Much research by physical anthropologists is concerned with differences in anthropometric characters among socioeconomic groups. Genetic and environmental hypotheses have been proposed as possible reasons for this social distribution. The genetic hypothesis assumes genetic control of anthropometric parameters, i.e., a shifting effect similar to the relation between intelligence and height, and the selection of intelligence in relation to professional groups (Schreider, 1967). These genetic differences could be intensified by positive assortative mating.

The environmental hypothesis is based on the fact that human growth potential could be realized more fully in the most favorable living conditions. In this second hypothesis, the importance of genetic influences on growth and development is not denied. A decrease in anthropometric differentiation between social groups is expected with the environmental hypothesis, when the differences in living standards decrease between groups.

**SOCIOECONOMIC EFFECTS ON BIRTHWEIGHT**

Effects of nutrition on birthweight are unimportant; a growing fetus is protected against the effects of maternal deprivation (Thomson, 1978). The beneficial effect of increasing the dietary intakes of pregnant women in impoverished rural communities is too small to be noticeable in clinical practice, although it could be of considerable public health importance. An increased intake of 10,000 kcal per pregnancy in rural communities of Guatemala resulted in an increase of 28 to 80 g in birthweight (Lechtig et al., 1975). The severe Dutch famine of 1944-45 dramatically reduced...
conception rate and there was no weight gain by the mother during pregnancy, but there was a decrease of only 9% in average birth-weight (Stein et al., 1975). These environmental effects are not drastic but they result in some social differences (Banerjee, 1969). In first-borns in Aberdeen (Scotland), the frequency of low birth-weight (<2.500 g) varies with social status (Thomson, 1963). Higher perinatal mortality rates occur in lower than in upper socioeconomic classes but when these rates are adjusted for birth-weight, the social differences disappear except perhaps for class V which is the lowest social class (Rush, 1974).

SOCIOECONOMIC EFFECTS ON GROWTH DURING CHILDHOOD

Young children are taller and heavier in upperclass, well-to-do families with high incomes and cultural advantages than in lower class, poor, underprivileged families. This is observed consistently in all populations. It is obvious that the occupational status of the father is only one of the determining variables although it is strongly correlated with other socioeconomic characters.

The status and rate of growth during childhood are among the most sensitive indicators of environmental influences. The observed height approximates the potential for growth when living conditions are favorable. The limits of this potential growth are determined by genetic factors.

Large socioeconomic differences have been observed in many studies in different parts of the world (e.g., Acheson and Hewitt, 1954; Douglas and Blomfield, 1958; Graffar et al., 1962; Goldstein, 1971; Chrzastek-Spruch, 1977). For instance, in U.S. children 6 to 11 years old examined in the U.S. Health Examination Survey, increasing trends of height and weight are observed as a function of an increase in annual income or educational level (Hamill et al., 1972). Whitelaw (1971) studied skinfold thicknesses at the triceps and scapula sites in children aged 5 to 15 years and observed a significant trend for increase with declining social class. This observation is related to the greater prevalence of obesity in adults of lower socioeconomic groups in Western societies (Moore et al., 1962; Silverstone et al., 1969). These differences are correlated with the consumption of more carbohydrates and less protein-rich foods by the lower socioeconomic classes. Douglas (1962) and Goldstein (1971) published similar results.

In African and Asiatic populations also, differences in growth between better-off versus poor groups have been observed often. The relationship between socioeconomic status and the prevalence of severe nutritional problems is evident in such populations (Chang et al., 1963; Ashcroft et al., 1966; Sabharwal et al., 1966;