sub-*Kurs* of the Arlengs (Mikirs)', *Man in India*, Vol. 33, No. 4, 1953, pp. 307-14.

SOCIAL AND RELIGIOUS OFFICIALS OF THE LODHA CASTE

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Introduction

THE Lodhas live mostly within the jungle tracts of western Midnapur, West Bengal, though some of them have moved eastwards into the less forested regions. They were regarded as one of the criminal tribes of West Bengal until the Criminal Tribes Act was repealed. Their traditional occupation is the collection of fuel and other jungle produce while a small number among them have taken to agriculture. They are generally very poor.

Collection of Data

The facts about Lodha village organization were gathered mainly from the Lodhas living in the Police Stations of Kesiari, Narayangarh, Jhargram, Dantan and Nayagram. The writer stayed in Lodha villages at frequent intervals from 1952 to 1955. The village headmen, Matabbars or Mukhias, were consulted for collection of necessary data, besides which some personal observations were also made. The writer also helped in settling a number of long-standing disputes in the Lodha villages.

The neighbours of the Lodhas are the Santals, Bhumijes, Mundas, Koras, Mahatos, and other caste Hindus like Mahishyas, Sadgops, Rajus and Kayasthas. There are, however, some villages where the population is wholly Lodha, such as Sankaridanga in P. S. Dantan, Birkar under Narayangarh P. S., Khatgeria under Jamboni P. S. etc.

In villages where the Lodhas live scattered in small numbers, they are subject to the rule of the formal or informal council of the village. But in respect of social or ceremonial matters peculiar to their own caste, they are closely tied to the members of their own community living in neighbouring

villages. This is true in respect of funeral, marriage ceremonies or ceremonies connected with the worship of certain deities. For instance, in village Saldanga, P. S. Kesiari, only one Lodha family lives, while in Kasipur, P. S. Narayangarh, there are six families. The latter originally came from the village of Ma-Mansa and are therefore tied with that village in social matters.

The villages of Kukai and Sankaridanga may be looked upon as typical villages having councils of their own formed by prominent Lodhas. The councillors enjoy special prestige and privileges, which in many respects are equal to the honour and respect shown to a panchayat or Barua of the higher castes. They receive a present of one *gai*, i. e. ten betel nuts and ten betel leaves, as a mark of respect when they attend social ceremonies. It is they who give permission for marriages or other religious ceremonies. The caste council has also the right to impose a fine on or to boycott an offender.

The following officials are generally found in a typical Lodha village. All the male members of the village are members of the panchayat, which is presided over by the headman or Mukhia.

Office-bearers of the Panchayat

There are two important office-bearers of the Lodha caste panchayat. They are :

(i) Mukhia—the Headman of the village and

(ii) Dakua or Atgharia—the village messenger. Sometimes he is called the 'Kotal', as he uniformly belongs to the Kotal clan. He has also to perform certain ceremonies.

The Mukhia

All the male members of the Lodha village constitute the village panchayat. It sits when an aggrieved person lodges a complaint or when some one breaks the customary rules. When a complaint comes to the Mukhia, he consults some of the officials or prominent persons and asks the Dakua to convene a meeting at the village temple (Sitala Maro) or shrine or at his own house. The persons involved in the case are also summoned and the trial is held by the panchayat.

The Mukhia holds the highest position and is unquestioningly obeyed. But if he himself commits an offence, he may be dismissed by the panchayat. Bipin Mallik, aged about 55, of Kukai village under Kesiari P. S. was a Mukhia. One Debendra, a person of the same village, brought a divorced woman from Karangabari of Narayangarh and kept her as a concubine. Lakshmipriya, the wife of Debendra, brought a complaint against her husband before the panchayat. But the accused somehow secured the support of Bipin Mallik. The panchayat however found Debendra guilty, and Bipin was dismissed from his high post. In every marriage ceremony the Mukhia is presented with one *gai,* i. e. ten betel nuts with ten betel leaves, as a mark of honour and the marriage negotiations are settled in his presence as witness. Among the Lodhas, bride price is paid in cash on a brass plate to the bride's mother in the presence of the panchayat or the Mukhia. The latter also asks his Dakua to assemble the male members of the village for any religious festival. He raises subscriptions and acts as the treasurer. With the help of the Deheri, the village priest, and others he purchases articles and also keeps proper accounts of funds so raised and spent.

In the village of Kadamdiha in Nayagram P. S, one Makra Bhakta, aged 85, is the headman. He helped the Police in detecting a thief; the accused had absconded but was arrested subsequently through the assistance of the Mukhia. During the Puja Festival (Baram) he was seen collecting subscriptions and received annas eight as *Mukhia manya* (for his honour) on the occasion of a marriage ceremony of Dharma Bhakta's daughter, besides his usual dues of ten betel nuts and the same number of betel leaves. After the Samber (the chief conductor of the marriage ceremonies[1]) had tied the sacred thread round the united hands of the bride and bridegroom, he gave his consent to proceed with the marriage.

In the village of Ma-Mansa, P. S. Narayangarh, Bhuban Kotal (48) works as the headman of the village in place of Surendra Bhakta who had succeeded his father as Mukhia but was compelled to resign on account of incompetence.

[1] See Bhowmick, P. K., *Man in India*, Vol. 34, No. 2, p. 109.

In the village of Karangabari, P. S. Narayangarh, Paban Bhakta (75) being the headman, works in the same capacity with all the responsibilities which have to be discharged by a headman.

In the village of Dihipur in the same P. S., Sarat Nayek (45) works as the village headman. He has been elected to this office after it was vacated by Rashik Ahari who proved to be incompetent. In the village of Birkar under the same P. S., Tahasil Ahari (56) has been acting as the headman since the death of his father Biswanath Ahari.

Thus it is evident that the village council or panchayat may exercise its authority in removing a Mukhia if necessary. The Mukhias are generally well-off persons having a strong common sense in dealing with village affairs. Now almost all the Mukhias of Kadamdiha, P. S. Nayagram, Sankaridanga, P. S. Dantan, Ma-Mansa, Dihipur, Birkar, Daharpur, Karangabari under Narayangarh P. S., have been entrusted with the charge of several primary schools recently established in the above villages through the help of the writer.

Dakua or Atgharia

The Dakua or Atgharia is the messenger and calls the villagers for a sitting of the panchayat. He is also a person respected in the Lodha community. He has to perform some important functions in connection with marriage. In the village of Kukai, Gour Kotal the Dakua, built an earthen platform within the marriage booth. He also tied the ceremonial thread, locally called *bidhi,* on the right wrist of the bridegroom. He asked the consent of the Mukhia and other villagers, collectively called *Desh* or 'inhabitants of the country', for the marriage. Then he moved the bride to the left side of the bridegroom, who had already been seated by the Dakua on the earthen platform. Just after wedding, the Dakua dug a pit called *pukhur* or tank and the bride and bridegroom were made to stand in front of it, and he then bathed the couple by pouring water on them.

The Dakua or Atgharia has thus many functions to perform in connection with marriage. He also receive one *gai,* i. e

ten pieces of betel nut and ten betel leaves, as a mark of respect. He is presented in addition with one piece of new cloth dyed yellow and four to eight annas in cash when he acts as the chief conductor of the ceremony.

In the ceremony of the second marriage or *Punarbibaha*, the Dakua shows the flowers to the couple. He collects these flowers beforehand for the purpose.

In the village of Kadamdiha, Kushu Mallik is the Dakua. Before him Dwari Kotal was the Dakua. Dwari should have been succeeded by his son, but as the latter, named Nanda, was then in school, Kushu Mallik was elected in his place. In the village of Sankaridanga, P. S. Dantan, Pachu Singh is the Dakua. In the village of Ma-Mansa, P. S. Narayangarh, Maheswar Kotal was the Dakua, but he resigned on account of illness and his cousin Bankim Kotal was elected in his place. In the village of Karangabari, P. S. Narayangarh, Haru Nayek is the Dakua. In the village of Dihipur, P. S. Narayangarh, Puti Kotal was the Dakua, but he resigned on account of illness and Madhab Bhakta was elected in his place.

Thus it is clear that the post of the Dakua is not necessarily a hereditary one. It is however noteworthy that in the majority of cases the Dakuas belong to the Kotal clan.

Several Cases dealt with by a Caste Panchayat

Case No. 1 : Ram Ahari of Pathardahara, P. S. Nayagram, has got one brother-in-law in the same village named Rakhal Ahari, aged 30, who fell in love with a divorced woman named Sari (30) of the same village. Being afraid of punishment, he fled with the woman to Manoharpur, 16 miles away. But after a few years he came back accompanied by the woman and two children who had been born in the meanwhile. The panchayat levied a fine of Re. 1/4/- and a goat for feasting the community. He promised to pay the fine and a goat at the earliest opportunity.

Case No. 2 : Sriram Kotal of the same village, aged 42, eloped with Mukti the wife of Gutul belonging to another village. He lived with Mukti in the village of Pathardahara. The panchayat fined him Rs. 2/- which he did not pay. The

panchayat in its last sitting gave him a warning first and then boycotted him.

