

The Great Human Diasporas: The History of Diversity and Evolution

Luigi Luca Cavalli-Sforza & Francesco Cavalli-Sforza

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Review by Martin P. Evison

If you picked up a book with this title, you might expect to read a moving account of the displacement of peoples of Jewish, African, southern or eastern Asian, or even European origin. On the other hand, you might expect an epic description of the immense cultural diversity which is, after all, humanity's most striking feature. These subjects do not feature substantially in this work, however.

This book is an account of the scholarly endeavours of one man, Luca Cavalli-Sforza, Professor Emeritus of Human Genetics at Stanford University, California, and as such, it is about the evolution of biological (or genetic) and cultural diversity in their most general sense. The book is co-authored with Cavalli-Sforza's son Francesco, who is a film-maker. Francesco's role is to present the text as his father's narrative. The book is ambitious in its coverage, especially as it is directed at a non-specialist readership: chapter titles refer to the 'pygmies' and last remaining 'tribes' of hunter-gatherers; the evolution of modern humans; the theory of evolution; stories of the colonisation of the planet; the growth of agriculture and of linguistic diversity; cultural and genetic heritage; race and racism; and future genetic research and developments. All are addressed in a way which, I believe, do make the book accessible to a lay audience. A good deal of background information is provided, on radio-carbon dating, historical linguistics, and protein and DNA polymorphism, for example, and on the scientific approach itself.

Cavalli-Sforza's thesis is that human diversity is an evolutionary phenomenon. The notion that human origins are evolutionary, just like those of all other species, is perhaps uncontroversial. Applying an evolutionary model to the origins of linguistic and cultural diversity is contentious and Cavalli-Sforza's approach, which essentially equates people, culture and language, is over-simplistic, often self-contradictory and, in my view, not borne out by the anthropological evidence.

Cavalli-Sforza sets out to explain patterns of gene distributions detectable in modern people as being attributable to, for example, the expansion of Neolithic farmers, the Greeks or the Kurgans. As well as spreading their genes, these groups of people also spread their culture and language in the same way, the children having learned at their parent's knee. The settlement of the planet is described as a series of schisms and shifts of peoples, which are irreversible and complete. Cavalli-Sforza's fundamental assumptions about communities and culture are questionable. Do discrete 'peoples' really exist, except as convenient stereotypes or as a heuristic device of the anthropologist? Are the genetic traces of past demographic events attributable to simple dispersions? Is the co-transmission of genes, language and culture as consistent an occurrence as Cavalli-Sforza makes out? In my view, the answer to each of these questions is 'no'. As Cavalli-Sforza himself points out in the text, cultural

similarities alone are unreliable indicators of genetic similarities, migration may be a reciprocal activity and status (and other factors) are at least as important in the transmission of language as dispersals of people are. Although Cavalli-Sforza is clearly aware of many cases where a co-transmission model fails, these are always described as exceptions which can be explained away and hence prove the rule.

There are so many explicable exceptions, however, that a point is reached where the rule is no longer a useful precept. Again, Cavalli-Sforza himself points out that truly isolated groups of people are extremely rare, occurring only in the most remote geographical regions and isolated islands, and his examples continually incorporate varying degrees of population admixture. So, in contrast to the fundamental theme, gene trees and language trees are not histories of peoples. In reality, these discrete 'peoples' are continually reconstituting themselves in terms of language and culture, and of the individuals which make up their number (one is left wondering what constitutes a 'people' at all). The choice of groups for study, which is often linguistically-based (e.g. Australian Aborigines, New Guineans, Koreans, English), may well be influencing Cavalli-Sforza's results. Migration, expansion, dispersion and admixture are all technical terms in which the experiences of people whose lives we hope to represent are absent. It may be that some of the genetic trails we can now detect are the consequence of events which were barely perceptible at the time as distinct social phenomena.

In maintaining that peoples, languages and culture are congruent, Cavalli-Sforza leaves himself open to attack by those who believe that genetics is racist and who are quick to play the Holocaust card. This is particularly ironic, as Cavalli-Sforza devotes a large part of the book to discrediting racism and race as a concept, as the following quotations illustrate:

"The idea of race in the human species serves no purpose. The structure of human populations is extremely complex and changes from area to area; there are always nuances deriving from continual migration across and within the borders of every nation, which make clear distinctions impossible" (p. 237; again, the explanation is seemingly in contradiction with the underlying thesis of the book).

"It is because they are external that these racial differences strike us so forcibly, and we automatically assume that differences of similar magnitude exist below the surface, in the rest of our genetic makeup. This is simply not so: the remainder of our genetic makeup hardly differs at all" (p.124).

Furthermore, a whole postscript chapter is dedicated to dismantling the various fallacious arguments presented as scientific fact in Herrnstein & Murray's *The Bell Curve*, to the general problem of distinguishing genetic from environmental effects, and to discussing the doubtful links between genes and human behaviour. Some problematic terminology is employed, such as pygmy, tribe, race, progress, primitive, etc., but this is mitigated by subsequent deconstruction of these conceptual pitfalls, derived from common-sense views, which is particularly worthwhile for a non-specialist readership, but this will not be sufficient to satisfy readers who are sensitive to the way such misleading and value-laden terms have been employed in the past.

Readers will draw their own conclusions as to the merits of Cavalli-Sforza's thesis and its ethical basis. Whilst Cavalli-Sforza writes with fondness and respect for the 'pygmies', some readers may find an air of paternalism in this narrative. The stories explaining the adaptive

evolution of 'pygmy' physique understate the difficulty anthropologists have in satisfactorily explaining geographical trends in human phenotypic diversity. Far too little discussion is given over to cultural (compared with biological) diversity and the approach to culture is highly reductionist, for example:

"When we are able to describe the brain in physical terms ... probably knowledge and culture will be described as a collection of states and levels of excitement in nerve cells and their connections" (p.208).

Anthropologists face a fundamental ethical dilemma in studying societies which seem to face destruction. Those using genetics in their research face a particular problem in that there may be economic value (to the West) in recording or to be specific, patenting, human DNA diversity. Luca Cavalli-Sforza is a key figure in the study of genetic diversity and his brief coverage of the Human Genome Diversity project in this book, with no ethical discussion, will do nothing to allay the fears of those who see it as science at its most callous.

Despite Francesco Cavalli-Sforza's introductory claim that the book is not the scientific biography of a researcher, the converse seems to be true. Luca Cavalli-Sforza has been one of the most important figures in post-war studies of genetic diversity. His scientific refutations of racism go back for nearly 30 years, when with Walter Bodmer, he dismantled the determinist explanations for ethnically-based disparities in IQ scores, even going as far as to suggest that racist research of this kind should not be publicly funded. Again, in this present work, race and racism are shown to be the destructive fallacies they are (why do anthropologists still bother to use the word 'race?'). The Cavalli-Sforzas' synthesis for a popular readership is a creditable achievement. The emphasis given to a multi-disciplinary approach to anthropology and on the collaborative nature of research, with both people and scholars, is crucially important. So are ethics though, and really, the race, language and culture equation was demolished by Franz Boas over 50 years ago. How many readers still trust a scientist who states: 'I will be the first to disbelieve my own ideas if a scientific discipline points in a different direction'? I would not like to be the one to tell Professor Cavalli-Sforza he is barking up the wrong tree.

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