

Table 10. Among Canonical Structure Coefficients face height, breadth and projection

	Can 1	Can 2	Can 3
ZYB	.567	-.218	-.183
NPH	.604	-.057	-.080
NEH	.596	-.064	-.113
NEB	-.249	-.072	-.437
HAB	.357	-.204	-.362
ORH	.562	-.048	-.049
OBB	.265	-.402	-.164
ZHB	.551	.028	-.138
SSS	.038	-.492	.068
FHR	-.183	-.408	-.101
HAS	.126	-.388	.422
EKB	.248	-.321	-.193

Face height, Breadth and Projection.

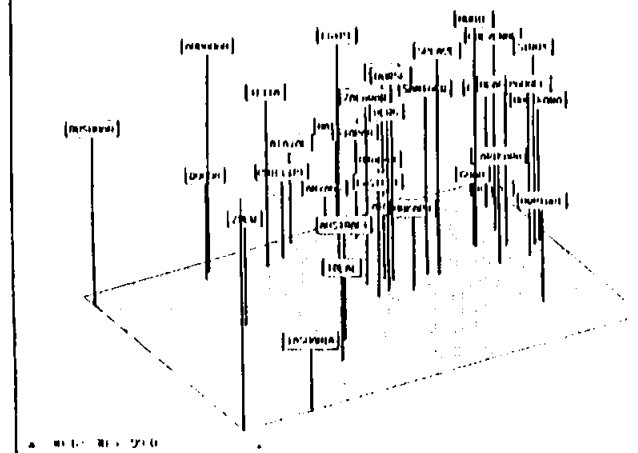


FIGURE 7. Three-dimensional plot showing relationship of the Spirit Cave male to world populations using face height, breadth, and projection variables.

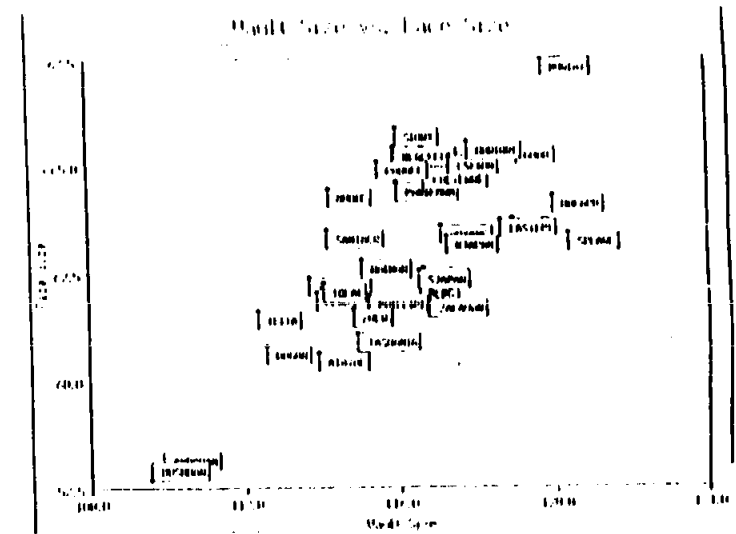


FIGURE 8. Plot of cranial vault and face size showing relationship of the Spirit Cave male to world male sample

There is a positive relationship between vault size and face size evident in the plot, but some independent variation as well. Amerindians can be characterized as possessing large faces and about average vaults. In contrast, the Spirit Cave individual has a large vault and an average sized face. Spirit Cave is most similar to Polynesian populations in vault and face size relationships.

General Analysis

The foregoing provides similarities of the Spirit Cave individual to world populations based on specific morphological complexes. The final stage in the analysis is to obtain an overall assessment. Table 11 gives the distances and the posterior probability of those distances of the Spirit Cave individual from all samples in the world data base, sorted from smallest to largest distance. There is a distinct pattern to be seen in these distances. Two of the three closest populations (Norse and Zalavar) are European. Ainu, the second closest, shares some of the morphometric features attributed to Europeans. In fourth and fifth position are two Amerindians, Blackfeet and Numic respectively. The next set, except for Egypt, consists of East or Southeast Asians. The posterior probabilities indicate that the only reasonable classifications are Norse, Ainu or Zalavar. However, the typicality probability for Norse is 0.00084, and all other populations are of course lower. Therefore the major conclusion is that the skull falls outside the range of variation of any modern population represented by currently available samples.