[I]t is only in adverse climates that we find the “cracker” type of “poor white trash” developing in appreciable numbers. If white men lived a thousand years in Egypt, it seems probable that a large proportion of them would degenerate to this type. (Huntington 1915:33–34)

Jim Blaut (2000) has already presented the most coherent and sustained factual and conceptual critique of Jared Diamond’s *Guns, Germs, and Steel* (*GGS*):

1. The book by no means describes an experiment; there are no controls or definitions of variables. So too, what if we had declared the “experiment” complete in 1491? 2075? Who would have been declared the global “winner” then?
2. The fertile crescent was not the most important center of domestication; nutrition from wheat and millet is by no means superior to that of rice and maize complex diets.
3. Nothing about European topography naturally enhances differentiation, social diversity, state-building, or exchange, whether relative to China or to anywhere else; criteria used to support Europe’s “advantages” (isolated capes and bays, etc) are also used to suggest disadvantages of other regions.

Many minor matters of fact might also be disputed. The “revolutionary” role of the horse in the history of warfare and civilization, for example, is contingent on a range of other technological and geographic factors (Jones 1987). So, too, the verdict is still out on the decline or “failure” of many “advanced” urban cultures around the world (“deurbanization” is perhaps a less loaded term). This is especially the case for the deurbanization of Harappan cities of the Indus Valley (Kenoyer 1998) and the emergence of Gangetic agrarian kingdoms (Allchin 1995), but it applies to other states in Southeast Asia and Africa. More importantly, it is also clear that Europe’s “head start” was a product of the conquest of the New World, rather than an explanation for it. Only
by acquiring a massive store of precious metals and sites for cash-crop production in the New World could tiny, resource-poor Europe hope to break into the global Afro-Asian markets of the 15th century (Frank 1998).

Rather than rehearse these arguments again, however, I want to point briefly to the helpful ways in which GGS draws attention to the power-laden networking of human and nonhuman actors to create vast results. The fact that the volume inherits the absurd “devil’s alternative,” “Race or place?” (as racist and environmental determinist Ellsworth Huntington [1915] famously put it) demonstrates only that Diamond has harnessed a thoughtful and fascinating body of evidence to an explanatory dead horse, not that he isn’t onto something. By way of alternative, I want to briefly suggest that a critical retelling of Diamond’s story is possible, one of a series of environmental networks, entangling and dissolving over space and time.

As a first example, consider the persistence of varying agroecologies in South Asia. “In the long run and over large areas,” Diamond insists, communities that accept new innovations will be able to “outbreed, displace, conquer, or kill off societies resisting innovation” (p 154). Contemporary ethnographic and archaeological evidence from South Asia (a region that receives a scant few pages in GGS) fundamentally contradicts this thesis, however. Nomadic pastoralists, hunter-gatherers, and a range of other groups persist throughout the archaeological record. These communities—especially pastoral communities—have increased in numbers and survived into the 21st century not as a result of their isolation, but because they are networked with settled agriculturists and cities (Allchin and Allchin 1982). Field stubble from domesticated grains, livestock, dung, and forest are all integrated through pastoral mobility. This supports the long-accepted notion that settled agrarian states are necessary for, and anterior to, nomadic pastoralism, and that together they form a symbiotic species and nutrient exchange system (Lees and Bates 1974). More than this, however, the Gangetic kingdoms of the post-Harappan period (from the beginning of the Common Era, ca 0 AD) were leveraged on the increased integration of these species; laws for cattle protection are not timeless phenomena, and the sacred cow is a historical product of medieval state planning for surplus and stability (Robbins 1998; Simoons 1994). Cattle, grains, nomads, kings: a self-organized and stable network that proved durable even in the face of aggressive 19th-century colonial change.

Closer to Diamond’s concerns, consider the disease ecology networks of Colombian contact. Even leaving aside intentional introduction (measles blankets), the network of Afro-Eurasian cattle, people, and microbes was one that yielded tremendous advantages for European animals, microbes, and the settlers who accompanied them to the Americas. Here, GGS does admirable work to show that the absence
of domesticated livestock in the New World, in contrast to the close (indeed, intimate) relationship between livestock and Afro-Eurasian populations, explains much of the 16th century in the Americas. There is, of course, some disagreement among archaeological cultural ecologists about the rate and degree of depopulation that can be attributed to Afro-Eurasian disease, but the feedbacks of disease, livestock, and conquest are arguably underplayed by Diamond in his account. A depopulated Meso-America, faced with agricultural labor shortages, must have viewed Afro-Eurasian cattle, and the nutrient-cycling dung system they provided, as a boon. By the early 1600s, Afro-Eurasian livestock outnumbered the native people of the Americas nine to one (Lovell 1992). Cattle, microbes, shipborne human predators: a network that enabled ecological transformation of the New World, in a way that would have been difficult to predict (Crosby 1986).

