is inappropriate. The first and fifth clusters are clearly consistent with traditional explanations for the peopling of the New World and for the differences seen by most scholars between Indians and Eskimos. While Szathmary and Ossenberg single out the second cluster as supporting their argument, Brennan and Howells argue convincingly for gene flow, citing both linguistic and historical data in their defense. They point out that their analysis supports the traditional, multiple-migration model for the peopling of the New World as elaborated by Neumann.

Szathmary and Ossenberg present data on a relatively small number of groups that are widely distributed in space and time and definable as populations on very different levels, for example, Cibeque Apache versus Japan, Korea (table 1). Since distance and cluster statistics are based on the comparison of within- and between-group variance, the use of samples ranging from small communities to regional and national aggregates is cavalier at best. The effect of the nature of the samples on the results should be assessed, and some effort should be expended in finding Asiatic Mongoloid samples that are more appropriately matched in scale to the North American data. It is unclear why the study was limited to two groups chosen here when other, more appropriate samples are available (Brennan and Howells n.d., Spuhler 1972, and South American sources).

Scale is important in the interpretation of these results in another way. Small-scale studies of the congruence of linguistic and biological attributes have generally been quite successful. For example, Spielman (1973; Spielman, Migliazza, and Neel 1974) compared serological, anthropometric, and linguistic data on Yanomama villages and found good agreement among the resulting dendrograms, and both Ossenberg (1977) and Zegura (1975) have reported good congruence between linguistic and cranial data on Eskimo populations. In contrast, Spuhler's (1972) extensive analysis of serological, linguistic, and geographic data at time depth within and between North American aboriginal groups fails to demonstrate a significant correlation between biological distance and glottochronological distance. Instead, Spuhler finds that geographic distance and, by extension, gene flow are highly correlated with biological distance. Studies on the correspondence between biological and cultural trees are analogous to the biological-clock problem and as such are based on, among others, two assumptions: that nonphylogenetic sources of resemblance such as gene flow and diffusion are unimportant and that the chance reappearance of similarities in two diverging lines is rare (Spuhler 1972, Byles 1976). As time depth increases in the absence of efficient isolating mechanisms, these assumptions must become less and less tenable. Given the geographic distance and time depth, North American aboriginal groups fail to exhibit a high incidence of 

In studies of gene flow and racial admixture, gamma globulin (Gm) haplotypes are particularly informative as to ethnic origin (Schanfield 1976). Unfortunately, such data were not available to Szathmary and Ossenberg in evaluating the affinities of the Na-Dene-speaking Indian and Eskimo groups. The Gm distribution patterns of Alaskan, Siberian, and Indian groups suggest that the New World Eskimo haplotypes are unique. Unhybridized New World Eskimos totally lack Gm<sup>aa</sup> and Gm<sup>ab</sup> while the founding Eskimo group lacked it. It is possible that the founding Eskimo population was small and did not represent the Siberian indigenous gene pool.

As information on more genetic markers becomes available, the likelihood of these alternative explanatory hypotheses may have to be amended. In addition, other explanations may become more plausible with the addition of genetic and morphological information from Siberia.

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In science, the constant challenging of old dogma is a sign of intellectual health and vitality. Uncritical and premature acceptance of explanatory hypotheses as fact can retard the progress of investigation. All too often, research becomes stagnant when established theories remain unchallenged and are passed on from one intellectual generation to another as "truths." Szathmary and Ossenberg raise some significant questions concerning one of the established truths, namely, that "Eskimos and Indians are descendants of different populations that entered the New World at different times, following different routes." Implicit in this "truth" is that the Eskimos are latecomers into the New World, which was peopled earlier by the Amerindians. While the questions posed by the authors may not be answerable at this time, it is hoped that their synthesis will stimulate additional research.

On the basis of multivariate statistical analyses of blood-marker frequencies and discrete cranial traits, an affinity is noted between the Eskimo and the Indian Na-Dene-speakers. The affinity is interpreted in two possible ways: (1) the two groups had a common founding or ancestral group some 10,000 years ago, or (2) the founding group had two components that were linguistically and biologically distinct.

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Although most initial reservations against the authors' use of specifically archaeological data are in the long run too insignificant to mention, I do wish to raise two points by way of supplement rather than criticism.

1. The citation (Laughlin 1963, 1975) of work said to set out the "most favoured current view" of Eskimo and Aleut origins fails entirely to do justice to the recent recognition and attempted treatment of a most complex set of related problems by a number of investigators (e.g., Clark 1974, 1975; Dumond 1970, 1974, 1977, 1978; Dumond, Conton, and Shields 1975; Dumond, Henn, and Stuckenrath 1976; Irving 1970; McCartney 1971; McGhee 1976, 1978; Turner and Turner 1974). These problems involve relationships not alone between Eskimos and Aleuts, but also between the somewhat anomalous "Pacific Eskimos" and their northern brethren.