

Jared M. Diamond (1997) *Guns, Germs, and Steel. The Fates of Human Societies*. New York: W.W. Norton. ISBN 0-393-03891-2 (Hdbk) US\$27.50 CAN\$35.00 UK£19.45. Random House / Vintage Pbk: ISBN 0-09-930278-0 UK£8.99 Pp. 480.

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In *Guns, Germs, and Steel*, Jared Diamond joins the debate over racial differences in IQ. In a few *ex cathedra* pronouncements, Diamond brands the genetic argument "racist" (pp. 19-22), declares Herrnstein and Murray's (1994) *The Bell Curve* "notorious" (p. 431), and states: "The objection to such racist explanations is not just that they are loathsome but also that they are wrong" (p. 19). He summarises his solution to one of philosophy and social science's most enduring questions in one credal sentence: "History followed different courses for different peoples because of differences among people's environments, not because of biological differences among peoples themselves" (p. 25).

The book grew out of an attempt to answer "Yali's question." Yali, a New Guinea native, allegedly asked Diamond, an evolutionary biologist, "Why is it that you white people developed so much cargo and brought it to New Guinea, but we black people had little cargo of our own?" "Cargo" refers to all that technology - airplanes, guns, steel axes - European whites brought to New Guinea, whose dark-skinned inhabitants were still using stone tools. Diamond's answer, is that the peoples of the Eurasian continent were environmentally rather than biologically advantaged. They had the good fortune to have lived in centrally located homelands that were oriented along an east-west axis, thereby allowing ready diffusion of their abundant supply of domesticable animals, plants, and of cultural innovations.

According to Diamond's reckoning, there are only 148 species of large, wild creatures that can be tamed (and of these only 14 species have made it to the farm). In the plant realm, only several hundred of 200,000 species can yield good protein. The ancestors of these mammals and plants - which include pigs, barley, and rice - just happened to be in the Fertile Crescent and China. Moreover, only the Eurasian continent has an east-west axis allowing diffusion of plants, animals, and people across similar, somewhat Mediterranean-style climate and terrain. The north-south axis of Africa and America inhibited diffusion due to severe changes in climate. For example, the tropical jungle of central America effectively stopped the southward migration of domestic corn from Mexico and the northward migration of the domestic llama from Peru. Five thousand years after llamas had been domesticated in the Andes, the Maya, Aztecs, and all the other native societies of Mexico remained without pack animals. Similarly, the Saharan desert and tropical rainforests of Africa impeded the southward spread of technology from the Fertile Crescent of the Middle-East.

Thus, agriculturally wealthy Eurasians had a long head start in developing a surplus population with a division of labor that enabled the tools of civilization to arise. Agricultural settlements led small bands of nomadic hunter-gatherers to coalesce into village-based tribes. These grew into chiefdoms comprising thousands of people from many villages. Chiefdoms led conflict-mediating laws to be codified. Ruling classes and elites emerged to mobilize citizens and their resources to wage war, build public works, and increase political power. Finally, the state arose and with it the large populations and technological developments including political organizations that produced fleets of soldiers engaging in transoceanic conquest.

Astonishing, for example, is how Diamond describes the case of the island of Madagascar. It was colonized around 500 A.D. (about the same time as Hawaii) by an Austronesian-language people (similar to Polynesians) from Borneo, some 4,000 miles across the Indian Ocean, rather than by East Africans living only 250 miles away. Diamond's answer (again) is that conquerors had better homelands rather than better brains. The immediate reason why Austronesians crossed the Indian Ocean was because they invented ocean-going canoes. They did this by outriggering dugouts, to stop them from capsizing, by lashing two smaller logs parallel to the hull and several feet from it, one on each side, connected to the hull by poles, with sails added later.

According to Diamond, the underlying explanation of why the Austronesians were more inventive than Africans and developed a technology that Africans did not dream of is that they were colonizing farmers originating in south China where they had achieved a head start through domesticating pigs, chickens, dogs, and rice. They simply loaded their domesticated products into their ocean-going canoes and moved on to replace the original tropical southeast Asians (possibly hunter-gathering Negritos). The Austronesian expansion began in Taiwan (3,500 B.C.), then moved to the Philippines (3,000 B.C.), Indonesia (2,000 B.C.), New Zealand (1,000 A.D.) and the Pacific Islands (500 A.D.).