Case No. 3 : In the village of Ma-Mansa, P. S. Narayangarh, there was a quarrel between Bhuban Kotal and Nakphuri Bhakta. Bhuban suspected Nakphuri of having illicit relations with his wife. Nakphuri's wife had given Bhuban this information about her own husband. Later on, when the quarrel took place, Bhuban's wife however denied the fact. The parties at quarrel appealed to the village panchayat. The panchayat sat at the Maro or the shrine of the deity. The meeting was convened by the Dakua. First of all, Bhuban submitted a general statement of facts but Nakphuri totally denied them. The panchayat then asked him to take an oath. Nakphuri touched the mat spread on the floor on which the village elders sat and gave his statement on oath. Yet none believed him. Nakphuri was then fined Rs. 6/- which he duly paid to the Mukhia, and this money was utilized for the *Puja* festivals of the village.

Case No. 4 : In the same village, while one Guna Kotal was sitting one day in his courtyard engaged in some personal work, a woman named Kunti Dasi happened to be passing by. All on a sudden, Guna's wife shouted at her husband : 'Do you want to finish your work or be at it for the whole day ? I see you have become a devotee of the Goddess *Ma-Sitala*', pointing to Kunti in anger. Kunti Dasi heard the remark and lodged a complaint before the Mukhia, who at once directed his Dakua to call the panchayat on a fixed date at the shrine. The accused and the complainant were examined and Guna Kotal's wife begged pardon for her indiscreet remark. She was fined Re. 1/4/- which was paid immediately to the Mukhia.

Case No. 5 : One Suren Bhakta, the Mukhia of Ma-Mansa desired to marry the sister of Nitai of the same village. But Nitai did not like the proposal. There was an exchange of hot words and Nitai insulted the Mukhia. As a consequence of defying the Mukhia, he was summoned in a sitting of the panchayat and fined ten rupees. Nitai ran away to Kashipur, a village about a mile off and stayed there. He soon became a

favourite of the other castes of Kashipur because of his cheap labour and the services which he rendered to them, and so lived happily there. But he was faced with a rather intriguing situation in a short time. One Nitai Chandra, Raju by caste, had formed an illicit intrigue with Nitai Lodha's unmarried sister, which culminated in her pregnancy. It is reported that various measures were taken for causing abortion but without effect. In due course she gave birth to a male child. Nitai Chandra was fined Rs. 300/- by the caste panchayat of Kashipur. At the same time the Lodha caste council of the village of Ma-Mansa boycotted Nitai Lodha, which meant boycott by members of his caste in all the surrounding villages. He however continued to live with his sister and her child peacefully through the sympathy and co-operation of the villagers of Kashipur, not belonging to his own caste.

Religious Officials

There are several religious or ceremonial officials in the Lodha caste. They are as follows :

Deheri or village priest, Talia or Chharidar, assistant to the village priest, Hantakar or killer of sacrificial animals, Paramanik or village cook for ceremonies, Gunni, the medicine man, Byakra or spirit-possessed man who is able to foresee the future.

Deheri

Generally, each village has got one Deheri or priest, who worships the village gods and goddesses. He is looked upon with great respect by the community. In religious ceremonies he may be sometimes assisted by the Talia or Chharidar. Before the celebration of a worship, such as that of Sitala or Baram, he asks the Mukhia to collect funds, and prepares a list of articles needed on the occasion. He goes to market with the list and after purchasing them brings them to the shrine, locally known as Maro. If there is no permanent shrine the Deheri keeps the articles in his own custody. The worship of the deities is performed by the Deheri.

In the village of Jaralata under Jhargram P. S., Mathur (60) is the present Deheri. In the village of Mahischhar, P. S.

Jhargram, Suren is the Deheri having succeeded his father. In the village of Dihipur, P. S. Narayangarh, the Deheri named Ray Bhakta succeeded his father. In the village of Birkar, P. S. Narayangarh, the Deheri is Hriday Paramanik who has also succeeded his father.

In the village of Ma-Mansa, P. S. Narayangarh, Phadi is the Deheri. He succeeded his father Srimanta. Phadi was seen conducting a marriage ceremony. He tied the sacred thread round the united palms of the couple and got annas eight as his dues. The Dakua of the same village did not do this, though this is the official function of the Dakuas elsewhere. He was observed to propitiate Mother Earth, *Basumata*, and God of Righteousness, *Dharam Devata*, on that occasion.

Thus it is obvious that everywhere the post of Deheri is a hereditary one. It it not exclusively confined to any particular clan. Where a person has more sons than one, the fittest among them is appointed Deheri. Fitness for holding this office is determined by divination with oil.

Suren Mallik (40) of Mahischhar is the present Deheri of the village. He has got three brothers. He is the second. After the death of his father, the sons and the villagers assembled together and arrangements were made for divination by means of oil. The method is known as *telpanja*. Three *sal* (*Shorea robusta*) leaves were brought and placed one each before the brothers. Then mustard oil was dropped on each leaf in succession, each being then folded and stitched with a thorn. After saluting the deity Baram, the leaves were opened one by one. Each leaf was examined closely in the presence of the assembled villagers and the drop of oil was seen remaining in tact on the leaf given to Suren, the second brother, while the drops on the other leaves were spread over the surface. It was thus proved that the deity Baram was pleased with Suren, who thus succeeded his father.

The panchayat has no right to interfere with the appointment or dismissal of a Deheri. When a Deheri dies without an heir, one from outside is requested to accept the post as in the case of Sankaridanga.

In the village of Ma-Mansa, the shrine of Baram is situated in the jungle, the place being called *Chakatala*. A fair takes place there on the last day of the month of *Pous* (December—January). Year before last about fifty goats were sacrificed there. The Deheri of this particular village is highly respected, as the shrine is famous all over the surrounding country.

When there is a sacrifice, the Deheri gets the head of the animal. If the number of sacrifices is great he usually distributes the heads to villagers in order of social precedence.

Before a wedding ceremony, a present of ten betel nuts and ten betel leaves is made to the Deheri as in the case of the Mukhia and the Dakua. He is also given a cash present.

Besides the usual Deheri of each Lodha village, there is a special Deheri for the goddess Chandi. She resides in the jungle and no image is made of her. Small terracotta horses and elephants are seen scattered beneath a tree which is regarded as her shrine.

In every Lodha village there is a shrine locally called *Maro* or *Than*, which is temple of the goddess Sitala. But as the seat of Chandi is usually located in the jungle, her shrine is not found in every village.

In the village of Kukai, there is the shrine of Duasini Chandi under a date palm tree at some distance from the village. In the village of Kadamdiha, Chandi resides in a bush. Fowl and goats are sacrificed to her. The sacrifice is performed by the special Deheri who worships the goddess. Indra Nayek of Kukai was the Deheri of Chandi and after his death his brother Duari Nayek succeeded him. He now lives at Rangtia, a village two miles north of Kukai. There is no particular date for the worship of Chandi. Generally, the last day of *Chaitra* (March-April) is preferred for this purpose. The Deheri propitiates the deity, sacrifices fowl or goats and receives their heads. He also receives a few annas as his fee. The post of this Deheri is restricted to the particular family. This Deheri of Chandi receives no special consideration during wedding ceremonies, nor does he hold any important position in the ceremonial life of the Lodhas.

In the village of Kadamdiha, there is one Chandi known as Jaya Chandi. Kalu Paramanik is the Deheri of this deity. He has succeeded his father.

In village Pitalkanthi, P. S. Sankrail, there is also a famous Chandi named Jaya Chandi as in Kadamdiha, and a Lodha is employed as her Deheri. But as the people belonging to all the castes, including the upper ones, offer sacrifices here, the latter appointed a Brahmin in place of the Lodha Deheri. Such a thing had never been done before. Consequently the Lodhas felt aggrieved, but being helpless, they abandoned themselves to the mercy of the goddess. One night the dismissed Deheri heard in a dream that the goddess Jayâ Chandi would leave the place for the village of Chandanpur near Bardanga, and would accept worship from him alone. So the Deheri went there next morning and since that day the village Pitalkanthi began to lose its importance. Soon after, representatives of all communities, including the upper castes, brought the Deheri back and a compromise was effected, so that the Brahmin priest could work in co-operation with the Deheri in the worship of Jaya Chandi. He offered flowers while the Deheri performed the acts of sacrifice. It was also agreed that the proceeds of the ceremonies were to be equally divided. The Deheri however gets a fee of Re. 1/8/- for special sacrifices all for himself.

Talia or Chharidar

Next to the Deheri of the village, the Talia or Chharidar assists the Deheri in discharging religious services on festive occasions. His principal function is to make ready the offerings to the deity and arrange the earthen lamps which are lit with mustard oil, the incense bowl, and so on. He also makes preliminary arrangements for the sacrifices. He gets ready the Y-shaped wooden post called *Atgarh* into which the animal's neck is fixed during the sacrifice.

In the village of Ma-Mansa, Dasarathi Nayek works as the Talia. During worship, he gets nothing except a small quantity of meat, but when a personal sacrifice is offered the Talia gets eight annas for each goat and in case of a fowl annas two only.

