CHAPTER V

CHICAGO AS ETHNIC VARIABLE
Like several other human traits, palmar flexion creases have effectively been applied in the study of human variability. Carrara (1893) was the first to study simian creases among Italian soldiers. Later Fere (1900) and Bettman (1932) worked on French soldiers and German University students respectively.

Rittmeister (1936) worked on minor criminals in Holland and various people of Switzerland, and emphasized the ethnic variability of simian creases. A similar attempt was made by Portius (1937), Hanhart (1936), Schiller (1942), Abel (1929 and 1940) and King (1939). Fischers (1949) worked on the simian crease of German populations show the trend of its frequencies.

Süchli (1954) studied creases among some Indian communities, and has emphasized the application of this morphological variable in population studies. The contributions of Van der Wiel (1953), Kervinen (1954) and Tunakan (1954) are worth mentioning in this respect.

Weninger (1953) and Weninger and Navratil (1967) observed more simian creases among the males than the females of Roumanian and the Australian populations respectively. The same trend was observed by Erikson and Norinder (1958) among Swedish adults.

Almeido Santos (1960) could not find bisexual difference of simian crease among the Portuguese.
Chakravarti and Basu (1960) studied simian creases among Kiangs of Tripura (India). The study of palmar creases by Lasinski and Urbanowicz (1960) included both transverse and longitudinal creases. The simian crease among German children was studied by Geipel (1961). The frequency of the simian crease in the Italian population was studied by Cobesso and Pinzzi (1962).

Rashad et al. (1964) studied the simian crease in the Irish population.

The transverse creases of the British population was studied by Davies (1966) and Davies and Smallpiece (1963).

Achs et al. (1966) studied the simian crease and its transitional types among normal newborn children of New York City. The simian crease among the Belgian people was studied by Vrydagh Laovreux (1970).

The complete and incomplete simian crease of Cypriots were studied by Plato (1970).

Various transverse palmar creases in the Hungarian population was studied by Gyula and Gyorgy (1971) who emphasized importance of creases as morphological variables in anthropology.

The flexion creases among the Lebanese population were noticed by Josette Naffah (1974) who found more transitional types among males than females.
The present chapter deals with bisexual and bimanual distribution of creases among various ethnic groups.

Bali and Chaube (1971) applied their three fold system of palmar crease classification on 130 families and 30 pairs of twins in which the incidence of palmar flexion creases on the individual palm of the offspring born of the respective parent show their heritable significance and indicate that the trait is genetically controlled. The study of twins also confirm the fact that the proposed method of crease classification is valid and could usefully be employed for the study of complex population problems. Not the simian creases but all palmar creases have a role to play in the study of populations. This sort of work was first attempted by Bali and Chaube (1971), based on their system of palmar crease classification. The efforts have been made in the present chapter to interpret creases as morphological variable. Palmar flexion creases are genetically controlled morphological variables and several ethnic studies have been conducted on the basis of this trait.

The various modes of crease feature such as bimanual, bisexual and ethnic distribution shows their importance in population studies. The application of palmar creases in respective groups of population prove their significance.

The problem of ethnic variation in case of palmar creases is yet to reach its decisive stage because of the scant material. Nevertheless, all the available material on population studied has been incorporated.
Bisexual and Bimanual Variability of Palmar Flexion Creases:

According to De Wilde (1953) "It is worthwhile to consider the possibility that penetrance and expressivity of the simian crease is also dependent on the different caused by the right/left differentiation in the limbs of the organism, thus expressing the genetically determined right/left differences".

While Bali (1954) observed in course of study of creases "that the simian crease is most frequent on the right hands of men and least frequent on the left hands of women. This bisexual and bimanual difference might be ascribed to epistatic influences of sex and symmetry/asymmetry genes or to environmental influences intrinsic to the embryo itself".

Table 33 shows bimanual and bisexual distribution of the creases among three populations of North India (M.P.) i.e., Brahmins, Bhangis and Punjabi Brahmins. The results are expressed in term of all the creases of the palm.

In Brahmin males show lower frequency of SRBC on right hand (10.00) as compared to the left hand (12.30). A similar trend is followed by the females (Rt. 22.30; Lt. 23.84). The DRBC shows inverse relationship among males and females (males, Rt. 82.30; Lt. 80.77; Female, Rt. 64.62, Lt. 63.08). The TRBC type of creases show dextral dominance in males and sinistral among females. The female hands show higher frequency of SRBC (23.07) as compared to males (11.15). A trend shows bisexual difference in case of males
and females show higher incidence of DRBC.

