Grand Theory and example cases in *Guns, Germs, and Steel*

- Epilogue of *G.G.,&S: The Future of Human History as a Science*
- restates Yali’s question, and asserts that the answer is not to be found in inherent differences of people – racism
- lays out his Grand Theory
  - intended to explain the big patterns in history
  - which form his Grand Narrative of the rise of Eurasian domination of the world
- This Grand Theory is a social evolution theory, as opposed to a historical particularist one
  - as we saw earlier, there are many kinds of social evolution theories
  - there was one kind that we had not yet covered: **environmental determinism.**
  - this is the kind of theory that Diamond uses in this book
- Environmental determinism
  - grand theories based on the idea that societies primarily respond to conditions set by the environment
    - mostly having to do with how they can get or produce food
      - by foraging, farming, irrigating, herding, etc.
      - but also by how they adapt to climate and geography
      - extreme cold, deserts, forests, high elevations, plains, rugged territory that makes travel difficult, etc.
    - the idea is that these material realities of life are primary, and set the conditions for everything else
      - religion, ideology, politics, family structure, gender roles, etc. are largely determined by how the society deals with the environment
  - and the broad pattern of historical events is determined by
    - the environmental conditions
      - and social responses to them
        - like the availability of water and good soil for farming in some places and not others
      - changes in the environmental conditions
        - and social responses to them
        - like global warmer or cooler periods that changed how much food farmers could produce
    - many variants of this approach
    - modern historians tend to look down on environmental determinism today as being too simplistic
      - societies vary a lot, even in similar environments
      - so other causes must account for all these different societies arising from the same environmental “causes”
      - there are only a limited range of possible environmental causes (warmer, cooler, wetter, drier, etc.)
      - yet these limited causes are supposed to explain the countless unique cultures and events in history
again, other causes must account for all these different results from the same few “causes”
there must be so much more going on that ignoring other factors misses important points
but to be fair,
the environment clearly does limit what is possible
it clearly does channel historical events in some ways
and changes in the environment have clearly played big roles in some aspects of history
the end of the Pleistocene, global warm and cool periods, volcanic eruptions, etc.
so the environment must be an important part of what explains history
maybe environmental determinism is useful for understanding some aspects of history
but must be supplemented with additional kinds of explanations for other aspects of history
Jared Diamond’s variant of environmental determinism
Diamond specifies what he considers to be the key environmental factors that shape social evolution
since these are facts of nature, he considers them to be the ultimate causes he is seeking
cites 4 main environmental ultimate causes
1. continental differences in wild plants and animals available for domestication
   in turn due to size of continent
   and extinctions at end of Pleistocene
2. different rates of diffusion of ideas within continents
   E-W axis of Eurasia favored easier, more rapid diffusion of ideas
   because people, plants, and animals are spread out along a long band of roughly similar latitude
   thus similar climate and ecology
   thus domesticated animals and plants, technology, etc. developed in one area is easily transferred to another
   while the other continents have principal axes that run N-S
   so people, plants, and animals are spread out across different latitudes
   so they are in different climates and ecologies
   so domesticated animals and plants, technologies, etc. are harder to adapt from one region to another
3. different rates of intercontinental diffusion of domesticates and technology
   Africa could benefit from Eurasian animals, etc.
   New World, Australia, New Guinea, etc. could not
4. different total area or population
   more inventors lead to more inventions
   more competition and pressure leads to more rapid development
   New World effectively divided up into several smaller continents
Diamond sees these as the ultimate causes of the dominance of Eurasia
− These 4 causes may explain the broad pattern of history
− the dominance of Eurasia over the rest of the world
− for smaller patterns within this, other environmental factors may provide explanations
− Example: within Eurasia, why did Europe eventually dominate, when China and the Islamic world initially had the lead?