In the village of Karangabari, Rajendra Bhakta is the Talia. In Birkar, Sishu Nayek is the Chharidar. He succeeded his father in the post.

In the village of Sankaridanga, Panchu Sing is the Talia. In Kukai, Jiten Mallik is the Talia. In the same village two goats were offered for sacrifice to the goddess Sitala by one Ram Digar, aged 20, who had vowed to offer them if he was cured of piles. The Talia was presented with one rupee and annas eight for each sacrificed animal. During village worships, he gets an extra share of meat. Previously, in the same village, Abinash Bhakta was the Talia. When he became too old, the villagers elected Jiten in his place.

The Talia does not get the *gai* or betel nuts or leaves in marriage ceremonies like the Deheri. Talias are recruited from any clan and remain at their posts as long as they are able. No *telpanja* (divination by means of oil) is done in their case to secure supernatural sanction as in the case of the Deheris.

Hantakar

Hantakar or the killer of sacrificial animals is another important person in the religious organization of the Lodhas. In communal festivals, the Hantakar gets an extra share of meat and in case of a personal offering he gets Re. 1/- as fee for each sacrifice. In the village of Ma-Mansa, Surendra Bhakta, aged 42, is the Hantakar. He succeeded his father. In the village of Kukai, Jajneswar Nayek is the Hantakar. He succeeded his cousin Nepal Nayek after the latter's death.

The Hantakar is generally recruited from one particular family. If a suitable person is not available in the family, another may be recruited in his place from another family or some neighbouring village.

Once at Ma-Mansa, there arose some misunderstanding between the Hantakar and villagers. The panchayat dismissed him from his post and appointed another man in his place. But the newly appointed person was found to be inefficient. He decapitated an animal in a particular case only after five strokes of the sword instead of the usual one. The villagers took this

event as the sign of unwillingness on the part of the goddess to change the Hantakar and Surendra was reappointed.

The Hantakar never receives any special honour as in the case of Mukhia or Deheri, or Atgharia or Dakua.

Paramanik or Village Cook for Ceremonies

There are one or more professional cooks of the same community in a village. They are invited to cook during ceremonies. In the village of Kukai, Ram Kotal (60), Gour Kotal (55) and Govardhan Nayek (48) are the Paramaniks. At the time of a wedding ceremony, one of them is generally asked to cook for the feast. On the occasion of the marriage of Beni, the daughter of the late Aghore Mallik, Ram Kotal cooked for the feast. All the Paramaniks are honoured with one *gai*, 10 betel nuts and 10 leaves, and in the above instance, Ram Kotal was paid Re. 1/- instead of the usual present of a piece of cloth.

The post of the Paramanik is not hereditary. The Mukhia appoints a new one in place of the old.

Gunni

In a Lodha village, there are one or more Gunnis or medicine-men who practise divination when a serious disease or epidemic breaks out. They are supposed to be able to drive away evil spirits (*Bhuts* and *Prets*) from the village by uttering *mantras* or incantations. They apply the same method in the case of snake-bite or while catching snakes. Gunnis are supposed to operate with the help of several supernatural heroes, locally called *Veers*, whom they worship with sacred formulas. They also apply some medicinal roots or herbs for the treatment of diseases caused by ghosts or evil spirits. The Gunni deals blows on the ears of the patient or gives him an amulet in order to drive away the evil spirits. He is also supposed to be able to save a man or an animal from the clutches of a witch. Thus he enjoys a position of importance among the Lodhas.

In the village of Kukai, Hari Bhakta, aged 48, is the Gunni and he is able to cure various diseases.

In the village of Kadamdiha, Dharam Bhakta, aged 46,

knows the art of magical treatment. He has command even over *Chirguni Bhut*, the dangerous ghost of a woman who died in child-birth. The services of the *Chirguni Bhut* may also be utilized by him in catching hold of other *bhuts* or ghosts dwelling in the locality. He is held in high respect by his own castemen as well as by others.

Occasionally Gunnis have a large number of apprentices or *chelas* who take lessons in magical practices from them every Tuesday or Saturday. The apprentices are on fast on these days. When a disciple becomes well versed in magical practices, he gains a certificate from his master. But until the latter has given him a special *mantra* for *mukh-khola*, i.e. mouth-opener, he is not entitled to start practice on his own account. On the termination of apprenticeship, the preceptor is presented with a piece of new cloth by each of the disciples.

The post is never hereditary, but it is through personal aptitude that a man becomes a Gunni.

Byakra or Spirit-possessed Man

There are several persons in a Lodha village who happen to be easily possessed by spirits. They lose consciousness at the time of the *changal* dance and shake ther heads from side to side with increasing vehemence until they fall into a trance. The monotonous sound produced by the *changal*, which is a sort of flat drum, perhaps helps in bringing about the trance. In such a condition, the man, who is known as a Byakra, can foretell the future or denote the causes of epidemics among men and animals when they break out in the village. He has to take a training from some preceptor for several months before he becomes a qualified practitioner.

In the village of Kukai, there are several Byakras who are attached to Hari Bhakta of the same village as apprentices. These Byakras get no special social consideration, but are respected by the villagers if they can foretell the future correctly.

COMPARISON BETWEEN MAYURBHANJ AND STELLENBOSCH LITHIC INDUSTRIES

By P. C. DUTTA

Calcutta

THE Lower Palaeolithic tools found in the detrital laterites of Mayurbhanj (India) are typologically very similar to the tools belonging to the Lower Palaeolithic Stellenbosch industry of South Africa. There are two main Palaeolithic sites in Mayurbhanj, namely, Kuliana and Kalabaria, from where the bulk of the tools under study were collected by the Department of Anthropology, University of Calcutta, in 1948-1949.

In Stellenbosch, the materials used are mainly fine-grained quartzite and lava. In Mayurbhanj, the material used is fine-grained quartzite only.

In both Mayurbhanj and Stellenbosch industries, the typical tool found is the peariform biface on core. The peariform type is covered boldly all over with medium to large flake-scars. The butt-end is generally heavy and blunt, but sometimes sharp and somewhat rounded. In the case of blunted butts, there often remains the unworked cortex. Secondary working is little and is observed on the margins. The working edge of the tool is sharp and even. A variant of this type in both Mayurbhanj and Stellenbosch industries also occurs, in which the pointed end, i.e. the working end, is not in line with the long axis of the tool but lies to the right or left of it.

As in Stellenbosch so in Mayurbhanj, there also occurs, though less frequently, an oval development known as the ovate type of hand-axe. This type is considerably flatter than the peariform one and is oval in shape. The ovate type is much more symmetrical than the peariform variety and shows better workmanship. Generally the edges of the ovate are sharp, being formed by the intersection of small flake-scars and the butt-end is beautifully rounded and sharp, having a semi-circular line of butt which is continuous with

the line of profile. There are however some specimens which have blunted butts, having a flat platform without any line of butt.

The S-twist is often found on both peariform and ovate hand-axes belonging to the Stellenbosch industry. This S-twist can be seen when the implement is held in profile. The line of the edge, i.e. the line of profile, instead of being more or less straight, forms an elongated S-curve. In Mayurbhanj, some specimens of peariform and ovate types of hand-axes exhibit this character. But in our Stellenbosch collection, there is no specimen having the S-twist. The line of profile in the majority of the tools from Mayurbhanj, however, is more or less straight or sinuous, only a few specimens having the S-twist.

Out of 130 hand-axes of Mayurbhanj in the University collection under study, 121 specimens are made on cores and 2 on pebbles. The remaining 7 specimens are made on large flakes. Out of 17 hand-axes in the Stellenbosch collection in the University Museum, 14 specimens are made on cores, two on flakes and one on pebble.

Another distinctive type of tool common to both Mayurbhanj and Stellenbosch is the cleaver. In both the industries, it is observed that the cleaver is made by a technique related to that of the biface. The working edge of the cleaver is transverse, i. e. it is at right angles to the length of the tool ; and it is formed by the intersection of two large flake-scars slightly inclined to each other. The working edge is straight or is slightly oblique. Out of the 6 Stellenbosch cleavers, 4 specimens show straight cutting edges. Out of 47 Mayurbhanj cleavers, 39 specimens show straight cutting edges and 8 show convex cutting edges. The butt-end of the cleaver is narrow, giving a V-shaped outline, or it is broad giving an U-shaped outline. Out of 47 specimens, 39 have a U-shaped butt and 8 have V-shaped butts. Out of 6 specimens in the Stellenbosch collection, 4 have a U-shaped butt and 2 have a V-shaped butt.

The techniques employed for making the biface and the cleaver in both Mayurbhanj and Stellenbosch are strikingly similar. The normal core biface techniques, namely

Abbevillian and Acheulean, are mainly employed in the manufacture of the tools. The Abbevillian technique is carried out by a simple percussion method, and consists of taking out short, wide, crude primary flakes. The flake-scars are deep and small in relation to their width. The prepared tool is long and is of proportional width and thickness. The edges are somewhat wavy. The cross-section is roughly elliptical. The Acheulean technique, which is a later stage in the evolution of the core-tool technique, is characterized largely by neater and more skilful flaking. The edges are regular, continuous and the tool becomes flat and neat. Both these two techniques are commonly observed in Mayurbhanj and Stellenbosch.

