GENE DIFFERENCES BETWEEN HUMAN RACES

Using gene frequency data for protein loci, Nei and Roychoudhury (1972, 1974) have shown that the net codon differences per locus between major races of man is small compared with the codon differences between two randomly chosen genomes within races. Using a different measure of genic variation, Lewontin (1972) reached a similar conclusion. Mitton (1977) has argued that these conclusions were derived because of the insensitive statistics used and that if one uses a measure of multilocus genotypic identity, substantial differentiation between races is identified. Chakraborty (1978), Lewontin (1978), and Powell and Taylor (1978) have all pointed out the fallacy of Mitton’s statistical measure, but failed to indicate that the question asked by Lewontin, Nei, and Roychoudhury is different from that asked by Mitton.

Mitton’s main interest was in the classification of races, whereas the former authors were interested in the estimation of the average gene differences between races relative to the genic variation within races. Mitton apparently confused these two different problems. His confusion, however, might have been caused by Lewontin’s statement in the last two paragraphs (p. 397) of his 1972 paper. He states, “Since such racial classification is now seen to be of virtually no genetic or taxonomic significance either, no justification can be offered for its continuance.” This statement probably reflects his humanistic view about the current racial problem, particularly the racial difference in intelligence. If we find a small amount of average gene differences between races, it is indeed tempting to conclude that the genetic difference in intelligence or any other character between races must be small. Actually when I showed our results to a friend of mine in 1971, he said, “They are good guy data.” However, I knew that this logic was fallacious, since the racial difference of a particular phenotypic character might be caused by a few gene loci. A good example is the difference in skin pigmentation between blacks and whites, which is possibly due to the gene substitution at about four loci (Stern 1970). We therefore did not make any such statement in our 1972 paper.

It should also be noted that although the relative gene differences between races are small, they can be used for classifying races or making a phylogenetic tree if a sufficient number of loci are used. Indeed we have been working on this problem for the last several years (Nei 1978). At any rate, Lewontin’s humanistic statement should not be confused with what he or we showed statistically. In my view his statement is excessive and says more than his data indicate. The study of classification of human races is important in understanding the evolution of man.

LITERATURE CITED


© 1981 by The University of Chicago. 0003-0147/81/1701-0010$02.00


Masatoshi Nei

Center for Demographic and Population Genetics
University of Texas at Houston
P.O. Box 20334
Houston, Texas 77025

Submitted April 17, 1979; Accepted September 4, 1979