

# GUNS, GERMS AND STEEL

NOTES, THOUGHTS & OPINIONS

*Last updated:*

## 1 Comments

## 2 Summary

History followed different courses for different peoples because of differences in peoples' environments, not because of biological differences among peoples themselves.

### PART I FROM EDEN TO CAJAMARCA

#### 2.1 Up to the starting line

1. Gorillas, chimpanzees and bonobos—closest surviving relatives to humans. The split happened in this sequence: gorillas, chimps and humans.
2. *Homo erectus*—first human species to spread beyond Africa. Neanderthals evolved in Europe and Western Asia, while modern humans evolved in Africa around the same time. Neanderthals had larger brains than modern humans and there is strong evidence that they buried their dead and cared for their sick.
3. Cro-Magnons—first modern humans (*Homo sapiens* to settle in Europe—migrated from western Asia, continuously occupied Europe, displaced (using superior technological tools and language?) the indigenous Neanderthals (*H. neanderthalensis*) of Europe and Western Asia, who went extinct around 40,000 years ago.
4. It is unknown whether modern humans evolved in Africa and spread elsewhere; or they evolved in parallel in different continents.
5. During Ice Ages, much of ocean's water locked as glaciers, the sea level was lower and some of the shallow seas of today (around Indonesian islands, English channel, etc.) were dry land—promoting land travel—but Australia/New Guinea were invisible from Indonesia and would need watercraft to traverse the deep waters.
6. The settlement of Australia/New Guinea—a strong case for the first watercraft?—the first mass extermination of large animal species by humans; today there are no mammals there larger than 100-pound kangaroos; the extinction roughly coincides with the first human settlement.

- (a) Big animals elsewhere co-evolved with humans; they learned defense against humans through natural selection; a sudden incoming of humans in Australia/New Guinea meant the mammals there had little time to develop the defenses?
  - (b) Extermination of big wild animals meant no domestication; this made a big impact in civilization—native Australians and New Guineans having not a single native domestic animal.
7. The Americas—the last continents to be settled (excluding Antarctica)—reaching there would mean watercraft to cross by sea (Australians and New Guineas had by far the earliest watercraft) and the Siberia was unoccupied until around 20,000 years ago to cross by the Bering land bridge.
- (a) Early Siberians crossed to Alaska either by sea across the Bering Strait (only 50 miles even today) or on foot at glacial times when Bering Strait was dry land.
  - (b) The earliest secure evidence of human settlement in Alaska dates from around 12,000 BC.
  - (c) As in Australia/New Guinea, mass extinctions of big mammals took place in the Americas, possibly due to human action or climate changes at the end of last Ice Age (less likely, because they already survived 22 of the previous Ice Ages).

## 2.2 A natural experiment of history

8. Moriori genocide (1835-1863)—mass murder of Moriori people, indigenous to the Chatham islands, by Maori people of mainland New Zealand.
- (a) Maori people—first to arrive in New Zealand (around 1200 CE?) from Polynesia. Then Moriori people arrived in Chatham islands a bit later.
  - (b) Moriori share the same Polynesian ancestry as Maori people. Despite having same ancestry, they evolved differently for centuries; Maori were more developed due to their geographical location (size, diversity) and environmental factors (Chatham much colder, so Moriori had to give up farming and relapse back to being hunter-gatherers).

## 2.3 Collision at Cajamarca

9. Earliest settlement in Greenland came from Canada around 4000-5000 years ago. Then Norsemen came from Iceland to settle Greenland—the first Europeans to settle North America—their settlements existed for about 500 years before they abandoned for reasons still not entirely clear. Their impact on Native Americans is minimal and for practical purposes, the real collision happened in 1492, when Columbus landed on the Bahamas—Caribbean islands—densely populated by Native Americans.