Apart from the normal techniques, the so-called Vaal or Pneil technique, which is characteristic of the Stellenbosch in South Africa, is also observed in Mayurbhanj. The mode of producing a tool by this technique is as follows. A lump of quartzite or any other suitable material is taken and an upper flat surface is formed by normal free flaking. From the under surface a large flake is also removed, which intersects on one side with the upper flat surface. Opposite to this intersected side, a surface is also produced which is then trimmed. Thus the cross-section of such a tool is a narrow scalene triangle. A further modification of this technique is found where both the upper and the lower surfaces are flake surfaces intersecting to form a sharp edge. Opposite this edge, there is a boldly trimmed surface as before. The cross-section so formed is again a triangle. Both these techniques are observed in Mayurbhanj. Another variant of the cleaver also occurs in Mayurbhanj as in South Africa in which the two flake surfaces do not intersect but are parallel, and both the lateral edges are trimmed back, so that the resulting cross-section is a parallelogram. Thus both the Mayurbhanj industry and the Stellenbosch industry show a close similarity in techniques of manufactures of the biface and the cleaver. It may be mentioned here that the Madras (Attirampakkam) industry also shows the Vaal technique in some of its hand-axes and cleavers Out of 176 specimens of biface and cleavers of Mayurbhanj examined, 44 specimens reveal the Vaal or related techniques.

MISCELLANEOUS NOTES

Role of Mental Attitude in Culture Contact*

When different cultures some in contact with one another, the end results are not always the same even when the general conditions appear to be more or less similar. It might of course be said as a general rule that when a competition takes place between a culture which is able to yield more food, better shelter, and in general a higher standard of material life than another for the same expenditure of energy per capita, the technologically advanced civilization has more chances of survival than the more backward one. The reason is simple; men wish to spend less energy than more if they can avoid it, for the satisfaction of the basic needs of life.

The forces of gravity act uniformly upon an apple falling from a tree as upon a fast-moving aeroplane. Yet the many factors which intervene modify the final results to a very large extent. In the same manner, the ultimate results of culture conflict may take the shape which has been outlined in the first paragraph. But, if we take a view of things limited in space and time, we observe that the actual course taken by culture change may show a large amount of variability. All rivers flow into the sea. But the courses which they actually take are of a widely varying character in consonance with the accidents which they meet on the way.

It is our purpose to examine how far mental states operate as one of the several factors which bring about the variation of change under culture contact situations.

Let us start with a few simple examples. The Andamanese comes into contact with European civilization. There are hills and jungles into which the Jarawas, among the Andamanese, can retire in order to carry on their old accustomed way of life. The new way perhaps makes too great a demand upon their capacity to change, and they try to avoid it if they can.

* Opening remarks at Symposium held in the Indian Science Congress 41st. Session, Hyderabad.

But the jungles into which they are pressed refuse to yield adequate sustenance according to the old methods of production. Moreover, new animals enter the islands in the wake of the conquerors. Iron is also introduced, and if the Jarawas cannot obtain it by trade, they steal it from the encampments of the colonists. And thus new sources of food and new elements of material culture gain admission into the culture of the Jarawas, and perhaps become responsible for fresh changes in their culture.

The Makah, who are one of the Nootka-speaking tribes of North America, have willy-nilly been made a part of modern American society. Their ways have changed considerably ; yet a recent study by Elizabeth Colson shows that they do not yet feel quite at home in their new culture. They exist as a self-conscious unit, and are hardly able to make any real contribution of their own to the culture which has recently replaced their old tribal one.

The point is that in these two cases, the general direction of change has been towards technological change and progress. But as the mental states or attitudes of the tribal groups towards the immigrant culture have not been quite equal, or the historical circumstances different, the results, as we see them now, are also different from one another. In culture contact studies, it should be our purpose not merely to indicate the general line of change, but also to indicate the exact nature of the changes, and to discover what factors actually operate in bringing about a variegation of results.

Let us now take up more complex cases than those examined above. When European civilization came into conflict with the ancient civilizations of China or India, the short-term results were much more complex than in the case of the Andamanese or the Makah. One obvious reason was that the number of people involved was very much larger, and the second one was that the attitudes prevailing among different sections of the population were also unequal. There was a parallel flow of several streams of change, with a further complexity arising out of the mutual interaction of these streams.

Some sections of the people of India were naturally attracted by the promise of a higher standard of life for large numbers of people which an acceptance of European civilization implied. Others again were repelled by the obvious selfishness of capitalistic civilization, its disregard of ties not founded upon economic association, its promotion of a form of exaggerated individualism, and so forth. This led to an overvaluation of certain aspects of ancient Indian social life, and an undervaluation of some parts of European life. Such divergent attitudes with their corresponding sympathies and antipathies naturally resulted in various types of selectiveness in respect of what came either from ancient India or from the modern West. The incorporation of culture elements was thus unequal within different groups of the population. In the subsequent competition for survival, there have grown up half-way houses of culture in which accommodation has been found for varying combinations of Eastern and Western culture elements.

One point which emerges out of the above consideration is that in anthropological studies of change, due regard should be paid to various group, and even individual, reactions, so that we may gain a more adequate understanding of the actual process of change in all its varied details.

A second point of value is that the conflicts which take place in the objective sphere are also reflected within the personality of those who participate in the process. There are tensions not only between several groups, but also within the individual human mind. A culture does not take a new turn without reference to what is happening within the soul of the participant. There may be a conflict of loyalities in the manner described above. We may even go a step further and say that the direction which culture takes in future is partly set by the resolution of conflicts as it takes place in the individual soul. This may not be the best way of putting it, but what is meant is that the germs of change arise out of the resolution of conflicts as it takes place in particular human beings. When such a resolution finds general support because of the promise which it holds in both the objective as well as the subjective spheres, such a man becomes a leader, and his

voice is heard even as the culture enters upon a new course in its history.

The suggestion is therefore made that in all case studies of culture contact, or even when culture changes without contact, a study of personal loyalties, of inner conflicts and their attempted resolutions, should form an integral part of the anthropologist's enquiry and observation. What may not yet reveal itself in the objective sphere may very well find expression in the sphere of personality studies, even when the corresponding results are yet unborn in the objective.

N. K. Bose

Tribal Welfare Conference

The following Resolutions were passed at the Third Tribal Welfare Conference held at Jagdalpur, District Bastar (Madhya Pradesh), on 13th, 14th and 15th March 1955.

Resolution No. 1 :—2nd Five Year Plan—Framing of Tribal Welfare Schemes :

The Conference resolves that the Central and State Governments be requested that while framing the schemes for the tribal welfare under the Second Five Year Plan, they should take the advice and seek co-operation of tribal M.L.A.'s, tribal M.P.'s and the non-official organisations working for the welfare of the tribals before finalising them.

Resolution No. 2 :—2nd Five Year Plan—Priority of Schemes :

The Conference is of opinion that while framing the schemes for the tribal welfare the foremost thing to be borne in mind is that the means for the physical development of the tribals and the necessary facilities thereof should be created so that the necessaries of life like pure water and healthy food etc. are easily made available to them.

Resolution No. 3 :—Economic, Social & Cultural Survey of Tribal Areas :

The Conference expresses its satisfaction that under the First Five Year Plan, Community Development Projects and National Extension Service Blocks are being opened in large numbers in tribal areas. But at the same time it is of opinion that unless a survey is taken of the physical, economic, social

and cultural backgrounds of the tribal areas, it is not possible to assess the exact results and achievements of those projects. Therefore, this Conference requests the Central and the State Governments that arrangements should be made immediately to conduct a survey in the tribal areas. Before a complete survey is made, it is necessary that, to start with, a sample survey of at least the important tribes of every State should be undertaken and completed within three years. In this work, necessary help should be sought from the Universities, Social Welfare Institutions and Bharat Sevak Samaj. The Central Government is requested to give financial help to the State Governments under Art. 275 of the Constitution for the purpose of conducting this survey.

Resolution No. 4 :—Local Contributions for Tribal Welfare Schemes

The Conference is of opinion that for the implementation of the Community Development Projects, National Extension Blocks and other development schemes, the policy of fixing the proportion of local contributions, as at present, should be changed in accordance with the financial conditions of the tribals of the areas concerned. As the tribals are very backward, the practical aspects of the schemes should be settled according to the local conditions.

Resolution No. 5 :—Trained Personnel for Tribal Welfare Work :

(a) The Conference is of opinion that arrangements should be made immediately to give training to the non-official workers and Government officials working in the tribal areas and that a Committee should be formed for this purpose. Shri L. M. Shrikanta, Vice-President of Bharatiya Adimjati Sevak Sangh is empowered to nominate the members of the Committee. This Committee should submit its report within three months to the Executive Committee of the Sangh. The Committee should present its report on the period of training, its syllabus and other matters relating to it.

(b) Non-official tribal welfare workers and Government officials should be given training by competent and recognised institutions.

