

THE FINGERPRINTS OF THE SAYYADS OF LUCKNOW UTTAR PRADESH

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SUMMARY

A study of the fingerprints of the Sayyads of Lucknow district, Uttar Pradesh, has given the following frequencies: whorls 40.87%, loops 56.33% and arches 2.80%. The mean pattern intensity is 13.81 ± 0.27 , showing no significant differences with neither the upper nor the lower-caste Hindus of U.P., excepting the Purabia Chamar.

As for the ridge count, the Sayyads show a mean of 151.52 ± 3.62 , which is highest as compared to Hindu populations of U.P. However, no significant differences are apparent between the Sayyads and Brahmins, Rajputs, and Ahirs. The Sayyads are found to differ significantly from the earlier Muslim sample reported by Singh (1961).

A comparison of the Sayyads with their coreligionists residing in the distant lands from India fails to reveal consistent dermatoglyphic affinities.

The Sayyads are one of the main divisions of Muslims. They occupy top position in social ranks and command respect from all Muslims. Sayyads call themselves the descendants of famous martyrs Hasan and Husain, the sons of Ali and Fatima, the daughter of the Prophet. Many of the Sayyads came with early Muslim invaders and asserted some priestly pretensions, which were in many cases rewarded gifts of revenue-free lands along with other gifts. Their descendants still enjoy the same royalty (Ansari 1960).

The Sayyads are mostly Shias and have further divisions like Abidi, Askari, Baqari, Hasani and Husaini, etc., who intermarry among themselves. Thus, at present, they represent an endogamous group of Muslims.

The purpose of the present study is, mainly, to record the dermatoglyphic characters of the Sayyads of Lucknow, U.P. The study, which is the first one on this particular group of Muslims, also attempts at illustrating the dermatoglyphic affinities of the Sayyads.

MATERIAL AND METHODS

The material consists of fingerprints of 150 male Sayyads from old parts of Lucknow where the population has its main pockets. Maximum care was taken not to include closely related individuals in the sample.

The method used here in obtaining the prints of fingerballs and the analysis of finger patterns follows the usual scheme suggested by Cummins and Midlo (1961). Lateral pocket

loops, twin loops and central pockets were counted as whorls. Radial and ulnar loops were counted both separately and jointly. Besides plain and tented arches, other patterns which simulate diminutive loops or much reduced whorls but lack ridge count were classified as arches. The general rules adopted by Holt (1949) in ridge counting have been followed.

To evaluate the biological affinity of the Sayyads with other populations, Newman's (1960) sensitive method of analysing the pattern intensity index has been employed.

RESULTS

Papillary Patterns

The distribution of fingerball patterns digit-wise and hand-wise in the Sayyads are shown in Table I. It may be observed that the Sayyads are characterised by high occurrence of loops, and more so in the left than in the right hand. Whorls

TABLE I
PERCENTAGES OF FINGERPRINT DESIGNATIONS IN THE SAYYADS

Finger	Hand	Whorls					Loops			Arches		
		Whorl	Lateral pocket & twin l.	Central pockets	Accidental dentals	Total	Radial	Ulnar	Total	Tented	Others	Total
I	R	37.33	21.33	2.00	—	60.66	—	38.00	38.00	—	1.33	1.33
	L	22.67	27.33	—	—	50.00	0.67	46.67	47.34	—	2.66	2.66
	R & L	30.00	24.33	1.00	—	55.33	0.34	42.34	42.68	—	1.99	1.99
II	R	27.33	8.67	4.67	—	40.67	14.00	38.00	52.00	—	7.33	7.33
	L	24.00	13.33	3.33	1.33	41.99	15.33	36.00	51.33	0.67	6.00	6.67
	R & L	25.67	11.00	4.00	0.67	41.34	14.67	37.00	51.67	0.34	6.67	7.00
III	R	17.33	3.33	6.00	—	26.66	1.33	70.00	71.33	—	2.00	2.00
	L	16.00	10.00	0.67	—	26.67	2.00	67.33	69.33	0.67	3.33	4.00
	R & L	16.67	6.67	3.33	—	26.67	1.67	68.67	70.34	0.33	2.67	3.00
IV	R	54.67	3.33	10.67	—	68.67	—	30.00	30.00	—	1.33	1.33
	L	41.33	4.67	6.67	0.67	53.34	—	45.33	45.33	—	1.33	1.33
	R & L	48.00	4.00	8.67	0.34	61.01	—	37.67	37.67	—	1.33	1.33
V	R	8.67	4.00	11.33	—	24.00	0.67	74.67	75.34	—	0.67	0.67
	L	9.33	3.33	3.33	—	15.99	0.67	82.67	83.34	—	0.67	0.67
	R & L	9.00	3.67	7.33	—	20.00	0.67	78.67	79.34	—	0.67	0.67
All fingers	R	29.07	8.13	6.93	—	44.13	3.20	50.13	53.33	—	2.53	2.53
	L	22.67	11.73	2.80	0.40	37.60	3.73	55.60	59.33	0.27	2.79	3.06
	R & L	25.87	9.93	4.87	0.20	40.87	3.46	52.87	56.33	0.14	2.66	2.80