10. Battle of Cajamarca (or Massacre of Cajamarca, Nov 16, 1532)—ambush and seizure of Inca ruler and killing of thousands of Incas by the Spanish—marking the opening stage of the conquest of the pre-Columbian civilization of Peru.
  - (a) A 200-something Spanish soldiers defeated an army of around 80,000 Inca soldiers in a foreign land due to superior equipment (horses, guns, steel swords, steel armor).
  - (b) The Inca ruler was worshipped like a sun-god by the Incas—even when captured, his orders were followed—promised that he would be released, the Spanish robbed a sheer amount of gold and wealth from the Incas—in the end, he was killed by the Spanish who then went on to dominate the Incas.
  - (c) Subsequent conquests of Native American empires by the Spanish followed—Native Americans were able to outsmart and dominate the Spanish by guerilla warfare and ambush in narrow passages but could never do the same in open battlefield—later, with horses and guns, Native Americans could fare very well against the Europeans.
11. Epidemics, brought by the Europeans, extinguished 95% of pre-Columbian Native American population. Smallpox killed a huge chunk of Native American population at Mississippi long before Europeans made their first settlement there. The British also brought epidemics with them that dominated the Australian Aborigines.
12. Existence of writing—the Spanish had it, the Incas did not—news spread quick; a huge number of Europeans came to the Americas.
  - (a) The Spanish had crossed the Atlantic to reach Panama, conquered Panama, then reached Peru. The news of conquest of Panama did not reach the Incas—possibly due to lack of writing.
  - (b) Writing had also trained the Spanish in human nature and behavior, making them wiser, cleverer and more cunning than the Incas.

## PART II

### THE RISE AND SPREAD OF FOOD PRODUCTION

#### 2.4 Farmer power

13. Farming and domestication—almost a prerequisite for guns, germs and steel—different communities took up farming at different periods—ancient Egyptians learned it from neighbors, ancient Chinese independently developed it, Australian Aborigines never acquired it.
14. Farming much more effective than hunter-gathering—all edible plants concentrated in an area.

15. Livestock fed people in four distinct ways—meat, milk, fertilizer and pulling plows. Domesticated animals began to provide more—tangible items such as wool or cloth, means of land transport until railways came in 19th-cen., horses used in warfare, giving rise of germs (develop immunity through natural selection, create havoc to those unacquainted with).

## 2.5 History's haves and have-nots

16. Only a few areas of the world developed food production independently and they did so at widely differing times. Areas with a head start in food production had a head start toward guns, germs and steel—the result is a series of collisions between haves and have-nots of history.

## 2.6 To farm or not to farm

17. Some hunter-gatherers observed farming from their neighbors but did not adopt it—Aborigines of northeastern Australia traded for millennia with farmers of Torres Strait islands (between Australia and New Guinea) but never became farmers themselves.
18. Food production evolved as a by-product of many choices made without considering the consequences. It did not spring into existence suddenly.
19. Hunters like prestige—rather hunt everyday, get a giraffe a month, obtain the status of a great hunter.
20. The first farmers in each continent could not have chosen farming consciously since there were no other farmers whom they could observe. The rise of farming could be attributed to some factors—
  - (a) Depletion of wild foods and wild game (due to hunting, etc.)
  - (b) Increased availability of domesticable wild plants (due to climate changes, etc.)
  - (c) Cumulative development of technologies on which food production would eventually depend on (sickles, etc.)
  - (d) Two-way link between food production and population hike—and this is much like the chicken-or-egg which came first problem—food production led to increase in population (more food, more calories) and increase in population demanded increase calorie intake (hence food production).
  - (e) Farmers (high population, technology, germs, etc.) dominate hunter-gatherers in battles decreasing numbers of hunter-gatherers—the remaining hunter-gatherers had to take up farming to survive.
21. Factors promoting hunter-gathering—little contact with farming, climate unsuitable for farming—Native American hunter-gatherers of California separated by desert from Native American farmers of Arizona, hunter-gatherers of Australia separated by narrow sea from food producers of Indonesia.

## 2.7 How to make an almond

22. Like animal species, plants must spread their offspring to areas where they can thrive—sometimes by wind, or floating on water, or tricking animals to carry their seeds by wrapping them in colorful or tasteful fruits
  - (a) Seeds can resist digestion in the gut nonetheless germinate from the feces—thus latrines are unintentional domestication grounds of many plant seeds.
  - (b) Strawberries—when young, are green and sour, hence resists birds—when ripe, colorful and delicious, hence attracts birds.
  - (c) While natural selection favors size and taste, seedless fruits also attract humans, which reverses the natural selection—numerous plant mutations affect reproductive system; some individuals may develop fruits that need not be pollinated resulting into seedless fruits—explains human selection of bananas, pineapples, grapes.

