SUMMARY AND CONCLUSION
The proceeding work is the first major attempt to introduce plantar creases in anthropology and human genetics.

The attempt has been made to study the plantar creases, their formulation, ethnic variation and their inheritance.

The study is based on the bilateral inkprints of 130 Brahmin families with two generation and for the study of ethnic variability the data on three genetically diversified population have been appropriated.

Attention is directed, however, to certain noteworthy distinction of plantar creases such as differential bilateral and intersex behaviour. Plantar creases as morphological variable have given the testimony of its effectiveness in the study of population, deliquent and among criminals. Plantar creases as palmar creases show all the essential characteristics to quality as discreet genetical anthropological attribute.

The study on plantar creases, perhaps was handicapped for standard methods of plantar crease formulation. The present work is the first comprehensive attempt towards this direction. The plantar crease formulation finds its orientation from the well recognised method of palmar crease formulation. The three fold classification of plantar creases are on the similar basis as given in palmar creases.

Certain deviations in the method of formulation were necessary because of the divergent evolutionary stress, the human foot is subjected too.

Dimorphism between human hands and feet is extreme as compared to other primates. The evolutionary and functional
stresses have diversified the anatomy of hand and foot. There is a marked difference between palmar and plantar surfaces. The variation in dermal configuration of hand palm finds some association but creases have undergone greater degree of change in the sole as compared to the palm. But still some genetic unity is exhibited by palmar and plantar creases. The formulation of plantar creases as developed by Bari and Mishra (1978) attempts to settle the much needed problem, which eliminates the possibility of genetic disparity between various plantar creases and gives them a base in physical Anthropology.

The validity of plantar crease formulation was tested among twins, families and ethnically diversified populations. The study reveals that the proposed plantar crease formulation has a genetic base and various plantar creases bear genetic unity. The bisexual and bimanual variation shows this trend in the distribution of various crease types.

The bilateral and bisexual trend of crease distribution behaves as a genetically governed trait. Isopodalism also illustrates the frequency of crease type in relation to bilateralism and sex difference. It has also been observed that a particular type of crease shows tibial affinity, while the other type shows a fábular ward distribution in relation to the anatomical axis.

For population study, plantar creases have yet to establish their role, which would depend on the availability of data.

The application of plantar creases as a diagnostic tool in criminals and delinquent children show certain positive
tendency. In spite of the fact that the works on criminals are not supported by controlled groups.

Brahmins and Muslims are two extreme pools and both groups are strictly endogamous. The similar diversity of frequency is maintained by various palmar creases, thus proving that the above two populations are genetically diversified. The third population Punjabi Brahmins present quite different picture when compared with Brahmins and Bhangi.

Inheritance

Twins:

The bilateral symmetry among the M2 twins is found higher as compared to D2 twins. The concordance in M2 twins as expected is more as compared to D2 twins. The discordance shows inverse results. The concordance of Plantar Creases between pairs of M2 and D2 twins, sibs, parents and children and husbands and wives shows a gradual rise in frequency starting from individuals collected at random to D2. This high concordance in M2 twins could only be achieved because heredity is controlling the transmission of these main types from parents to their children.

Families:

The inheritance of plantar creases have been tested through the transmission of traits from parents to their offspring in 130 families with two generations.

Children born of parents having similar trait on all the four feet are referred as isopedal feet which show greater affinities in transmission of the trait as compared to three and two feet. This reflects that the trait is polygenic i.e.
it is controlled by several factors. The inheritance of the trait in relation to the sex of the parents and offspring show negative results.

The homolateral and heterolateral comparison between the creases of parents and their offspring show greater affinities but bilateral heritability of creases is not clearly expressed. The heritability of SHBC and DMBC types show high values as compared to TNBC type. The varying heritable trend of various creases could safely be attributed to homozygosity and heterozygosity of the specific crease type.

The number of parental combination involved in inheritance of subtypes of plantar creases are so large that conclusive heritable evidence of a particular crease is less probable. Nonetheless some subtypes are represented by adequate number of families and show heritable trend.

In this respect subtypes STC of SHBC show greater resemblance between parents and offspring. A similar trend is exhibited by subtype in DMBC.

The sex relation of plantar creases inheritance could not be substanitiated in the present study. It appears the traits are sex free and polygenic in nature.

The importance of plantar creases appears to be valuable and their application in complex population and human variation is worthwhile attempts to exploit.