occur more in the right than in the left hand. Arches are more or less equally distributed in both hands. In digit-wise distribution of patterns, it is noted that the whorls' highest frequency is on digit IV, which is followed by a gradual decreasing trend in digits I, II, III, and V; the loops predominantly occur on digit V, which is followed by digits III, II, I, and IV; and arches mostly occur on digits II and III.

Indices

The values of three principal indices in the Sayyads are given in Table II. It has been observed that the value of Furu-hata's index is 72.55. This is due to low frequency of whorls in relation to loops. In Dankmeijer's index the value is found to be 6.85. This is due to quite low occurrence of arches in relation to whorls. The mean value of pattern intensity is 13.81. Actually the finger patterns noted are expressed as the mean of the index of pattern intensity.

TABLE II
DISTRIBUTION OF THREE PRINCIPAL INDICES IN THE SAYYADS

Furuhata's index	Dankmeijer's index	Pattern intensity index		
		<i>M</i>	<i>SE</i>	<i>SD</i>
72.55	6.85	13.81	0.27	3.27

Bimanuar

Heinrich Poll's bimanuar is being prepared to show the threefold pattern distribution in the Sayyads. It has been observed that the peak value or highest frequency of pattern combination is represented by 2W8L, which is followed by the values 3W7L and 4W6L or 5W5L.

Ridge Count

Tables III-VI show the results of ridge counts in the Sayyads. The digit-wise ridge counts for the two hands reveal that on the right hand, the highest count is on digit I, followed by digits IV, V, III, and II, whereas, on the left hand, the highest count is on digit IV, followed by gradually decreasing counts in digits I, V, III, and II (Table II). It is interesting to point out that for the two hands the mean ridge count is highest for digit I and lowest for digit II. These observations are in agreement with those of Bonnevie (Holt 1949) for a large series of Norwegian criminals, and also of Holt (1949) for a small sample of the British population.

In an examination of bimanual differences it is noted that the individual digits of the right hand possess higher ridge counts than those of the left, barring digits III and V (Table IV). This bimanual asymmetry and the higher counts on right digits are in conformity with the statements of Cummins and Midlo (1961).

TABLE III
MEAN RIDGE COUNTS FOR INDIVIDUAL FINGERS IN THE SAYYADS

Hand	Fingers				
	I	II	III	IV	V
Right	19.39	12.82	13.16	17.39	14.21
Left	16.96	12.39	13.59	17.53	14.08
Both	18.18	12.60	13.37	17.46	14.14

TABLE IV
MEAN RIDGE COUNTS ON RIGHT AND LEFT HANDS

Finger	Right	Left	Difference (R-L)
I	19.39	16.96	+ 2.43
II	12.82	12.39	+ 0.43
III	13.16	13.59	- 0.43
IV	17.39	17.53	- 0.14
V	14.21	14.08	+ 0.13

Table V shows the distribution of ridge count in the right and left hands. It is noted that the right hand has a higher total ridge count than the left. The mean total ridge count in the Sayyads is 151.52 (Table VI).

TABLE V
COMPARISON OF RIGHT-HAND AND LEFT-HAND RIDGE COUNTS

Population		R > L	R = L	L > R	Total
Sayyad	No.	84	10	56	150
	%	56.00	6.67	37.33	100.00

COMPARISON WITH OTHER POPULATIONS

Figures for actual ridge count and mean index of pattern intensity are not available for most of the populations. However, data currently available on populations of Uttar Pradesh (Singh 1961, Srivastava 1962, and Srivastava and Shukla 1966) are compiled in Table VII. It will be seen that the Sayyads, as compared with an earlier Muslim sample (Singh 1961), exhibit lower means of pattern intensity and total ridge count. Significant differences are noted between the two Muslim samples (Table VIII). This is due to the fact that the sample of Singh (1961) includes the general population of Muslims.