## 2.8 Apples or Indians

23. The Fertile Crescent—crescent-shaped region in the Middle East spanning modern-day Iraq, Israel, Jordan, Lebanon, Palestine, Syria, together with parts of Kuwait, Turkey and Iran—believed to be the first region where settled farming emerged—earliest site of developments, cities, writing, empires, civilization—this region had its advantages for a head start, such as
  - (a) Mediterranean climate zone—mild, wet winters and long, hot, dry summers—climate selects plant species able to survive long dry season and resume growth rapidly during rains.
  - (b) Wild ancestors of many crops were already abundant and productive.
  - (c) Has high percentage of hermaphrodites (having both male and female gametes, pollinate themselves but can be cross-pollinated)—aided farmers—occasional cross-pollination gives rise to new variants/species.
  - (d) Has wide range of altitudes and topographies within a small distance—from the lowest point on earth (Dead Sea) to mountains of 18,000 feet.
24. Had Australia not been colonized by Europeans in 1788, they might have developed farming indigenously in due time (maybe in the next 1000 years)—the southeastern part of Australia had showed some very early signs of farming such as building of villages, canals and fishing.

## 2.9 Zebras, unhappy marriages and the Anna Karenina principle

25. Domestication of small animals—dogs as hunting companions—cats to hunt rodent pests—insects such as honeybee for honey and silkworm moth for silk

26. Dogs—have genetic divergence from grey wolves—the first species and the only large carnivore to have been domesticated—domestication predates agriculture; occurred due to variation among the common ancestor wolf population in the fight-or-flight response where the common ancestor wolves with less aggression and aversion but greater altruism towards humans received fitness benefits (similar processes applied to humans)
27. Domestication differs from taming elephants—truly domesticated species differ from their wild ancestors in two ways: (1) human selection and (2) automatic evolutionary responses of animals to altered forces of natural selection operating in human environments as compared to wild environments.
  - (a) Domesticated animals have diverged from wild ancestors in following ways—many species changed in size: cows, pigs and sheep became smaller, guinea pigs became larger—smaller sized brains and less developed sense organs because they no longer need it—sheep selected for retention of wool, cow for high milk yields.
  - (b) Five major big herbivorous mammals: sheep, goat, cow, pig, horse—aurochs, now extinct, are cows' wild ancestor—with other nine minor big herbivorous mammals, there are total 14 big herb-mammals.
28. The wild ancestors of the 14 big herb-mammals were spread unevenly across the globe—South America had only one, giving rise to llama and alpaca—North America, Australia and sub-Saharan Africa had none at all—Eurasia had 13.
  - (a) Eurasia domesticated early due to availability and diversity; first access to guns, germs, steel—Native Americans began domestication soon after Europeans brought in the animals—within a decade of European colonization, Aboriginal Tasmanians bred dogs on large scale for hunting companionship—but sub-Saharan Africans never domesticated zebras and buffaloes until Europeans brought in horses and cattle.
29. Out of 100+ available big wild herbivorous mammals—candidates for domestication—only 14 passed the test—domestication needs to meet the following criteria:
  - (a) Diet—biomass conversion inefficient; e.g., consumer may get 10% biomass from its food—explains why no mammalian carnivore has ever been domesticated—to raise 100-pound carnivore, requires 1000-pound herbivore, which in turn requires 10,000-pound herbs.
  - (b) Growth rate—must grow quickly—eliminates gorillas and elephants.
  - (c) Captive breeding—some mammals don't want to court and have sex under watch—eliminating wolves.
  - (d) Nasty disposition—very dangerous or aggressive mammals ruled out—rules out African buffalo, zebra, etc.
  - (e) Tendency to panic—some panic easily, programmed for instant flight on seeing predators and humans, will be nervous in captivity and will probably die due to

shock: deer and antelope—some hold their ground and nerves, don't run as fast: sheep and goat.