(c) The Conference requests the Commissioner for Scheduled Castes and Scheduled Tribes, Govt. of India, that for non-official institutions or a State Government getting grant from the Central Government, the training of non-official workers and Government officials should be made compulsory. A maximum time limit should also be fixed for it.

Resolution No. 6 :—Medical Aid to Tribals :

In the tribal areas, medical help and facilities are almost negligible. Therefore, to encourage and attract medical men to serve in tribal areas, special allowances should be paid to them according to local conditions.

Wherever it is not possible to have a dispensary to give medical aid, mobile dispensaries should be started.

Resolution No. 7 :—Primary Education up to II Standard :

The Conference is of opinion that in those Scheduled Areas where tribal dialects are prevalent, primary textbooks in Nagari and Provincial script should be prepared for the purpose of imparting education up to II Standard to the tribal boys and girls in their own dialect. The Conference therefore requests the State Governments to take necessary steps in this direction.

Treatment of Iron Specimens

Iron objects usually rust when exposed to moisture. Generally a layer of hydrated ferric oxide is produced on the surface and the continuous process gradually corrodes the surface. All corroded iron specimens have large amounts of water associated with the rust. Rust is an incrustation and the removal of rust preserves the specimen from corrosion. The British Museum has adopted the treatment by electro-chemical process, and a full discussion of the treatment is to be found in *The Museum Journal*, Volume 46, Number 1, April 1946.

One hundred specimens were treated in the Anthropological Laboratory of the Calcutta University by a simpler process which is perhaps no less effective than the electro-chemical method. The reagent used in the treatment was Ammonia Forte (conc.) and Ammonium Persulphate (for two different types).

The treatment with Ammonia was done when the specimen was heavily rusted but not inlaid with any decoration in colour; for Ammonia removes colour of any kind.

The specimen to be treated was throughly brushed by means of a hard bristle brush. This removed rust partially. Later on the specimen was repeatedly washed thoroughly with concentrated Ammonia, and simultaneously brushing was carried on. Ammonia gradually dissolved the rust but tended to discolour the metal black by oxidation, which was checked by washing immediately with alcohol or methylated spirit. The specimen gradually regained its lusture and a coating of vaseline was applied as a preventive against further rusting.

In the Museum about 100 specimens were thus treated and it was found that a surface of a specimen 22·2 mm. long, 2 mm. broad contained 350 mgm. of rust. The weight of the specimens was taken before and after treatment, and the dissolved rust in Ammonia after evaporation was also weighed, this varying from 347 mgm. to 350 mgm. The specimens of that length before treatment weighed 90 to 95 gm. and became 89·653 gm. to 89·650 gm. after treatment.

The specimen of Jaipuri helmet which was heavily rusted had inlaid decoration in colour. It was not treated as above. The helmet was brushed with a hard tooth-brush. The reagent used was 5 to 10 gms. of Ammonium Persulphate in 20 c.c. of water. The solution was first evenly applied on the surface of the helmet repeatedly by a paint brush and scrubbed by the same brush with a circular motion. Gradually the rust began to dissolve and the natural colour of the helmet reappeared. There were inlaid decoration with gold and silver colour which were not damaged or affected at all, and the surface was then thoroughly washed with water and dried. To remove the last trace of water a coating of Xylene (conc.) was applied and finally a coating of vaseline in order to prevent it from further rusting. Linseed oil may be applied, but the duration of its preventive action is not more than two weeks.

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Bangiya Samaj Sevak Sangha

Under the auspices of the 'Bangiya Samaj Sevak Sangha', a two-days' conference was held on the 8th and 9th of April 1955 in the village of Sankaridanga under Dantan Police Station in Midnapore District, to discuss the problems of tribal and the semi-tribal people belonging to that district. Shri N.K. Bose was in the chair.

In his presidential address, Shri Bose said that volunteers must come forward and help the neglected tribes and castes in establishing small-scale cottage industries on a, more or less, co-operative basis. Shri Panchanan Bose, Secretary, Khadi Board, Dr. S S. Sarkar, Shri A. N. Banerjee, District Magistrate, Midnapore, Shri Ranjit Gupta, Deputy Commissioner of Police, Calcutta, also spoke on the occasion and offered various constructive suggestions. An exhibition of tribal arts and crafts was also opened by Shri Panchanan Bose. At the end of the Conference there was a demonstration of folk dances and folk songs by different tribal people inhabiting the region. Messages were received from Prof. K. P. Chattopadhyaya, Head of the Department of Anthropology, Calcutta University, Dr. M. N. Basu of the Department of Anthropology, Calcutta University and Sri A. Mitra, I. C. S., District Magistrate, Burdwan, wishing success to the Conference.

The Conference was organized and convened by Shri Probodh Kumar Bhowmick, Lecturer, Bangabasi College, who has been conducting anthropological research among the Lodhas of Midnapore. The proceedings and the tribal cultural display were recorded on a documentary film by Shri T. C. Bagchi of the Department of Anthropology, Calcutta University.

Six centres have been opened in different areas of the district to study the people and to help the latter in solving their own problems. The work has been taken up on an experimental basis at the present stage. It is hoped that with growing experience, long-term projects will be taken up in future.

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P. C. Bhowmick

BOOK REVIEWS

Human Problems in British Central Africa. *The Rhodes Livingstone Journal, Number Sixteen. manchester University Press 1954. Pp. 58. Price Five shillings.*

The present number of the Journal contains three articles and one book review. The first is a report of the official opening ceremony of the Rhodes Livingstone Institute Headquarters in Lusaka. It is worthy of note that the Director, Dr. J. Clyde Mitchell, said in course of his speech, 'It is fifteen years ago since the Institute was first founded. During these years the Institute has invested its funds in research rather than buildings, and the dividend from this investment has manifested itself in the reputation the Institute has established for itself in the scientific world. Now at last this reputation has earned its own increment in the form of these buildings' (p. 1).

Dr. Max Gluckman, former Director, contributes an article on succession and civil war among the Bemba. After a detailed analysis of the succession of chiefs and of the fate of related personages in the royal household, he has shown how there are two opposing tendencies working within the political system of the tribe in question. There are forces which tend to rend asunder the tribe into factions or independent principalities, while other forces operate as a preventive and preserve the integrity of the tribe thus subjected to strain and stress. A clear understanding of the changing scene, and of the various elements involved, is not only of academic interest, but, as Dr. Gluckman observes, has also great practical significance. When a foreign power like the British have to rule, it is necessary that 'the people's reactions have to be examined before a proper decision can be made in full knowledge of all relevant facts' (p. 25).

In the next article, Dr. Lewis Gann describes the end of the slave trade in British Central Africa between 1889 and 1912. We are presented with a detailed, and apparently, analysis of the forces which led to the final disappearance of the slave trade in Africa. These were partly humanitarian,

but largely commercial and political in nature ; and some of them owed their origin to technological advances as they came into being in the West. The plain and unvarnished statement of facts does credit to the author as much as to the Institute which has allowed it space in its Journal.

N. K. Bose

Juridical Techniques and the Judicial Process : A Study in African Customary Law. *By A. L. Epstein. The Rhodes Livingstone Papers, Number Twentythree. Manchester University Press. Pp. 37. Price Six shillings.*

We are presented in this paper, published by the Rhodes-Livingstone Institute, a penetrating analysis of the judicial process in Africa. Carefully drawn up case records reveal the fact that the fundamental rules which guide the judicial process are not so different from those current elsewhere in the world of civilization. Where face-to-face relations prevail, where personal knowledge of events can be brought to bear upon the case, the judicial process is likely to be different from what it is in a situation where these things are lacking. In a highly stratified society, the advantage of commonly held codes over which there is no dispute, is also likely to be absent. In the latter situation, judicial processes tend to become more abstract, more specialized, and a special class of people skilled in laws and their interpretation naturally comes into being. One major conclusion which the author arrives at is that even customary tribal laws do not tend to be as static as they appear to be ; they also are subject to change, even though the rate of change may be slow.

Under modern conditions in Africa, many of the tribal peoples have been swept into the whirlpool of industrial organization. This urbanization has deeply affected their social structure and brought into being many unfamiliar social problems. Local courts set up for the administration of justice try to go by the established tribal codes ; but they are often involved in contradictions, because the situations in which they have to dispense justice are often new, and beyond the range of a tribe's previous normal experience.

The author recommends that fuller and more intensive investigation of the judicial process should be undertaken by anthropologists in future.

N. K. Bose

Back of History : The Story of our own Origins. *By William Howells. Doubleday and Co., Inc. Garden City, New York. 1954. P. 384. Price 5 dollars.*

Professor Howells has now come forward with a very interesting and useful book. Instead of presenting a piecemeal picture of what happened in the past in different parts of the world, he has tried to string them together into a, more or less, consistent whole. Professor Gordon Childe's popular writings on the same subject have the merit of weaving into one brilliant pattern the most recent findings of prehistoric research. What Professor Howells has done in addition to covering part of the same ground is to include within it the recent findings of physical anthropology as well. Professor Howells has moreover tried to familiarize the reader with the theoretical view that culture, including social organization, magic, religion and myths, is an adaptive device which man has built up as a social animal for purposes of survival.