BIMANUAR

SAYYAD

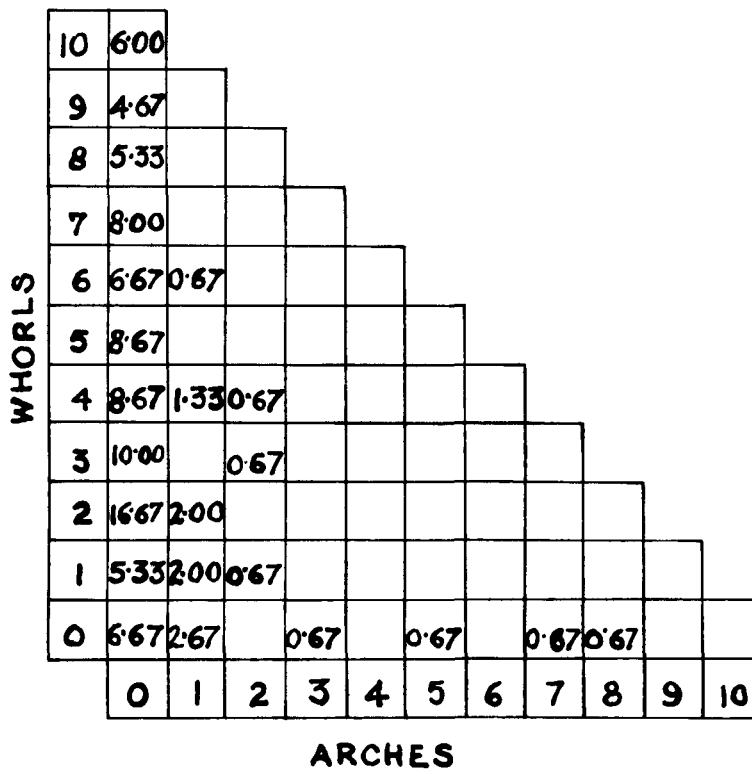


TABLE VI
MEAN RIDGE COUNTS

Population	No.	Ridge counts		
		<i>M</i>	<i>SE</i>	<i>SD</i>
Sayyad	150	151.52	3.62	44.33

TABLE VII
INDEX OF PATTERN INTENSITY AND RIDGE COUNTS IN CERTAIN POPULATIONS OF UTTAR PRADESH

Population	Author	Index of pattern intensity			Ridge counts		
		Total	$M \pm SE$	SD	Total	$M \pm SE$	SD
Brahmins	Singh 1961	203	13.76		203	145.30±2.75	39.20
Rajputs	Singh 1961	103	14.16		103	146.66±4.10	41.60
Ahirs	Singh 1961	114	13.85		114	149.74±3.43	36.70
Muslims	Singh 1961	100	14.67		100	161.00±3.15	31.50
Brahmins of Basti	Srivastava 1962	45	13.20±0.48	3.28	—	—	—
Kayasthas of Basti	Srivastava 1962	45	12.77±0.57	3.88	—	—	—
Kurmis of Basti	Srivastava 1962	45	14.53±0.50	3.38	—	—	—
Lodhs of Basti	Srivastava 1962	43	13.72±0.60	3.95	—	—	—
Chamars of Basti	Srivastava 1962	46	13.82±0.61	4.16	—	—	—
Purabia Chamars	Srivastava & Shukla 1966	75	12.67±0.49	4.17	61	127.11±5.24	40.93
Gujar Pasis	Srivastava & Shukla 1966	55	13.58±0.43	3.58	50	124.90±6.58	46.54
Sayyad	Present study	150	13.81±0.27	3.27	150	151.52±3.62	44.33

With respect to the Hindu populations of Uttar Pradesh, the Sayyads are not found to differ significantly in the pattern intensity index, excepting the Purabia Chamars. In the mean ridge counts, however, Sayyads do not differ significantly from Brahmins, Rajputs and Ahirs. Significant differences are noted between Sayyads and Purabia Chamars and Gujar Pasis as regards ridge counts (Table VIII).

TABLE VIII
VALUE OF t FOR INTERGROUP DIFFERENCES IN THE INDEX OF PATTERN INTENSITY AND RIDGE COUNTS

Index of pattern intensity		Ridge counts	
Sayyad vs. Brahmins (Srivastava 1962)	1.09	Sayyad vs. Brahmins (Singh 1961)	1.37
Sayyad vs. Kayasthas (Srivastava 1962)	1.63	Sayyad vs. Rajputs (Singh 1961)	0.88
Sayyad vs. Kurmis (Srivastava 1962)	1.26	Sayyad vs. Ahirs (Singh 1961)	0.36
Sayyad vs. Lodhs (Srivastava 1962)	0.14	Sayyad vs. Muslims (Singh 1961)	1.97*
Sayyad vs. Chamars (Srivastava 1962)	0.01		
Sayyad vs. Purabia Chamars (Srivastava & Shukla 1966)	2.07*	Sayyad vs. Purabia Chamars (Srivastava & Shukla 1966)	3.83*
Sayyad vs. Gujar Pasis (Srivastava & Shukla 1966)	0.41	Sayyad vs. Gujar Pasis (Srivastava & Shukla 1966)	3.54*

* Significant at 5% level.