- (f) Social hierarchy—some animals herd in groups, have hierarchy, submissive to a leader hence potentially to a human leader—cats and ferrets are exceptions since they are solitary and territorial but they were domesticated for a different purpose: not in herds for food but as solitary hunters and pets.

## 2.10 Spacious skies and tilted axes

- 30. Eurasia has west-east axis—widest area of land at same latitude—explains the spread of food production—lands at same latitude have similar climate (same day length, seasonal variations, etc.) thus same plants already adapted to the climate, and do not need to re-adapt after the spread
- 31. Wheels and technologies invented around southwest Asia traveled across west-east axis of Eurasia within a few centuries due to food production and transport—wheels invented independently in prehistoric Mexico never reached the Andes—writing developed in the Fertile Crescent spread west within about a thousand years while Mesoamerican writing systems never reached the Andes.

## PART III FROM FOOD TO GUNS, GERMS AND STEEL

## 2.11 Lethal gift of livestock

- 32. Until WWII, more victims of war died of war-borne microbes instead of battle wounds—more Native Americans died of smallpox (brought by the Europeans) than killed by the Europeans themselves.
- 33. Microbes want to spread to several hosts (killing the host is an unwanted byproduct)—symptoms are one way: cough releases microbes—sometimes wait until host dies and is eaten by another.
- 34. Humans have evolutionary responses—can regulate body temperature, have fever and raise the temperature to kill the microbes—put the WBCs in motion, develop antibodies.
  - (a) Antibodies developed against cold and flu are temporary.
  - (b) Antibodies developed against some diseases like smallpox are lifelong.
  - (c) Some clever microbes evolve to change their molecular pieces (antigens) which our antibodies detect—malaria, AIDS, etc.
- 35. Diseases termed as epidemics have certain characteristics—spread quickly and efficiently; whole population gets exposed in a short time—they are acute illnesses; either

die or recover completely in a short time—fortunate ones who recover develop antibodies, so they remain immune for a long time, possibly for life—they tend to be restricted to humans only.

36. Why diseases with the above characteristics tend to become epidemics?—they spread quickly, showing symptoms, to infect high population, people die quick, those who recovered are now immune, subsequently the disease dies since they can't survive outside humans—disease can return when there are new crop (generation) of humans.
37. Acute (epidemic) diseases need a sufficiently large and dense human population to infect quickly—known as crowd diseases—can infect farmer societies but not hunter-gatherers.
38. Small populations are still susceptible to infectious diseases which can stay outside humans (in soil, animals, etc.)—for instance, yellow fever, carried by African donkeys—other infections of small populations include diseases that stay very long, say, leprosy—since victim stays very long, more time to infect new people.
39. Farming, building of cities—breeding ground of microbes—high population, terrible sanitation, trade routes (now airplanes)—for instance, Rome got Black Death from trade route with China and Central Asia?
40. Stages of an epidemic—microbes for animals first, become lethal?—mutations, variations, some become lethal for humans—a huge chunk never evolve past these stages.
41. Germs—the greatest killer for the Natives of Americas, Australia, and elsewhere—
  - (a) Eurasians' huge population, well-connected trade and long intimacy with domestic animals—they grew immune to germs—but created a havoc on the Native Americans and elsewhere
  - (b) Some cities of pre-Columbian America were hugely populated, then why didn't they get the germs and become immune?—few domestic animals whence the microbes would come (many wild animals gone extinct already)

## 2.12 Blueprints and borrowed letters

42. Three basic strategies behind writing systems differ in the size of speech unit denoted by one written sign:
  - (a) Alphabet—most common—ideally a unique letter for each phoneme—most alphabets have 20 to 30 letters—English alphabet has 26 letters for 40 phonemes; uses combinations of letters for some phonemes.
  - (b) Logograms—one written sign stands for one whole word—Chinese and Japanese (kanji)—Egyptian hieroglyphs, Maya glyphs—were more common before the spread of alphabets.