The book is divided into the following six sections consisting in all of twenty chapters : The Nature of Human Life, The Old Hunters—The First Step, The New Farmers—The Second Step, The New Societies, The New World, Cities and Bronze—The Third Step. Some of the more significant explanations of human behaviour are to be found in the first and the fourth sections.

As the book is meant for the general reader, some of the qualifying facts brought into light by recent anthropological research have naturally been left out so as not to cause any unnecessary disturbance. In spite of that, Professor Howells has succeeded in giving us a picture which is scientifically true. The book will not only prove instructive to the ordinary reader, but will also help students of anthropology in overcoming narrownesses which are produced by technical specialization.

N. K. Bose

Banglar Lok-Sahitya (Folk-lore of Bengal). *By Ashutosh Bhattacharyya. Pp. 509. Price Rs. 10. Published by Calcutta Book House, 1/1 College Square, Calcutta—12.*

This book in Bengali containing 509 pages, has a preface, an introductory chapter defining (according to the author) the characters of folk-lore in general, and seven other chapters: one each for (a) nursery rhymes, (b) songs, (c) ballads, (d) tales, (e) riddles, (f) proverbs and, lastly, (g) stories of the past. There is an epilogue dealing with folk tunes and also a word index.

The author says in the preface that he has 'in the given book critically examined the emotional content of folk-lores by means of reason and arguments born of my (i.e. his) intellect and have not poured out my emotions being subjected to passions' (p. 4). He has further claimed that 'this subject (i.e. folk-lore) has not yet been studied among us according to the methods of modern sociology and western criticism'. This book is the first attempt to remove that gap in Bengali literature.

In the first page the author reports that 'almost all the western critics are of opinion that it (i.e. folk-lore) is the collective creation of an integrated society and not the individual creation of a particular person'. After this he explains that an integrated (page 1, para 2) society is one 'which maintains its own characteristics through its traditional ways on the basis of mutual interdependence of its constituent human groups'. He however asserts (on p. 2, para 1) that a primitive society which maintains its distinctive traditions and culture but does not assimilate those of others cannot create any folk-lore, or even if it does that cannot be 'real folk-lore' (p. 3). He tries to clarify his points by comparing non-Christian Nagas and Manipuris who are, according to him, an 'ideal integrated society and as such can be the birth-place of folk culture and so of folk-lore' (p. 3).

This however is hard to believe. Any and every folk may and do have a folk culture and innumerable primitive peoples who had little occasion to assimilate any culture other than their own have excellent folk-lores. The Maories of New Zealand developed magnificent poetry although they led an

isolated existence till the late 18th century. Similarly, the Bashkers of the Eurasian steppe who led an isolated existence till early 19th century developed an excellent dramatic tradition which enchanted Leo Tolstoy. These people are all primitive and ought not to have created folk literature or culture according to the author's standards. Indeed, the idea that a folk must be 'ideally integrated before they can have a folk culture or folk-lore' is a notion which must first of all be got rid of, if we are to understand the scientific basis of culture. The author who is rightly enthusiastic about western science and criticism ought to have been aware that an emotionalism of this kind is itself the main enemy of objective analysis. Nor is there any difference between plain folk-lore and real folk-lore which he presumes there to be. Incidentally, the Manipuris can hardly be regarded as an integrated people as they had developed a political system on a definite class basis quite a few centuries ago.

From this, the author goes on to discuss the authorship of folk-lore in general. Who really creates it ? He had on the first page quietly asserted that most western critics agree that it is not individually created. A difficulty is however posed by Elwin who says that 'gifted individuals do arise in peasant communities...They compose them in the excitement of the dance and before they know what has happened they have become public treasures' (p. 6). The author solves the difficulty by suggesting that smaller songs are of individual origin whereas longer ballads are composed by the community as a whole. This may be ingenious but not convincing, for there is no positive proof to that effect.

After thus dealing with the question of authorship, Shri Bhattacharya then examines, among other things, the future of folk-lore. He admits that 'its future is obliterated' due to the incursion of printing (p. 14) and also because 'these (i.e., folk-lores) have such an emotional content and form that one cannot write (them) if one just chooses' (p. 23) ; and further that 'we have lost that faculty of mythical invention in the modern age' (p. 23). However, at other places, he asserts that 'though old it is new' (p. 18), that it 'still satisfies millions of

readers' and gives a highly coloured picture of a village gathering (p. 16). He thus seems to become repeatedly involved in contradictions, while the problem as to why the faculty of folk-lore has disappeared remains unanswered.

Having thus given a general background of folk-lores, he enters into the field of Bengali folk-lore proper. He first considers its sources, and at the very onset assumes that there is a polarity between Brahmanical and folk culture, without attempting to analyse the living inter-connection between the two. Then again he assumes that whatever goes in the name of Bengali culture has been derived either from Brahmanical or from aboriginal sources. A logical conclusion of this supposition is that the Bengalis never developed a culture of their own and their culture and poetry are at best a local version of materials developed by more original peoples. He is personally biased in favour of the aboriginals and the length to which this bias has carried him can be realized from two instances. He suggests (at p. 35) that the word *Kirtan* has been imported into Bengali 'possibly' from 'Oraon' sources, whereas the word is plainly Sanskritic in orgin. Further, after pointing out certain superficial similarities between aborginal love songs and Vaishnava lyrics—the banality of which he himself recognizes (p. 37)—he asserts : 'I want to point out the intense unity existing in the *technique of expressing emotions*'. Now, this, to say the least, is strange. Are we to understand that aboriginal poetry has the same metrical divisions, varying rhyme patterns, and assonance of Vaishnava lyrics ? It appears from the book that the author has not studied aboriginal poetry in the original. He seems to have gone through their English version. How can one then speak of the technical perfection or otherwise of aboriginal poetry ?

The sources of Bengali folklore being thus determined, the author examines its various categories. At the beginning he points out that, 'the society of Mymensing ballads was..... a matriarchal society,.....it is for this reason that instances of freedom of women, free love and laxity of marriage rules can be treated in it' (p. 38). But free love and laxity of marriage rules are no indication of a matriarchal society. A society

is termed matriarchal only when (1) descent is traced through the female ancestor and when (2) there is no trace of polygamy among men even though there may be polyandry. As these features are remarkably absent in the society of Mymensingh ballads it cannot be in any sense termed a matriarchal one.

In his classification of Bengali folk-lores he has made another challenging assumption. He suggests that anything that has any relation to religion in any form cannot be considered as a part of folk culture or folk-lore. For any religious association turns literature into something 'sectarian'. He dismisses the magnificent *Sahajia* poetry and music on the plea that 'it has no natural connection' (what is natural being left unexplained with the larger folk society) (p. 47). On the same ground, he dismisses songs of *Dehatattwa* from the realm of Bengali folk culture, for it has also 'no universal appeal—it is also mystical.'. Now why should folk-lores have no mystical element in them ? Is that a privilege of the educated ? In the same way, he has dismissed even the *Baul* music of Bengal from the rank of folk-lore (p. 50) ! And after subscribing to this extremist position, he proceeds to quote from Brakeley's *Religious Folk Music* (mark the name of the book !) that 'In primitive cultures particularly, songs of religious or magical character outnumber secular class of songs such as lullabies, work songs, game or drinking songs, etc. for not only must the gods be served and placated as a part of religious ritual, but there are hundreds of other beings whose effect on everyday life, on farming, hunting, marriage, burial, war, and travel for instance, must be dealt with.'

He accepts this point of view without any demur but overlooks the implications of the given idea on his own views expressed previously.

In other respects, this book is not much different from other books available in the market. There are certain unfortunate wrong quotation among proverbs, here and there. For instance, the proverb *Gangar paschim kul baranasi samatul* has been misquoted as *Bhagirathir ubhay kul baranasi samatul.* On the whole, the book presents a large mass of proverbs and folk-lore in general. As such, it will prove useful

to the general reader, but the sociological or anthropological discussions are likely to leave him in a rather confused frame of mind.

The get up the book is excellent.

Asit Kumar

Bangla Mangal Kavyer Itihas. *By Asutosh Bhattacharyya. Pp. 762 (with an index) plus 36 pages of preface and introduction. Price Rs. 10. Published by the Calcutta Book House.*

This is an extensive survey of a branch of Bengali poetry which is recognized more as a source of social history than as an exposition of poetry. The author s survey is matter of fact, but there remains certain difficulties in regard to his attitude. He assumes a polarity between indigenous and Brahmanical cultures without examining the constituent elements of the last-named variety. Furthermore, he has been too liberal with the word 'perhaps' and introduces numerous new ideas with that term in his discussion. Though the studies of the author have been extensive, he has somehow failed to synthesise the conflicting opinions of various authors whose views he has discussed.

Asit Kumar

The Racial Affinities of the Baganda and other Bantu Tribes of British East Africa. *By Lawrence Oschinsky, Cambridge, 1954. Pp. viii + 179. Price 25 shillings.*

The author has taken anthropometric measurements of (1) 1056 individuals belonging to 19 Bantu tribes, (2) 137 individuals belonging to the Nilotic and Nilo-Hamitic tribes, and (3) 50 Arabs from Zanzibar. The largest sample of 425 persons is from the Bantu tribe, Baganda, while the other larger samples comprise 114 persons from the Swahili, 110 from the Batutsi, 106 from the Bahutu, 71 from the Batoro and 50 from the Bahiru. The rest have sample sizes below 50. For (2) the largest sample is 76 from the Luo tribe.