  − power shifted westward from its original center in Mesopotamia due to deforestation, goats, erosion, and salinization
    − Reason: the Fertile Crescent was ecologically fragile, Europe was not
  − China did not continue developing its power because it was too unified
    − China’s simple shape and two big river systems promoted large-scale integration
      − allowing internal politics and lack of competition to stifle useful changes
    − while Europe was fragmented into many competing units
      − due to its complicated shape, coastline, peninsulas, mountains, many small river systems
      − this competition favored advancement
    − Europe’s divided terrain also protected it from destruction and incorporation by Asian nomads
  − Diamond is suggesting that some unity is productive, too much holds back development
    − sounds like Toynbee’s problem with “just enough challenge, but not too much”
− to refine his Grand Theory, Diamond says we need a science of history
  − intended to find general laws of how societies develop
    − much as Ibn Khaldun proposed in the 1370s to seek broad explanations for patterns in history
− 4 features of historical sciences
  − 1. cannot experiment, must use “natural experiments” (comparable cases with differing variables)
  − 2. seek ultimate causes (chemistry and physics do not)
  − 3. cannot predict outcomes, can only predict what further evidence should be found if a theory is correct
  − 4. formulate statistical tendencies, not absolute outcomes
    − every case is unique, but represents the general trend
− historical sciences work at a large scale that averages out particulars
  − [vs. historical particularist theories]
  − is this large scale useful for all purposes?
− point(s)
  − (again): environment, not race, is the ultimate cause
  − four major environmental factors are key
    − see above
  − we need a historical science of history
    − this already exists: it is anthropological history, or anthropological archaeology!
    − except that anthropologists have less confidence in eventually finding general laws
but the methods of historical sciences are in constant use by anthropologists and archaeologists
Chapter 2: A Natural Experiment of History
Polynesia presents a “natural experiment” in seeing how societies developed differently in the different conditions of each island
starting from roughly the same kind of society that colonized each island
this idea is not new; people working in Polynesia have been using it for decades
Diamond suggests several key variables:
1. climate: hot to cold, wet to dry
   allowing for agriculture or not
   and affecting the kinds of agriculture, where possible
2. geology: flat limestone atolls to high volcanic islands to the continental fragment of New Zealand
   providing little fresh water on limestone atolls, to plentiful streams on some high islands and New Zealand
   providing from very few to fairly varied mineral resources for tools, ornaments, etc.
3. marine resources: rich, shallow lagoons to steep sea-floor drop-offs
   providing lots of accessible seafood, to much less
4. land area: larger islands can support larger populations
5. fragmentation of the landscape by steep ridges and valleys: less broken-up landscape allows for more unity, larger political units, less competition and conflict between groups
6. isolation: less isolated islands exchanged more ideas, but also could be conquered by others
   also stand better chance of maintaining all the introduced animal species: pig, chicken, and dog
   while more isolated islands were prone to have one or more go extinct, or not make it there in the first place
several of these combined to make agriculture possible or not
and more or less feasible to intensify
all together, combinations of these variables resulted in islands with very different degrees of social complexity and power
example of the Maori wiping out the Moriori
Diamond argues that the proximate causes of imbalance of power were that
the Maori had many advantages:
larger number of fighters (at least potentially)
accustomed to warfare
more advanced weapon technology
effective military organization
Diamond argues that the ultimate causes of the imbalance of power were that
because the Maori came from a place (New Zealand) that allowed them to have
a large population, versus the small population of Moriori
− due in, turn to an environment that allowed for productive agriculture that could feed many people
− and a much larger island that could hold more people
− a more complex social organization, versus the decentralized, egalitarian Moriori
− because agriculture allows for the support and development of this kind of organization
− warlike customs and technology
− because of the competition and warfare that arose due to the larger population and greater resources
− due, in turn, again, to farming
− the point is to dramatically illustrate how proximate causes of extreme domination in this case can be explained ultimately by the environments that each group developed in
− this is a small, demo version of the argument Diamond will make for the whole world in his book
− point: different environments lead to different social and technological outcomes
− environments that facilitate agriculture, can support large populations, offer a variety of resources, and facilitate interaction among people lead to larger, more complexly organized societies
− large, dense, agricultural, complex, armed, warlike societies will trounce small, simple, foraging, peaceful ones
− Chapter 3: Collision at Cajamarca
− the story: what happened?
− the point: this is a clear example of the process of European domination of other societies, that we have a lot of information about to study
− like the Maori conquering the Moriori
− but much larger scale
− and part of the Grand Narrative: the domination of the rest of the world by Europeans
− Why did the Spaniards succeed?