- (c) Syllabaries—a sign for each syllable—in common practice, a distinct sign for syllables of one consonant followed by one vowel, say *fa-mi-ly*, and resort to various tricks to write other syllables using these distinct signs.
43. Inventing a writing system from scratch—enormously difficult—only two (indisputably) independent cases in history? Sumerians of Mesopotamia (before 3000 BC) and Mexican Indians (600 BC)—possibly independent? Egyptians (3000 BC) and Chinese (1300 BC)—had to figure out how to decompose continuous utterance into speech units—to recognize same sounds through variation in speed, volume, pitch, emphasis, phrase grouping and individual idiosyncrasies.
  44. Professional linguists today design writing systems for unwritten languages by method of blueprint copying—same method used in old times—most writing systems of today evolved through borrowing and copying blueprints.
  45. Problems in blueprint copying—two languages may not have the same sounds—may have useless letters or face lack of letters—drop letters or add distinguishing marks to letters such as ö, é—the Roman alphabet itself was the end product of a sequence of blueprint copying.
  46. Alphabets apparently arose only once in history: among speakers of Semitic languages (Middle East)—the ancestor of all alphabets that exist today:
    - (a) The evolution can be traced to Egyptian hieroglyphs which included a complete set of 24 letters for 24 consonants—the Egyptians never took the next logical step of discarding logograms, determinatives and using their consonantal alphabet.
    - (b) Semitics, familiar with hieroglyphs, experimented with that logical step—restricted to signs of the consonants—helped users memorize the letters by putting them in a fixed sequence and giving them names—provided signs for vowels.
    - (c) Evolution from Semitic alphabet then diverged into several lines—one such line involved: via the Phoenicians to Greeks in 8th-cen BC, to Etruscans in the same century, to Romans in the next century, with slight modifications to the English alphabet.
  47. Idea diffusion—that writing had been invented elsewhere without access to actual writing system?—Egyptian hieroglyphs possibly a product of idea diffusion, since it arose into existence nearly in full-blown form?
  48. Writing in early days—restricted to select people, bureaucrats? for war, crop yield size?—never meant for common people and creative writing—the *Iliad* and the *Odyssey* were composed and transmitted through nonliterate listeners, not committed to writing until centuries later when Greek alphabet was developed.
  49. Food production—necessary condition for writing systems—hunter-gatherers had no need for writing?—writing developed first in Fertile Crescent and reached other parts of Eurasia first—writing developed by Mexican Indians did not diffuse much further?

### 2.13 Necessity's mother

50. Invention is more like the mother of necessity, rather than vice versa—many inventions were accidental—found their uses later on, then become a necessity.
  - (a) Edison's phonograph—he proposed ten possible uses after its invention—a few years later, declared, it had no commercial uses—20 years after invention, he reluctantly conceded that its main use was to record and play music.
  - (b) Motor vehicle—was not invented in response to some need—at its invention, horses and steam-powered railways were sufficient and catered to all needs.
  - (c) James Watt's steam engine was originally designed to pump water from mines—then supplied power to cotton mills, then propelled locomotives and boats.
51. Inventions are culminative and involves a lot of people—were not by a single person—for instance, James Watt's steam engine was an improvement over a sequence of steam engines and inventions decades and centuries prior.
52. Once an inventor invents something, they persuade the society to use it—the usage depends on the following factors:
  - (a) Relative economic advantage compared with existing technology—

### 2.14 From egalitarianism to kleptocracy

## PART III AROUND THE WORLD IN SIX CHAPTERS

### 2.15 Yali's people

53. Abandonment of guns in Japan, bows and arrows and pottery in Polynesia
54. Tasmania and mainland Australia were one connected landmass when Bass Strait was dry land—10,000 years ago it flooded separating them—thereafter, Tasmanians lived in total isolation from rest of the world until Europeans arrived in 1642.
55. Papua New Guinea—now independent, still uses English as official language—western New Guinea under Indonesia who took over it from Holland in 1963; now governed by Indonesians, for Indonesians.

### 2.16 How China Became Chinese

56. Modern nations absorbing smaller states with diverse languages and ethnicity—Russia once a small Slavic state centered around Moscow—did not even begin its expansion beyond the Urals until 1582—then swallowed up dozens of non-Slavic peoples, many of which retain their original language and cultural identity.

- 57. