



## Commentary

# On Development of typological classification and its relationship to microdifferentiation in ethnic India By KC Malhotra and TS Vasulu

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The paper by KC Malhotra and TS Vasulu is a comprehensive review on the classification of people of India. A great detail is presented by the authors on the earliest attempt on the classification of Indian populations by Risley, who had conducted census surveys and had classified the various populations into seven distinct groups. The major drawbacks of Risley's classification have also been discussed in detail. A great deal is described about the classification by Haddon, Egon Freiherr von Eicstedt, Guha and Sarkar. The authors have given a very lucid account of the attempted classification by these authors based either on caste, anthroposcopic traits and anthropometric, measurements, etc., by taking into account the major drawbacks of each classification system and the salient features. The authors conclude that these studies pointed to heterogeneous results owing to the methodologies and regions, which were covered by the earlier authors to classify Indian populations. In identifying the different racial types, the authors have also used varied nomenclature for the types; some considered language, geography and ethnicity for identifying the racial types. The main racial types identified included Nigrito, Proto-Australoid, Caucasoid and Mongoloid, and these varied between regions and there were more than one racial types in a given region. The studies indicated that the different racial types of the contemporary Indian populations have come from elsewhere. The antiquity of the diverse types is not very clear; however, the studies suggested that the Proto-Australoid were the earliest settlers of the country. The studies also indicated that the tribes and the lower caste groups showed predominantly Proto-Australoid or Paleo-Mediterranean elements, whereas the higher castes showed more of Caucasoid elements of Indo-Aryan, Alemenoid, Dinaric and the Nordics.

The paper also points out the need to improve the classification of Indian populations by conducting more systematic studies. In the second part of paper the authors stress the need for a detailed account of various regional studies, to arrive at comprehensive information about these studied populations. A very apt account of these populations which were conducted by anthropologists and statisticians during 1950–1980 is provided. These studies provided a systematic study of populations and used various distance measures to substructure the populations. The article stresses the need for various discreet parameters to study the racial affinities between castes and tribes.

In nutshell, the first part of the article is a very comprehensive commentary on all the earlier studies that were conducted to classify Indian populations based on anthropometric and morphogenetic data rather than using the data of various biological markers, which is now available in great volume, to justify or conclude the population classification in the present times. The authors have also done well to stress the need for regional studies to arrive at better classifications of Indian populations and have supported their work by the studies of DN Majumdar, PC Mahalanobis and CR Rao, etc. They have further added that most of these studies were based on anthroposcopic and anthropometric studies, and so have some limitations. They concluded that most of the regional studies examined only the castes and tribes, and thus failed to identify new racial groups but only identified various castes, *varnas*, *jatis*, tribes, etc. They have stressed the need of taking into account the biological variation for studying the affinities among various populations. Based on their data set they have postulated a nice population structure regarding Indian populations.

The major drawback of their study is that the authors did not take into consideration a vast amount of data generated by the authors' laboratory and by various other workers on the blood groups and serum protein red cell enzyme polymorphisms to study the micro-evolutionary effects among various Indian population groups. These polymorphic biochemical parameters could have shed more light on the population sub-structuring in the Indian peninsula. They did not take into consideration the plethora of studies conducted by Majumdar, Kashyap, Rao, Thangaraj, Pitchappan, Chaubey, etc., who have used the highly variable molecular markers for studying the population affinities that could have resulted in much more meaningful

information on microdifferentiation of various ethnic groups in India. The overall effort by the authors is good, but the ending of the paper is abrupt. The paper is being published in 2019; hence the authors could have concluded the paper by reviewing some of the newer studies based on DNA markers to emphasize their observations regarding population structure of Indian populations.

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