− Diamond tells the story in order to point out the obvious (and less obvious) proximate causes:
− Better weapons
− especially horses
− guns, although not as useful then as you might think
− steel swords and armor, very important
− European diseases that spread ahead of the Spaniards
− killed the Inka emperor and set off a civil war of succession between followers of two of his sons
− wiped out a large part of the population, throwing the empire into chaos
− Ships to get the Spaniards, their horses, supplies, reinforcements, etc. to Peru
− true, but Diamond does not tell you that the Peruvians had large sailing rafts that carried cargo and people up and down the coast
− and occasionally, apparently, all the way to Mexico
− Pizarro’s first encounter with Andean people was when he encountered one of these rafts
− not as good as the Spanish ships, but nothing to scoff at
− States,
− because they collected the wealth to pay specialists to design and build the ships, weapons, etc.
− and funded missions such as Pizarro’s, buying supplies, etc.
− but again: both the Inkas and the Aztecs (previously conquered by Hernán Cortés) were also organized as hierarchical states
− they, too, collected vast resources for large projects
− although those tended to be domestic, as in temples and palaces
− but did include large armies and stores of supplies for the army
− Writing
− because it gave the Spanish a broader knowledge of the world, tactics, methods that had worked elsewhere, etc.
− and facilitated communication among them and with their state
− but again, the Aztecs also had writing
− and the Inka had an elaborate system of relay runners trained to carry messages at high speed all around the empire
− another cause that Diamond implies elsewhere, but does not include in his list at the end of Chapter 3: an ideology that prepared and motivated the conquerers
− note how the first-hand accounts emphasize the role of the priest, defending the Bible, converting the Indians to Catholicism, etc.
− while also mentioning gaining riches for Spain (and themselves)
− their ideology allowed them to think that this was OK, in fact, the right thing to do
− Pizarro even tells Atahualpa that they have done him a good turn by slaughtering most of his high officials and taking him prisoner!
− Diamond argues that such an ideology is made possible by food production, because it allows for specialists, including priests
− who promulgate religious ideology
− that can motivate behavior such as this
− do you buy that argument?
− also, didn’t the Inkas and Aztecs also have religious and political ideologies?
− wouldn’t they have been willing to kill for their beliefs, too?
− they certainly had specialist priests
− official religious beliefs and practices that centered on their leaders, etc.
− Diamond lists these proximate causes in order to ask “what caused these causes?”
− he is looking for ultimate causes of these proximate causes
− His answer will be that the proximate causes (the advantages held by the Europeans) were due to the geographic and ecological conditions of the continent that they came from
− that is, the Europeans were just the lucky inheritors of a society that was fortunate to develop in a region that led them to have the advantages that allowed them to dominate the world
− what do you think of Diamond’s use of primary sources?
− he strings together paragraphs quoted from different sources written close to the time of the events
good, in that these are eyewitness accounts, or close to them
and he is passing them on exactly (albeit in translation), so we can draw our own
conclusions with a minimum of interpretation from him
but he does not give a source for each paragraph, so we don’t know which person wrote
which
some are probably more reliable than others
is this good historiography?
he just reports what they said, without considering biases and errors
again, not good history writing
one witness says there were “really” 80,000 Inka soldiers, rather than the 40,000 that
Hernando Pizarro told them… how would either man know?
Diamond goes for the higher figure without comment
while the exact number does not really matter, Diamond is revealing his bias
towards believing whatever claims most support his argument
so we should be concerned that he might do the same in other places, where we
cannot detect it
Diamond says that “95%” of the population had died off…
there he goes again… in some regions, as many as 90% apparently did die
but in other regions, many fewer
I don’t think any significant part of South America suffered 95% mortality, and
certainly the entire Andes as a whole suffered much less mortality than that
Diamond seems to be going for the most extreme claims that most strongly support
his argument
and it is not even necessary – his point would still be made if he claimed “only”
50% mortality
again, this should make us wary of what he says in other contexts, where we don’t
have sufficient background to evaluate his claims
the “Erich Von Daniken” effect (Chariots of the Gods, later TV version: In Search of
Ancient Astronauts):
an author makes claims supposedly supported by a wide range of cases
Egyptian pyramids, Mayan art, Babylonian pottery, Australian rock paintings…
an expert can see the flaws in any case that he/she knows something about
I can tell that he is confused about the pyramids and the Maya
but since the cases are so many and varied, there are many cases that any given expert
cannot evaluate
I don’t know anything about Australian archaeology or Babylonian pottery, but that
Babylonian pot that generates electricity sounds amazing, and his interpretation of the
Aboriginal rock art seems OK…
we reject his conclusions in the cases we know, but many of the unfamiliar ones sound
pretty good, so we think maybe he is right…
is Diamond similar?