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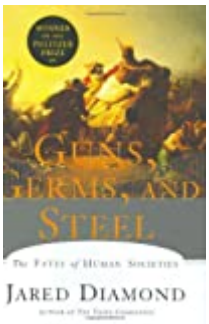


**Jared Diamond.** *Guns, Germs and Steel: The Fates of Human Societies.* New York: W.W. Norton & Company, 1997. 480 pp. $17.95 (paper), ISBN 978-0-393-31755-8; $29.95 (cloth), ISBN 978-0-393-03891-0.

**Jared M. Diamond.** *Guns, Germs, and Steel: The Fates of Human Societies.* New York and London: W.W. Norton & Company, 1999. 480 pp.

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## Environmental History and the Clash of Civilizations

The availability of environmental history texts in Portuguese, for Brazilian and other Portuguese-speaking readers, has improved only cautiously, despite the fact that a few translated texts received critical and public acclaim. Since 1989, at least five important titles were translated from English: Warren Dean's *Brazil and the Struggle for Rubber* and *With Broadax and Firebrand*, Alfred Crosby's *Ecological Imperialism*, Frederick Turner's *Beyond Geography*, and John Perlin's *A Forest Journey*. From the French there was the translation of several texts by Fernand Braudel, the ranking French historian of the Annales school, from whom many environmental historians have taken inspiration. There are voids that could have already been filled had there been more initiative by Brazilian publishers, such as Donald Worster's classic *Nature's Economy*, or William Cronon's unique *Nature's Metropolis*. The fact is that, since 1989, one good environmental history book has been translated and published in Brazil about every two years.

It is time for Brazilian publishers to take action once again, if not to reduce the backlog, at least to keep up with the times. There is a new English-language book in the field of environmental history deserving translation, and it is a winner. The title is *Guns, Germs, and Steel: The Fate of Human Societies*, by Jared Diamond, professor of physiology at the UCLA School of Medicine, and ranking researcher of biological diversity. For decades he has researched the distribution of plants and animals in New Guinea and several islands and archipelagoes of the Pacific ocean, but this is a book about, so to speak, the distribution of human societies on the planet.

The book won a Pulitzer prize in 1998. However, its best recommendation is the boldness of its theme. Diamond seeks answer to an old and persistent question: Why are there so many cultural, technological, economic and civilizational differences between peoples spread on the different continents, sub-continents, and islands of

the planet? His basic research question can be put as: What happened in the last 11 to 13 thousand years that made the human experience so varied from time to time, from place to place, and even at the same time and the same place?

His basic answer is that different human societies, despite a basically similar potential to build civilizations, were strongly conditioned by natural factors (climate, biology, geology, etc.) that did not always yield to their cultural and technological capabilities. Diamond therefore gives explanatory value to non-human and non-social factors in the discussion of human and social differences. This has been, I believe, the most valuable asset of the best of environmental history. Diamond works within a framework of cultural relativism with which most historians and social scientists can feel comfortable. He directly refutes any explanations based solely on biological, racial or genetic differences. However, his familiarity with the instruments of the natural sciences and with natural processes enables him to argue selected natural facts as explanatory of selected social facts. Diamond stretches this approach at least as much as any other study that I know of, but what makes his contribution so challenging and original is that he covers such a large period of pre-history and history, for which supporting evidence is mostly archeological and paleontological. He daringly combines evidence pulled together by archeologists, anthropologists, historians, linguists, climatologists, biologists, geographers, geologists, and so on, analyzing it and reaching original conclusions and insights. One may not agree with Diamond's answers, but it must be recognized that he makes all the questions (including the "uncomfortable" ones) and provides his answers in a systematic, serene manner.

The fact that originated the research contained in the book is worth being mentioned in this review. In 1972, Yali, a native of New Guinea and a friend of the author, asked him a question about a difference that he perceived between the Europeans colonizers and New Guineans: "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" is the generic name that Yali and his people give to the paraphernalia that Europeans make and carry with them everywhere–matches and watches, axes and umbrellas, shoes and guns, etc.). Diamond did not have an answer, but since then he engaged in a long series of "social" readings–in anthropology, archeology, history of civilizations, linguistics, technology, epidemiology. Combining this with his training as a natural scientist, he spent almost thirty years studying for and writing this book that can be classified as a "history of human civilizations as modified by human factors." It is his belated but substantial answer to Yali's question.

This long, carefully presented and well-argued answer can be summarized in the following manner: The peoples that developed systems of food production (agriculture and domestication of animals) gained, over the last 11,000 years, an enormous advantage over those peoples that did not go beyond systems of food collection (hunting, gathering, and fishing). The first learned how to produce much more "cargo" than the second. From a situation of virtual similarity 11,000 years ago on all continents (inferred from archeological evidence), some human groups started to differ markedly from others and from their own predecessors. Food producers controlled and expanded the productivity of plants and animals and created highly efficient artificial systems, more productive and dependable than the natural systems from which food collectors took their shares. Accordingly, the "cargoes" of the first became much heavier. This change–to which archeologists and historians gave the well-known name of "Neolithic revolution"–was for Diamond a major divide in terms of the social, cultural, technological, political and economic diversity of different branches of humanity over the last six to eight thousand years.

Simply put, Diamond argues that raising plants and animals was the single most important factor of the civilizational distinctions of the past and present. The much more recent phenomena of industrialization and urbanization, usually the object of deeper concern among environmentally concerned researchers and citizens, are treated only in passing by Diamond as derived from the birth and spread of food producing systems. Industries, cities and services of the contemporary world also have a very irregular distribution among peoples and continents of the contemporary world, but for Diamond this distribution is ultimately explained by the much more ancient revolution in food production. In other words, industrialization followed the steps of food production. The specific "industrial cargoes" only added to the already fatter cargoes of food producers.

In this part of his discussion, Diamond's book can be read in comparison with a series of famous books, such as David S. Landes's *The Wealth and Poverty of Nations*, Samuel P. Huntington's *The Clash of Civilizations and the Remaking of the World Order*, and even Alvin Toffler's *The Third Wave*. All of them discuss the differences among peoples, although they focus much more on the modern

and contemporary world. Another book that can be compared with Diamond's is Louis Mumford's classic *Techniques and Civilization*, in which there is a quite similar discussion about the role of technology in the different pathways of civilization.

The highly charged Chapter Three was well placed by Diamond at the beginning of the book. He uses is it as a dramatic illustration and a source of facts and processes of the differences between peoples. He narrates the famous episode of the encounter between the small group of Spanish conquistadores under the command of Francisco Pizarro and the numerous armies of Inca emperor Atahuallpa, in Cajamarca, 1532. The Spaniards represented a vanguard of the expanding Europeans (ultimately inheritors of the food producing revolution of the Old World), while the Inca were among the New World peoples that had advanced the most in the food production pathway (they had agriculture, domesticated animals, irrigation, a centralized state, an organized religion, tribute-paying dominated peoples, specialized armies and so on). About 170 Spaniards–without allies or supplies, but helped by their metallic weapons, guns and pathogens–broke the back of Atahuallpa's armies of 80,000 soldiers with amazing ease. Diamond uses this episode to show that even the most advanced food producers in the New World–including the Aztecs, also conquered relatively easily by Hernan Cortez a few years earlier–did not pack enough "cargo" to resist the aggression and the expansion of Europeans. Incas and Aztecs, in the early 1500s, were still short in some basic ingredients of the paraphernalia of most successful food producers–metallurgy, a diversified stock of domesticated animals, writing, resident epidemic diseases. This explains their collapse in the face of often confused, unruly, and small bands of Europeans who stumbled on their lands without even knowing exactly where they were.

Despite taking excellent advantage of this episode, Diamond actually spends most of the book looking at quite different confrontations–those between food producers and food collectors. His attention goes mostly to the thousands of food collecting peoples of all continents who invariably succumbed to food producing peoples, recently or far back in history and pre-history. This dominance of food producers over food collectors is considered by him to be "the broadest pattern of history" (see diagram on p. 87). The more remote factors that explain this pattern the: the more homogeneous latitudes of Eurasia (making the spread of domesticated plants and animals easier); the existence of larger numbers of plants and animals prone to be domesticated in Eurasia; actual domestication; the production and storage of surplus crops; the formation of societies with dense, numerous, sedentary and stratified populations. The more recent explanations are technological improvements (guns, steel, metallic weapons, boats and ships, navigation technology, etc.), writing, centralized states, professional armies, and transmissible diseases of animal origin. These are the components of the prevailing civilizational "package" that Diamond summarizes as "guns, germs and steel." In this discussion, Diamond's study is similar to Crosby's *Ecological Imperialism*, although Crosby focuses much more on Europeans of historical times.