The author has taken 18 measurements of different parts of the body and has calculated 25 indices from them. Besides these he has taken 18 measurements on the head and

worked out another series of 22 indices. All the measurements were taken according to the technique prescribed by Martin.

The Bantus of Uganda are agricultural in economy, their chief crop being plantain, which is usually taken unripe. The Nilotic and Hamitic tribes are pastoral and subsist largely on milk and meat diet. The Bantus of Kenya have a richer diet of maize, milk and meat than their racial confreres of Uganda. This richer diet has not led to any increase in stature ; neither is any difference evident among people like the Masai of Kenya who have given up pastoralism for agriculture.

The author has employed the *t* test of significance in order to assess racial affinities, and in Chapter II he has discussed this statistics in detail. He has actually worked out the difference between the values of *T* (for large samples) and *t* (for small samples) on the same series and shown that in one case the value of *t* increases more than *T* while in another case it decreases. The author has, however, used the *T* test throughout, called by him *t*, with the value of 2 taken as a test of significance. It is not known why he has preferred to call it a *modified* test, since it has been in use for a long time as a test of significance of the difference between the mean values of large samples. The author has compared his measurements with others available on these peoples. In this task of comparison the author has found discrepancies between his data and those due to Seligman, Lebzelter and Czekanowski and these, he thinks, have been due to defects in taking measurements by the latter authorities. Such a criticism does not however seem to be justified. The discrepancy in measuring nasal breadth has been ascribed to 'pressing the callipers too tightly or too loosely' (p. 80). It is too puerile an allegation to be made against any anthropologist, not to speak of the above three well-known authorities. On pp. 86 and 90 the author has raised the question about the location of the nasion—a difficult point indeed ! On p. 113 again, the author has stated that Czekanowski located the nasion rather low while measuring morphological face height and high when taking nose height. It is not known how the author has arrived at this observation,

since this is not always found when the measurements are compared. For example, in the Batutsi sample, there are two samples from Czekanowski, one comprising 88 individuals and the other 34, while the author's sample is of 110 persons. A comparison of the measurements stands as follows :

	Czekanowski		Oschinsky
	(88)	(34)	(110)
Nasal height	56·54	52·00	51·89
Face height	119·82	115·54	118·39

If Czekanowski has a tendency to locate the nasion wrongly, he has done so both in the case of the face and the nose. There are many agreements in the measurements of these characters between the author and Czekanowski in the case of a number of other tribes, and they do not support the author's generalized remark about Czekanowski.

On p. 9, the author has claimed 'racial hybridism' to be one of the three aspects of his study, and with this end in view he has included all available anthropometric data on the mulattos. He realizes the importance of nasal index as an 'extremely reliable instrument for determination of the degree of hybridisation', but appears to have ignored this point in interpreting the discrepancies between his measurements and those of the other authorities. The earlier measurements were taken before 1914 and the present author's in 1950-51. The world has seen two wars during this period of nearly 40 years and there has been ample opportunity for hybridization. And sicklaemia, to which a special chapter is devoted, is found to vary between 2 and 19% among the Bantu tribes. The author's observation regarding the correspondence between nasal index and sicklaemia—low nasal index and low sicklaemia—, requires more substantiation, since the Bahima Hamites and the Bahiru Bantus show the same 2% of sicklaemia though the nasal indices are 74·71 and 88·00 respectively.

Lastly, a word on his new classification by ending each of the original linguistic or racial names by the suffix 'morph.' He has coined seven names : Bantomorph for Bantus, Hamitomorph for Hamites, Nilohamitomorph for Nilotic Hamites, Nilotomorph for Nilotics, Congomorph for those living in

Congo (pygmy forest Negroes), Bambutomorph for the Bambuti pygmies and Mulattomorph for mulattos. For those living in Sudan he has used the term Sudanomorph. These terms possibly require an original assumption that all those living in Sudan or in Congo are bound up by some common genetic traits which is, however, rarely the case. Possibly the author is inclined towards Sheldonian classification. If that is so, than why not follow Sheldon wholly ?

In conclusion the author has not been able to agree with the earlier authorities, who were of opinion that the Baganda and other Bantu tribes represent a mixture between Congo Negroes and Hamites like the Bahima and Batutsi. He finds the Bagandas differing from the Batutsi in almost all absolute and relative dimensions of the body while the only marked similarity lies in their dolichocephaly and lip thickness. He calls the Bantu an autochthonous intermediate racial type whose original racial components it 'is difficult to solve since most of its racial characters do not resemble any of those of the other racial groups mentioned'.

S. S. Sarkar

The Evolution of Diplomatic Method. Chichele Lectures delivered at the University of Oxford in November 1953. *By Harold Nicolson. Constable and Co. Ltd., London. 1954. Pp. vi+93.*

Diplomacy has acquired a connotation which is foul and evil. It came about, particularly, when just before the second world war, myriads of envoys of the all-pervading Press began to poke their noses into the affairs of sovereign states, and ferreted out things like secret clauses of treaties or of pledges for plundering, and so on. The real character of the Foreign Office where such dark deeds were perpetrated under cover of maintaining a fantastic balance of power, which has acted as an evil dream ever since the Renaissance, was fully brought out before the eyes of the common man.

The State was a defence organization to the diplomatists, and in trying to maintain its powers and prerogatives in a war system, they looked to passing interests only, and diplomacy became in reality only an extended form of preliminary

skirmish. It was foul, fradulent and stank to a degree that called for drastic purging. The overwhelming enthusiasm of the common man for diplomacy by conference clearly indicates that such a change is urgently needed even though such conferences entail 'much publicity, many rumours, and wide speculation' and 'tempt the politicians to achieve quick, spectacular and often fictitious results' and 'to promote rather than allay suspicion and to create those very states of uncertainty which it is the purpose of good diplomatic method to prevent'. Mark the word 'good'! As if the art of negotiation or diplomacy can by free from the influences that make the negotiation necessary. So long as the other aspects of the State are not brought into focus, so long as the war-system lasts, diplomatic method, i. e. the actual machinery for negotiation, cannot work out its ethical character and the professional diplomatist 'denationalized, internationalized, and therefore dehydrated, an elegant empty husk' has to remain a suspect.

But the author, though a diplomatist by profession, is neither dehydrated nor an elegant husk. Indeed his keen and penetrating intellect has made the rusty records of diplomatic crimes yield principles as succulent as melons on a sandy shore. A rare wisdom pervades the pithy survey of the annals of diplomatic method from Homeric times to the present United Nations period. Everywhere we find the sure touch of a master unveiling the principles of diplomacy, principles which have the luminosity of truth.

We heartily recommend these lectures to all anthropologists engaged in the study of the social institutions of mankind ; for they will find here the story of the growth of the institution of diplomacy in the West depicted in all its richness even within the small compass of ninety-three pages.

Benoy Dutta

Science and Civilisation in China. Vol. I. *By Joseph Needham F.R.S. Cambridge University Press, 1954. Pp. xxxviii+318, including bibliography and index. Price 52 sh. 6d. net.*

This is the first volume of the magnificent seven volume work on science and civilization in China planned by

Dr. Needham. While there are good books on the development of science in Greece and Rome and in the Middle East, contributions to the Far East had not received up to now their due importance. Needham deals with the development of science, scientific thought and technology in China in the various historical periods. Thus the gap in the history of science in general is sought to be filled up to some extent.

This stupendous work has been well planned and covers all possible aspects of science and technology. The introductory part comprised by Volume I consists of the geographical background, the history of China, special characteristics of the Chinese language and the opportunities of culture contact from and to East Asia which facilitated the transmission of scientific ideas and technological processes. The second part is taken up by the origin and development of scientific thought in Chinese philosophy. The third part deals with pure and applied sciences, such as Mathematics, Astronomy, Meteorology, Geography, Cartography, Geology, Seismology and Mineralogy. Part IV deals with Physics, Engineering and Technology. Part V is devoted to Chemistry and Industrial Chemistry. Part VI deals with Biology, Agriculture and Medicine. Part VII covers the social background of the development of science and civilization. Social and economic factors, as well as philosophical and ideological factors; have also been dealt with in this volume. As the author himself says, the work is addressed 'not to Sinologists, nor to the widest circle of general public, but to all educated people, whether themselves scientists or not, who are interested in the history of science, scientific thought and technology in relation to the general history of civilisation and specially the comparative development of Asia and Europe' (p. 8).

Needham's work will serve as a corrective against the view that the West alone has been responsible for the progress of mankind through science and technology. It will also go a long way towards proving that no people or group of peoples has had a monopoly in contributing to the development of science.

The book is well produced and contains some beautiful plates, maps and pictures.