Next consider New World slavery, an exchange system that, following the demise of native peoples, was essential in “over-running” (the term of choice throughout *GGS*) the Americas. What made it possible? Increasingly, historical and archaeological evidence demonstrates that it was not the “weakness” or “backwardness” of enslaved West Africans, but instead their very agricultural successes. As Carney (2001) has recently shown, West Africa was far from lacking food surpluses (a prerequisite for “cultural failure” in *GGS* terms): the levels of surplus from West African rice production likely supported vast populations in the region into the 1500s, a hugely successful agroecology that, ironically, made the region a target for slavers. So, too, the success of American plantations, populated by Europeans with little or no reliable knowledge of subtropical production, depended entirely on seizing and capitalizing on African rice production knowledge—the knowledge of the enslaved. It also depended upon the transplantation of an African domesticate (rice: *Oryza glaberrima*), which was parlayed into the major cash-earning crop of the antebellum South (Carney 2001). Rice, West African knowledge, slave labor: a highly contingent power/knowledge network, not an inevitable triumph.

What we see in such networks is not a necessary march of history towards Euro-American hegemony. As Diamond concedes at the outset, “[M]ost basic elements of [Western] civilization were developed by other peoples living elsewhere and were then imported to Western Europe” (p 18). The networking that puts those elements in contact and motion is ongoing and geographically complex, whether through independent plant and animal migrations over earth history (Botkin 1990) or through the careful planning of transatlantic merchant families over a decade (Hancock 1995). These human and nonhuman networks achieve temporary, power-laden geographic stability through the emergent properties of alliance, where the whole is more than the sum of its parts.
Thus, the secrets of poverty and wealth in the world today are the same as they were in past eras: they lie in the networking of human and nonhuman actors to create powerful historical effects. But there is nothing “European” or permanent about such networks. They can just as easily be used to explain the equally temporary rise of Arabic culture in Europe or the failure of Viking migrations. Further, as Diamond insists, geography matters, but not in the way he suggests. Specific ecologies are neither “good” nor “bad” for the acquisition of tools and power: specific networks become powerful by linking specific ecologies. Sugar domesticated in Southeast Asia and transplanted to North Africa and Europe by Arab traders is historically inert. Brought to the New World and joined to the labor structure of incipient industrialization, sugar becomes the catalyst of power (Hobhouse 1986; Mintz 1985).

So a non-Eurocentric, environmental, global history of power might yet be built around the kind of evidence Diamond has amassed—to his credit. It must begin from a different question, however. Rather than the dried explanatory husk of “race or place,” we might ask: which environmental alliances have produced the greatest power effects and the greatest inequity? How might they be challenged to create a more equitable and sustainable future? That is a book to which Diamond’s genuinely admirable skills of thoroughness, synthesis, and lucid communication might yet be put.

References
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Augmentative and alternative communication (AAC) is an umbrella term that encompasses the communication methods used to supplement or replace speech or writing for those with impairments in the production or comprehension of spoken or written language. AAC is used by those with a wide range of speech and language impairments, including congenital impairments such as cerebral palsy, intellectual impairment and autism, and acquired conditions such as amyotrophic lateral sclerosis and Parkinson's disease. Networks and Knowledge Systems: An Alternative to “Race or Place”. Paul Robbins. Department of Geography, Ohio State University, Columbus, OH, USA; Robbins.30@osu.edu. Networks and Knowledge Systems. 819. by acquiring a massive store of precious metals and sites for cash-crop production in the New World could tiny, resource-poor Europe hope to break into the global Afro-Asian markets of the 15th century (Frank 1998). Rather than rehearse these arguments again, however, I want to point briefly to the helpful ways in which GGS draws attention to the power-laden networking of human and nonhuman actors to create vast results.