In case of Bhangis, the frequency of SRBC in the right hand (14.67) is lower as compared to left hand (18.67) among males, but the case is reverse among females (Rt. 17.33; Lt. 16.0). With respect to DRBC among males, the right/left difference is not much. A similar trend could be observed in case of females. The right hand of males show higher frequency of TRBC (8.00) as compared to the left hands (4.00), while the case is reverse among females (Rt. 10.67; Lt. 12.00). Usually the males show slightly higher frequency of SRBC (16.67) as compared to the females (16.66). However, bisexual differences in DRBC followed the same trend both in male (77.33) and female (72.00). The frequency of TRBC among males show lower incidence (6.00) as compared to the females (11.33).

The incidence of SRBC, among Punjabi Brahmins, both males and females show noticeable bimanual difference. The right hands of the males show lower frequency of DRBC (84.21) as compared to the left hands (87.36), while among females the difference is normal, i.e. (Rt. 64.21; Lt. 64.21). The frequency of TRBC in the right hands of males (8.42) is higher as compared to the left hand (6.33). Whereas in females the frequency of DRBC both in right and left hands show nominal difference. The frequencies of creases among Punjabi Brahmins are observed to maintain the same trend as in other two castes, i.e. Bhangis and Brahmins. Among Punjabi Brahmins the bisexual difference exhibited by SRBC (Male, 6.84; females, 5.37) and DRBC shows higher incidence (Male, 85.78; females, 64.21). The incidence of TRBC both in males (7.37) as well as in females (30.52) is rather low.
Ethnic Variability of Palmar Flexion Creases

Palmar creases to a certain extent qualify as criteria for ethnic classification. To justify the above statement a brief appraisal of the problem is given as under:

The creases as ethnic criteria to a certain extent can help in classifying human groups. The methodology to assure the consistency of results appear to be satisfactory.

Palmar creases are not subjected to extensive environmental modifications. Like most of other morphological variable creases, too, are regulated by complex and genetic mechanism, which needs to be probed.

The ethnic affinities of palmar flexion creases has to be established. Because the material with regards to flexion creases is scant and the quality of the data is often to be blamed. A modified methodology should be adopted so that the results are compared. The ethnic variability in palmar creases with simian and other types has already been reported by several workers. Table 34 shows frequencies of palmar creases among various populations.

Among males, Bhangis possess the highest percentage of SRBC (16.7) followed by sale (15.0). These are followed by Thogata (14.0) and Devenga (13.8). The lowest frequencies are observed in Punjabi Brahmins of Punjab (6.30), Muslims, Sunni (6.70) and Brahmins of Sagar (6.0). Remaining four populations do not show much difference. The Muslim population shows the maximum frequency
of TRBC (13.39), Devanga (8.7), Sale (7.7), Sagar Brahmins (7.50) and Punjabi Brahmins (7.4) do not show any significant deviations in TRBC. The lowest frequency of TRBC are present in Thogata (6.7) and Bhangis (6.0).

Among females, the maximum percentage of TRBC is present in Bhangis of N.P. (16.7). The next higher frequency is shown by Sales (8.0) and Thogata (7.8). Remaining populations, Devanga (6.6), Punjabi Brahmins (5.3) and Sagar Brahmins (4.50) do not show significant deviations from each other. The highest frequency of TRBC is present in Devanga (77.5) followed by Thogata (77.1) and Sale (76.7). Sagar Brahmins (69.0) and Punjabi Brahmins (64.2) do not show much difference from each other. Bhangis (72.0) occupy an intermediate position. Punjabi Brahmins show the highest number of TRBC (30.5) and the lowest frequency is observed in Bhangis (11.3). The Sale (15.3), Devanga (15.9) and Thogata (15.1) shows equal percentage of TRBC.

The complete simian crease according to Büchi, can easily find its due place according to the present classification under single and double radial base crease as main types and S₁ and D₁ as their subtypes. The other categories of transitional types can also be accommodated in the present classification of the above main types under S₂, S₃, S₄, D₂ and D₃ respectively.

The classification of transverse crease adopted by De Lestrange can easily be accommodated under the subtypes of single radial base crease (S₁, S₂ and S₅) and subtypes D₁ and D₂ of the
double radial base crease in accordance with the present method of classification.

In the absence of ethnographic interpretation of creases, Lestrange's (1960) table has been incorporated in full to present the symmetrical distribution of transverse crease (simian crease) in population studies. But, in accordance with his classification, the data relating to various populations of India have also been incorporated in Table 35.

In case of Indians, Muslim males (5.8) show the highest frequency of transverse crease, and the lowest number is shown by Balijas (2.3). While in Indian females, the maximum frequency of the simian crease is observed in Sagar Brahmins (6.9) and the minimum frequency in Devangas (1.2).

Among European populations, Cypriots show (male, 9.5; females, 11.0) higher frequencies, while Swish males (0.95) and German school children (0.23) show lower frequencies of transverse creases.

Taking Indian and Europe together, Cypriots female show the maximum number of creases (11.0) and the minimum number is seen in Swiss males (0.95) and German females (0.23).