CHAPTER VIII

INTRODUCTION
Mental health has to do much with every body's everyday life. In every country there are some children and adults who are mentally retarded. In India, no reliable statistics are available regarding the prevalence of mental retardation, the retarded population in India could be anywhere between 1.5 to 2 crores (about 3% of the total population).

It is quite probable that human beings have always been susceptible to mental illness. Even in very early written records we find mention of its existence. The Eber Papyrus (1550 B.C.) gives evidence that the deterioration of old age, alcoholic reactions, and melancholia were recognized in ancient Egyptian medicine. The ancient Chinese described disease as being due to the influence of evil supernatural factors. There can be little doubt that all the conditions recognized today as psychotic have always existed. The lack of adequate diagnostic technique kept many of them from being recognized during the early days of civilization.

The first explicit statement of this distinction is to be found in a two volume work published in 1833 by the French physician Esquirol (1833), in which over one hundred pages are devoted to mental retardation, varying along a continuum from normality to low grade idiocy. In the effort to develop some systematic for classifying the different degrees and varieties
of retardation, Esquirol tried several procedures but concluded that the individual's use of language provides the most dependable criteria of his intellectual level.

Of special significance are the contributions of another French physician, Seguin, who pioneered in the training of mentally retarded. Having rejected the prevalent notion of the incurability of mental retardation, Seguin (1866) experimented for many years with what he termed the physiological method of training, and in 1837 he established the first school devoted to the education of mentally retarded children.

Probably nowhere else in the psychology of individual differences have there been as many changes in concepts and general orientation to research and practice as in the field of mental retardation. The overall shift has been from a very pessimistic view of the condition to a successive lables under which persons in this category have been classified. For many years the term shift to mental deficiency. By the middle 1960's, mental retardation had come in general use. The older terms are still employed, of course, and some diagnosticians attempt to distinguish between retarded and deficient, or deficient and defective, or retarded and feeble minded, but the general trend seems to be to use the more neutral descriptive term retarded to apply to all the persons whose development status is seriously below normal levels, regardless of how the condition originated.
The American Association of Mental Deficiency (1973) has defined mental retardation as 'significantly sub average general intellectual functioning existing concurrently with deficits in adaptive behaviour, and manifested during development period'. The cause may be either in the biological system or in the genetic condition. But in addition to those, there are some other cause which are peculiar to India, and may sometimes cause mental retardation. These include social, cultural, dietary and nutritional aspects.

As a field of research, mental retardation has received attention recently in the country, and a host of interdisciplines such as neurology, nutrition, biochemistry, genetics, physiology, sociology, education, psychology and psychiatry have to take an appropriate role in it. India is the most crowded country in the world, 1.3 crores babies are born every year to its present population of about 60 crores. The present retarded population in India as reported by Sen (1976), could be anywhere between 1.5 to 2 crores and that about four lakhs are being added every year. In addition to 3 to 4 per cent mentally retarded persons in India, a large percentage of people are dull or slightly backward, whose IQ's fall between 75 to 90. It is this group mainly which constitutes a large number of deprived person. Thus when social, cultural and nutritional aspects are explored a more valid and human appreciation of the problem of mental retardation will be possible.

According to Hurley (1989) culturally deprived children in any community comprise the majority of the retarded. In
western countries, cultural deprivation is noticed predominantly in low socio-economic groups. But in India, according to Das et al. (1970), caste also appears to be an important factor in addition to economic status. As discussed earlier Sen (1937) thought bad home conditions and heredity could cause retardation. Jain (1972) found interesting results in her studies on population. She found that family density and retardation are highly associated birth order and spacing between births were having association with retarded condition. Those born as first born to mother below 13 years of her age, had more chance of being retarded. Das and Orin (1972) observed positive association between intelligence and parental socio-economic status, and also birth order. Taja et al. (1971) found retardation having strong association with rural areas and family history of retardation of or organic psychosis. Prabhu (1968) and Arya (1970) have discussed the role of parents in the management and education of the retarded. Singh (1973) has raised the issue of community health as related to mental retardation. Ishtiaque and Chandra (1975) find home conditions as a cause of mental retardation. Stringham (1969) has emphasized the need to fulfill the emotional needs of the retarded. Jain and Sathyarathi (1969) has discussed problems of joint and nuclear families with the presence of mentally retarded patients who overestimated potentialities of their retarded children were more neurotic (Prabhu, 1970).