As demanded by his own arguments, Diamond presents very well organized and documented chapters about the domestication of plants in a planetary scale, showing the advantage of the Eurasian or Old World "agricultural package" (see, for example, Table 7.1, pp. 127-28). Table 8.1 (p. 140) shows that the Old World had the decisive advantage of hosting 33 of the 56 native species of grasses with big seeds (such as wheat and rice) that became prime domesticated plants. Many other important domesticated plants were also native of Eurasia. With a larger number of plants prone to domestication, actual episodes of domestication were more probable and more successful in Eurasia.

A similar discussion is made about domesticated animals. Table 9.1 (pp. 160-61) has the names, the places of origin and the favorable traits of the "ancient fourteen species of big herbivorous domestic animals" (goat, sheep, cow, pig, horse, camel, reindeer, water buffalo, llama, etc.), the world's major domesticated animals. Only one of them is from the New World–the South American llama. Table 9.2 (p. 162) gives more data and shows that again the Old World had natural advantages: it had 72 animal species prone to domestication (13 were domesticated). Sub-Saharan Africa had 51 candidates for domestication, but none was domesticated. Among 24 candidates In the entire American continent, only the llama was domesticated.

Chapter Eleven expands the discussion about domesticated animals by examining the "lethal gifts of livestock"–the diseases that humans gained through a more intimate contact with their selected stock of tame animals. Despite the difficulties implied by such diseases to the original domesticating societies, the advantages of domesticated animals was highly made up for–in terms of meat, milk, hides, transportation, and traction. But the animal-originated diseases carried by domestica-

tors proved to be immensely more "useful" as weapons against food collecting peoples who lacked domesticated animals and resistance to these types of diseases. Food collectors have been invariably decimated by such diseases when entering contact with food producers, a supplementary natural or biological advantage for the latter.

Diamond uses other chapters to discuss quite different advantages that have systematically helped food producers to prevail. These are more familiar to social scientists: writing, metallurgy, accounting, pottery, navigation equipment and knowledge, the wheel, machines, organized religions, centralized states, professional armies, social stratification, division of labor, etc. His discussion highlights the very high correlation between these features and food production, reminding us that food collectors rarely developed these features, let alone the entire "package."

The only part for which the natural scientist Diamond did not do all the necessary "homework" is, in my view, Chapter Fourteen, about the emergence of the centralized state. Although he works with a classification of political organizations (bands, tribes, chiefdoms and states) that is appropriate for his analysis, he relies to heavily on the argued opposition between the "egalitarianism" of bands and tribes and the "hierarchical cleptocracy" of states. If the state–the political organization typical of all food producers–was built on a basis as fragile as institutionalized robbery, it would not have been such a powerful instrument to conquer and subordinate food collectors. The importance given to "cleptocracy" actually undermines the strength of the state as a crucial actor in what Diamond himself calls the broadest pattern in history–producers overwhelming collectors. The explorers, armies and colonists and other vanguards of food producers have indeed been backed by centralized states, but they were moved not by a manifest belief in "cleptocracy," but by other important considerations such as nationalistic or ethnic loyalty, religious righteousness, ambition, need for territory and resources, migratory urges, etc. These contents are missing in Diamond's analysis and we are left to wonder about how the state could be such a powerful actor (as shown by Diamond himself) if based on nothing else but the legitimate robbery of its own citizens who fought fiercely for it.

The book concludes with five chapters dedicated to case studies of confrontations between food producers and food collectors. Episodes or processes of human migration, confrontation and escape are analyzed for Australia and New Guinea, East Asia, the so-called Austronesia, America and Africa. These short chapters illustrate well most of the points argued along the text in a more generic manner. Even in these chapters Diamond focuses on pre-historical periods, using analytical arguments based on the expansion of domesticated plants and animals, languages, and technologies to understand the clashed between producers and collectors.

The book is innovative, daring, well researched, and well documented. The prose is excellent and the reading is actually fun. Diamond produced an encompassing and broad text, but it never lacks substance. The reader always feels that important things are being asked, discussed and answered. He comes out with a solid answer to the question about the diversity of human experience on the planet. The question is both old and contemporary, and even in the current wave of globalization, in which distances are shortened and information travels quickly, nothing indicates that it will go away. Every time that the question is made, Jared Diamond's book will have at least a good portion of the answer. He wrote it not only for Yali, but for all of us.





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