Data Unexplained:

As a card-carrying "race-realist" (Rushton, 1995), I should register my objection to Diamond's claim that *Guns, Germs, and Steel* is a good faith effort to solve one of the most controversial and enduring controversies in the history of philosophy and social science. However well written, however encyclopedic in scope, and however much truth there may be in this book about 10,000 years of human history, Diamond does not give his readers the whole truth and nothing but the truth. In fact, he gives them much less. Inexcusably for an evolutionary biologist, Diamond fails to inform his readers that it is different environments that cause, via natural selection, biological differences among populations. All of the Eurasian developments he described created positive feedback loops selecting for increased intelligence and various personality traits (e.g., altruism, rule-following, etc.).

Racial differences in brain size and IQ map very closely to the same cultural histories Diamond explains. Although Diamond dismisses such research as "loathsome", he fails to tell his readers what, if anything, might be scientifically wrong with any of it. One hundred years of research has established that East Asians and Europeans average higher IQs than do Africans. East Asians, measured in North America and in Pacific Rim countries, typically average IQs in the range of 101 to 111. Caucasoid populations in North America, Europe, and Australasia typically average IQs from 85 to 115 with an overall mean of 100. African populations living south of the Sahara, in North America, in the Caribbean, and in Britain typically have mean IQs from 70 to 90.

Discoveries using Magnetic Resonance Imaging (MRI), which creates a three-dimensional image of the living brain, have shown a strong positive correlation (.44) between brain size and IQ (see Rushton & Ankney, 1996, for a review). And there is more. The National Collaborative Perinatal Project on 53,000 children by Sarah Broman and her colleagues, showed that head perimeter at birth significantly predicts head perimeter at 7 years - and head perimeter at seven years predicts IQ. It also shows that Asian children average a larger head perimeter at birth than do White children who average a larger head perimeter than do Black children.

Racial differences in brain size have been established using a variety of modern methods. Using endocranial volume, for example, Beals et al. (1984, p. 307, Table 5) analyzed about 20,000 skulls from around the world. East Asians averaged 1,415 cm³, Europeans averaged 1,362 cm³, and Africans averaged 1,268 cm³. Using external head measures to calculate cranial capacities, Rushton (1992) analyzed a stratified random sample of 6,325 U.S. Army personnel measured in 1988 for fitting helmets and found that Asian Americans averaged 1,416 cm³, European Americans 1,380 cm³, and African Americans 1,359 cm³. Finally, a recent MRI study found that people of African and Caribbean background averaged a smaller brain volume than did those of European background (again see Rushton & Ankney, 1996, for review).

As discussed in Herrnstein and Murray's (1994) *The Bell Curve*, and Rushton's (1995) *Race, Evolution, and Behavior*, the heritability of intelligence is now well established from numerous adoption, twin, and family studies. Particularly noteworthy are the genetic contributions of around 80% found in adult twins reared apart. And most transracial adoption studies provide evidence for the heritability of racial differences in IQ. For instance, Korean and Vietnamese children adopted into white American and white Belgian homes were examined in studies by E.A. Clark and J. Hanisee, by M. Frydman and R. Lynn, and by M. Winick et al. Many had been hospitalized for malnutrition. But they went on to develop IQs ten or more points higher than their adoptive national norms. By contrast, the famous Minnesota Transracial Adoption Study marked black/white differences emerged by age 17 even though the black children had been reared in white middle-class families (Weinberg, Scarr & Waldman, 1992).

Although Diamond (pp. 38-40) acknowledges the accumulating evidence in favor of the "Out-of-Africa" theory of human origins that *Homo sapiens* arose in Africa 200,000 years ago, expanded beyond Africa in an African/non-African split about 110,000 years ago, and then migrated east in a European/East Asian split about 40,000 years ago, he refuses to acknowledge any relationship between this evolutionary sequence and the parallel ranking of Africans, Europeans, and East Asians in brain size and other behavioral traits. Nor does he tell his readers that evolutionary selection pressures were different in the hot savanna where Africans evolved than in the cold Arctic where East Asians evolved.

In recent years, the equalitarian dogma has been hit hard by some bad karma. In the wake of the success of *The Bell Curve* and other recent books about race (including my own) to provide race-realist answers to the question of differential group achievement, there has been an intense effort to get the previously tabooed toothpaste back in the tube. It is in such times that Diamond provides an answer that, just coincidentally, shores up the walls of the politically correct fortress, when they are being threateningly undermined by scientific research.

This review is an abridged version of a review-essay published in the *Journal of Social and Evolutionary Systems*, JAI Press.

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