

Quadrant II – Transcript and Related Materials

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Notes

Racial classification is given to a group of individuals, who share a certain number of anthropological traits, which is necessary such that they are not confused with others. There are two aspects to distinguish people based on phenotypic and genotypic traits.

1) Phenotypic Traits: Phenotypic traits are those physical characteristics of an individual, which may be examined: These are of two types:

- Indefinite Physical (Phenotypic) Traits and
- Definite Physical (Phenotypic) Traits

Indefinite Physical (Phenotypic) Traits Those physical traits which are observable but immeasurable to any measurement are called indefinite physical traits, such as the colour of skin, hair and eyes. Hence they can only be described. Following are some of the indefinite physical traits:

- Skin Colour: From the very beginning, anthropologists have used skin colour as one of the most important distinguishing characteristic. Usually, on the basis of skin colour people differentiate between the white, yellow and black races. Recently, Spectrophotometry has been made as the basis of an objective and accurate measurement of the colour of the living human skin. Of the colour of the skin the following distinctions are made: – White skinned people or Leucoderms, e.g. Caucasian – Yellow skinned people or Xanthoderms, e.g. Mongolian – Black skinned people or Melanoderms, e.g., Negroes
- Hair: In racial classification, the characteristics of hair, viz., hair form, colour, texture and abundance have been most frequently observed. Besides, cross

section and hair whorls have also been used in certain studies. All these hair traits are well defined and classified by anthropologists.

- Eye: The characteristics of the eye, particularly the eye opening, eye fold and eye colour have been utilised in distinguishing the racial groups.
- Nose: Nose is an integral part of the face and an independent entity whose attributes are comparable. Mainly, the descriptive elements of the nose may be observed and recorded in the following manner: Nasal depression : None, shallow, medium, deep Nasal bridge: Straight, concave, convex, Concave-convex Nasal tip: Sharp, Medium, thick, bulbous Nasal septum: Sloping upward, horizontal and sloping downward. Disposition of the nares: High and narrow, medium broad, broad and flaring.
- Lips: In humans, lips bind the oral fissure or the mouth opening. This trait is peculiar in man. It is generally observed that changing moods affects the position of the lips in four different ways: open and shut, forward and backward, up and down, tense and slack on the basis of thickness of the lips, anthropologists distinguished humans into four groups, viz., thin, medium, thick and very thick lips.
- Face form: Human face has distinguishable characteristics, which help us to identify individuals. On the basis of conformation of the face, predominantly the hair line, the form of the jaw and the forehead, the form of the face may be determined. Poch has distinguished ten facial types, viz., elliptic, oval, reversed oval, round, rectangular, quadratic, rhombic, trapezium, inverted trapezium and pentagonal (quoted by Comas, 1960) 55
- Ear: Ears are individually characteristic and have a number of Racial Classification peculiarities in ear forms. The external ear form may be classified into six types, viz., macaques form, cercopithecinae form, Darwinian point, Darwinian tubercle, vestigial Darwinian tubercle and without Darwinian tubercle.
- The ear lobes are one of the most important features of individual characteristic. The ear morphology varies on the basis of ear lobe. The ear lobe is much developed in European and Mongoloids. The attached ear lobe is more primitive feature than the free lobe.

Definite Physical (Phenotypic) Traits Definite physical traits are those, which can be measured with the help of anthropological methods and instruments. In brief, the following are definite physical traits:

- Stature: Different races are distinguished on the basis of differences in stature. Martin has classified stature in the following manner: Pygmy Upto 129.0 cms. Very short 130.0 149.9 cms. Short 150.0 159.9 cms. Below medium 160.0 163.9 cms. Medium 164.0 166.9 cms. Above Medium 167.0 169.9 cms. Tall 170.0 179.9 cms. Very tall 180.0 199.9 cms. Giant 200.0 and above
- Head form: Anthropologists have adopted a method for classifying the head form based on the ratio of the maximum breadth and maximum length expressed as cephalic index. On the basis of cephalic index, head is

classified into three classes, i.e., Dolicocephalic, Mesocephalic and Branchycephalic.

- Nose form: The nasal index is a good indicator to know the dimension of the nose. It is the proportion of the width of the nose to its length. Broca consider it as the best indicator in racial determination. Human population may be conveniently classified on the basis of nasal index as follows: – Leptorrhinae upto 70.9 – Mesorrhinae 71 to 84.9 – Chamaerrhinae or Platyrrhine 85 to 99.9 – Ultra Chamaerrhine 100 and above
- Face form: The proper evaluation of the face form can be possible with the help of Facial Index. It is an indicator of the proportion of the facial length to its breadth. The human populations may be conveniently classified on the basis of facial index as follows: 56 Biological Diversity – Hypereuryprospic upto 78.9 – Euryprospic 79 to 83.9 – Mesoprospic 84 to 87.9 – Leptoprospic 88 to 92.9
- Ear form: On the basis of the ratio between ear length and breadth the ears has been classified into long and narrow in Mongoloid, short and wide in Negroes. The majority belongs to the intermediate type. Few other biometric measurements are also applied in racial classification. § Other definite traits: There are various anthropometric measurements, which are used in racial classification, viz., bizygomatic breadth, proportion of limbs, chest and thigh circumference, etc.

Genotypic Traits: A new approach to classify human races is based on some genetic traits. The genotypic traits are as follows:

- Blood Groups: The Blood groups (ABO, MN, Rh, Lutheran and Kidd blood groups, Duffy Blood Group, P Blood Group and ABH secretor status. etc.) are used in racial classification. There are about a dozen blood group systems known to us, each inherited independently. Their frequencies vary in different populations all over the world; these are used as genetic markers.
- Dermatoglyphics: The dermatoglyphics traits are used in racial classification. Each dermatoglyphic trait is inherited independently or polymorphically. These traits are not modified by environmental factors. In fact, Dermatoglyphics (Derma=skin; Glyphic=Carve) is the study where the ridge patterns on the skin of the fingers, palms, toes and soles are considered. The Dermatoglyphics trait include finger pattern types, Pattern Intensity Index, Pattern size, Palmar main line formula, Configurational area (Thenar interdigital area, Hypothenar area, Second, third, fourth, interdigital areas), Main Line Index, Palmar and finger - ridge counts, atd angle, etc.
- Hemoglobin variants: The hemoglobin within the red cell also has its own variations in different populations of the world. The sickle-cell hemoglobin or hemoglobin S, Hemoglobin C, Hemoglobin D, hemoglobin E, Glucose-6-phosphate dehydrogenase (G-6 PD), Haptoglobins, Transferrins may be used in racial classification.
- Some other variants: The ability to taste phenyl thio-carbamide, colour blindness, sweet glands, etc., are used for the racial classification.

- DNA finger prints: The proper evaluation of racial classification can be possible with help of DNA finger printing. The genome of various populations may be used for such purpose.