The inter-relationship between chromosomal make up and mental retardation have also been studied by several workers. Barr (1962) observed an X/XX sex chromosome mosaicism in a
mentally defective male patient. Briggs et al. (1962) studied the abnormalities of the sex chromosomes in a population of mental deficient in Jardinia. Schain et al. (1962) found 47 chromosome in a mentally retarded echizoid twin girl. Omars and Harry (1962) discussed possible trisomy in chromosome group 6 to 12 in mentally retarded patients. Woll (1963) studied an abnormal acrocentric chromosome associated with mongolism. Laurence and Davies (1963) observed XXXY sex chromosome constitution in a mentally defective male. Patrick and Josephine (1963) found XXXY sex chromosome anomaly in a mentally deficient male. Jacobson et al. (1964) observed enlarged chromosomal satellites associated with mental retardation. Edward (1966) studied on asymmetric chromosome pair in group 4-5, associated with mental and physical retardation. Omastorp and Lagergren (1966) discussed a case of mental retardation with an additional small metacentric chromosome. Dekaban (1966) observed transmission of a D/D reciprocal translocation in a family with high incidence of mental retardation. Lozzio et al. (1967) found interesting results in his study i.e. chromosome mosaicism in a mentally retarded mother and her daughter. Herbert et al. (1968) studied the genetic relationship of progressive muscular dystrophy (Duchenne type) and mental retardation. Fujita and Furuyama (1968) observed a ring E18 chromosome in a mentally retarded child. Other studies also gives interesting results such as Tischler et al. (1968) found in his study a long 3 group chromosome in a mentally retarded child. Okamura (1968) observed chromosomal abnormalities in mentally retarded

Regarding the biological anomalies of mentally deficient patients, ample material is at hand. Which provides the insight of the problem. The features of creases and dermatoglyphics finds frequent references in medicine and anthropological literature. Several clinical disorders find association with dermatoglyphics. The work of Cummins (1939), Pons (1956), Heller (1957), Takkinen (1959), Penrose (1961), Raphael and Raphael (1962), Beckman et al. (1963), Alter (1966), Robinson et al. (1966) and Kumbhani (1972) are worthy of mention.

The simian crease relating to several human abnormalities have been investigated by Longdon-Down (1909). He established a relationship between palmar creases and mongoloid idiocy. According to Crookshank (1924) the simian crease is found only in individual who possess mongoloid or simian characteristics. Fisher (1949) states that some parallel characteristics might be responsible in the development of persons affected by some diseases like idiocy, imbecility, psychosis, psoriasis etc. Biswas and Bardhan (1966) studied the frequency of simian crease among the schizophrenic patients and found the frequency among patients as higher. Bahl (1971, 1973) and Eswaraiah (1976) studied the relationship between palmar creases and schizophrenic individuals. The work of above
authors includes all the palmar creases. In case of various other diseases the authors suggest genetical predisposition as the cause.

However, three way inter-relationship between chromosome, palmar creases and mental deformities could reveal to us the genetic interdependence between the above traits. The inter-relationship between mental retardation and chromosomal make up has been studied extensively. The study on simian crease or palmar creases too, reveal a convincing relationship between creases and mental retardation. Thus, part II of the thesis deals with the study of palmar creases and chromosomes of mentally retarded children. The results show certain inter-relationship between morphological interpretation of creases and chromosomes.

The analysis has also been laid to interpret creases of mentally retarded children in term of crease morphogenesis i.e. crease length, crease breadth, crease transversality, position of radial base point and crease surface area along with the control. This sort of crease interpretation is promising and shows effective results.

Chapter second deals with crease form, while chapter third is exclusively devoted to crease morphogenesis. The last chapter shows chromosomal anomalies of mentally retarded children.