Sachchidananda

For a Science of Social Man : Convergences in Anthropology, Psychology and Sociology. *Edited by John Gillin. The Macmillan Company, New York. 1954.*

This important study edited by John Gillin comprises eight essays from the pen of Murdoch, Brewster Smith, Talcott Parsons, Howard Becker, Irving Hallowel and Theodore Newcomb. It is an effort to explore the possibilities of interdisciplinary integration in human or man-sciences. Each expert surveys his own field and its relation with the other two sciences. The contributors hold that a science of social man is not only possible, but that no effort should be spared in perfecting it. A better communication of the existing theory and knowledge across disciplinary lines will not only pave the way for a more comprehensive approach to human problems, but will also estimulate the scope and predictive power of behaviour science including all the disciplines involved.

As a first step in this direction the authors have put their fingers on certain mutual problems of the three sister disciplines of anthropology, psychology and sociology. They have come to the conclusion that even though these problems are capable of being tackled separately from different angles, joint work on them might, for certain purposes, prove to be more fruitful. It might be pointed out that the co-operation between the social sciences or between social scientists is already being encouraged by founding departments of social sciences or human relations at Universities, or by inviting people of the three sciences to sit together and discuss a common set of problems. After some time, other social sciences besides these may join this group so as to make the field of collaboration still wider.

The word 'social man' in the title is justified by the fact that the collaboration of the three sister disciplines can be only in the sphere where man acts as a social animal and not as a self-contained human organism. It is his position in the social system, his place in the social milieu and his behavioural pattern in relation to others like him that brings the social sciences together.

The goal of this co-operative work is twofold, (a) increasing

understanding of men and their works, and (b) application of the generalized findings to the solution of practical problems. In both these undertakings, a theory of a certain degree of coherence and unity is not only of great value but indispensable for yielding satisfactory results. A rational organization of theory makes possible the mobilization of knowledge accumulated by various scientists for solving new problems.

The purpose of this book is not to set up a theoretical framework for the science of social man. All that has been atttempted is to indicate how from co-operative work on certain common problems, a number of theoretical concepts have arisen that are the common property of anthropology, psychology and sociology. There are at least some portions of the scientific landscape where gates are opening and fences seem to be coming down. 'Human organism', 'human behaviour', types of 'interaction', theory of 'groups', the concept of 'culture', 'social structure', 'personality' problems of 'symbolization' and 'intercommunication' are some such fields.

This effort is altogether commendable as it seeks to end the intellectual chaos in the social sciences as well as bids fair to promote interdisciplinary co-operation.

Sachchidananda

The Gift. *By Marvel Mauss : Translated by Ian Cunnison, with an Introduction by E. E. Evans-Fritchard. Cohen & West, Ltd. London, 1954. Pp. 130.*

The author collects in the first two chapters authentic materials on gift-exchange economy in Polynesia, Melanesia and north-western America. In the first chapter, materials on presentation, gift and 'Potlatch' from the Samoa and the Maoria, and in the second chapter, similar facts on principles, motives and intensions of gift-exchange have been recorded from the Melanesian tribes as well as from the north-western American tribes. And from a comparison of these four important groups of peoples, Mauss comes to the conclusion that in all groups there exist archaic forms of exchange of gifts, circulation of objects, persons and rights etc. He discusses Malinowski's

investigation on the Kula system of the Trobriand Islanders and remarks that 'what they exchange is not exclusively goods and wealth, real and personal property, and things of economic value. They exchange rather courtesies, entertainments, ritual, military assistance, women, children, dances, feasts and fairs in which the market is but one element and circulation of wealth but one part of a wide and enduring contract.'

In the third chapter, Mauss collects relevent information on gift-economy from the early literature of ancient Rome, classical Indian and German societies. Mauss comes to the conclusion that they had a clearly developed system of exchange with gifts, voluntarily and obligatorily given, received and repaid though they were not so typical in all cases.

In the last chapter, the author extends his observation to the present day. He examines the form and function of gift-exchange economy prevalent to-day in various spheres, and stresses upon the need of encouraging such an institution.

The present book should be considered as a valuable contribution to anthropological literature. Its usefulness is further increased by relevant notes appearing at the end of each chapter.

L. P. Vidyarthi

A History of the Beja Tribes of the Sudan. *By A. Paul, M. A. Cambridge University Press, London. 1954. Pp. 163.*

The historical study of primitive tribes is being neglected now-a-days under the influence of functionlism in social anthropology. But this is no reason why we should make a virtue of necessity and coerce history out of such studies where it can be most useful. In this light, Mr. A. Paul deserves our appreciation for making an attempt to trace the history of the Beja tribe which now inhabits the mountains and deserts of eastern Sudan.

In the introduction, Mr. Paul deals with methodological problems and handicaps in a research of this type and is prepared, like Barth, to contend against the strong prejudices of numerous critics who are accustomed to refuse belief to whatever is incapable of bearing the strictest enquiry. But he holds the view that 'in order to understand the Beja properly, we must delve into history', which furnishes us with the clue to the under-

standing and explanation of the cultural complexes of to-day, which have essentially grown out of the past.

Out of the eleven chapters, Mr. Paul devotes nine chapters to tracing the historical settings of the Beja in different periods. Mr. Paul covers a wide range of time in Beja history and collects rich materials to show their origin and development from one period to another. The third chapter deals with the origin of the Beja tribe, while the rest presents materials on the development of the tribe within the historical period. In the discussion which follows on the question of origin, the author considers the Beja to be a Hamito-Semitic people speaking various languages.

The book ends with a chapter on recent history (1900-1950), but the reader feels keenly the absence of a separate chapter devoted to the conclusions arrived at by the author on various cultural questions, on the basis of his historical study. We are given one such observation in the Introduction, which is worth quotation. The author says, 'Throughout their long history, they have remained supreme individualists, unamenable to authority, living widely dispersed and solitarily among their deserts and mountain glens, impervious to external contacts, prevailing as though by their very aloofness and lack of curiosity, their freedom, their virility and their individuality'.

L. P. Vidyarthi

Among the Gonds of Adilabad. *By Setumadhava Rao Pagdi, M.A., I. A. S. Pp.* 8+122. *Price Rs. 6/8/- only. Popular Book Depot, Bombay.*

The book is full of legendary tales collected from different sources regarding the origin of the Gonds of Adilabad. Throughout the book the author has laid more stress on the past and present history of the district rather than on that of the Gonds as such. The concluding chapter gives us an account of the Government's efforts towards rehabilitation and resettlement of the uprooted aboriginal people. A map of the district would have been a welcome addition. The printing and binding are satisfactory.

T. C. Bagchi

4,000 Years under the Sea. *By Philppe Diole : Trans. by Gerard Hopkins. Sidgwick & Jackson, Ltd. London, 1954. Pp. 320. Illustrated. Price not mentioned.*

The book should have been more aptly named '4,000 Years under the Mediterranean', as it gives a pictorial (both in words and in photographs) account of explorations carried out off some ancient ports of the Mediterranean. Undersea archaeology is a comparatively new subject yet lacking the chronological order of archaeology on land. But aided by such disciplines as oceanography, submarine geology and

allied sciences, it can supplement the archaeological record on land and also throw new light on the history of civilizations.

The book describes the results of salvaging sunken cargo vessels and their booty off a number of Mediterranean ports, of which among others, mention may be made of the operations carried out off Mahdia, Antheor and Albenga. Mahdia, a Tunisian port, brought to light a cargo vessel containing bronze statuettes, ornamented furniture, marble works, anchors, pottery (including amphorae) and inscribed Greek slabs indicating that Athens was the port of registration. But the ship's destination or its date of disaster is unknown. Off Antheor, a French port, a large number of amphorae and corks were salvaged from a ship said to have been foundered on the wine-route in the 1st century B. C. The Italian coast off Albenga yielded an impressive booty of intact amphorae. The three wrecks, according to the author, are contemporary, i.e. between 100 and 50 B. C. Valuable relics of domestic effects, marble blocks, pottery, statuettes and other objects have also been salvaged at certain other points on the long coastline of the Mediterranean, such as off Fos-sur-mer, Narbonne, Saint-Tropez and Cherchel.

These undersea explorations yield much useful informations about ancient navigation and trade in the Mediterranean as well as about the manifold historical links between the West and the East. According to the author, the maritime unity of the Mediterranean, which was a Roman lake, might have continued to our own day but for the 'Arab horsemen' who shattered it, and Roman life and culture disappeared. Historically however this is not entirely borne out by facts. The author speaks of the Mediterranean as extending as far as India, and of the Dravidian Tamils who were great divers and mariners as a liaison people between the East and West. This thesis however is not new, as archaeological excavations in south India have revealed certain prehistoric links between the former and Mediterranean Europe.

The book is no doubt highly interesting and informative and the author has spared no pains to give the reader a more or less complete picture of the sunken sites and of the ancient mariners. But the book suffers from a major defect. At places it is highly speculative and reflective. The narrations in between suffer from these philosopical interludes, which often take the reader away from the main topic. The science of archaeology whether under the sea or on land should be objective and should be free from rhetoric and poetry. The author however has succeeded in bringing home to the reader the importance of undersea achaeology. The book contains some beautiful photographs and at the end there are five useful appendices.

D. Sen