The Muslim populations of outside India considered for comparison appear in Table IX, together with the percentages of arch (A), loop (L) and whorl (W), and the values of three principal indices.

TABLE IX
COMPARISON OF SAYYADS WITH THEIR CORELIGIONISTS RESIDING OUTSIDE INDIA

Population	No.	A	L	W	100A/W	100W/L	P.I.I.	Reference
Nuristanis (Afghanistan)	31	7.8	50.9	41.2	18.93	80.94	13.33	Hughes 1967
Arabs (Hadhrant, Arabia)	181	2.8	61.3	36.0	7.77	58.72	13.30	Renes 1948 ^a
Turks	66	8.5	55.2	36.2	23.41	65.76	12.78	Abel 1940 ^a
Sayyad (Lucknow, India)	150	2.80	56.33	40.86	6.85	72.55	13.81	Present study

^a Cited from Hughes 1967.

It will be apparent from an examination of the values of Dankmeijer (100 A/W), Furuhat (100 W/L), and pattern intensity indices that they do not present very consistent impression of dermatoglyphic affinities. Thus, if the index of 100 A/W is used, the Sayyads exhibit the lowest value (6.85) and come nearer to Arabs (7.77), mainly because both samples show low incidence of arches. In the index of 100 W/L, the Sayyads (72.55) appear to lie closely to Turks (65.76), because of the high incidence of whorls in both samples. The pattern intensity index, which is a most reliable racial determinant (Newman 1960), shows that the mean value in the Sayyads (13.81) is highest as compared to those found in Nuristanis (13.33), Arabs (13.30), and Turks (12.78). No statistical comparisons are possible as standard deviations around the means are not known for these populations.

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RIASSUNTO

Uno studio delle impronte digitali dei Sayyad del distretto di Lucknow, nell'Uttar Pradesh, ha dato le seguenti frequenze: vortici 40.87%, anse 56.33%, archi 2.80%. L'intensità media delle figure è di 13.81 ± 0.27 e non presenta differenze significative con gli Hindu dell'Uttar Pradesh delle caste superiori o inferiori, ad eccezione dei Purabia Chamar. Per quanto riguarda il conteggio delle creste, i Sayyad presentano una media di 151.52 ± 3.62 , che è la più elevata per le popolazioni Hindu dell'Uttar Pradesh. Tuttavia, non si rilevano differenze significative fra Sayyad e Bramini, Rajput ed Ahir. I Sayyad risultano differire significativamente dal campione di Musulmani precedentemente riportato da Singh (1961). Un raffronto dei Sayyad con i loro correligionari di regioni lontane dall'India non appare rivelare particolari affinità.

RÉSUMÉ

Une étude des empreintes digitales des Sayyads de Lucknow, Uttar Pradesh, a donné les fréquences suivantes: tourbillons 40.87%, boucles 56.33%, arcs 2.80%. L'intensité moyenne de figures est de 13.81 ± 0.27 et ne présente aucune différence significative avec les Hindus de l'Uttar Pradesh des castes supérieures et inférieures, à l'exception des Purabia Chamar. En ce qui concerne le compte des crêtes, les Sayyads présentent une moyenne de 151.52 ± 3.62 , la plus élevée des populations Hindu de l'Uttar Pradesh. Toutefois, il n'existe aucune différence significative entre les Sayyads et les Brahmins, les Rajputs et les Ahirs. Les Sayyads diffèrent significativement d'un échantillon de Musulmans précédemment décrit par Singh (1961). Une comparaison des Sayyads avec leurs coréligionnaires d'autres régions que l'Inde n'a pas indiqué de ressemblances.

ZUSAMMENFASSUNG

Eine Untersuchung der Fingerabdrücke der Sayyad aus dem Gebiet von Lucknow im Uttar Pradesh ergab folgende Verteilung: 40.87% Wirbel, 56.33% Schleifen, 2.80% Bögen. Die Durchschnittsintensität der Figuren beträgt 13.81 ± 0.27 ohne wesentliche Unterschiede gegenüber den Hindus der oberen und unteren Kasten mit Ausnahme der Purabia Chamar. An Hautleisten weisen die Sayyad mit einem Durchschnitt von 151.52 ± 3.62 den Höchstwert der Hindubevölkerungen des Uttar Pradesh auf; jedoch bestehen keine wesentlichen Unterschiede zwischen Sayyad und Brahminen, Rajput und Ahir. Die Sayyad scheinen sich ziemlich von dem 1961 von Singh gebrachten Mohamedaner-Muster abzuzeichnen. Eine Gegenüberstellung zwischen den Sayyad und ihren Glaubensgenossen in den fernen Gegenden Indiens scheint keine besondere Affinität zutage zu bringen.

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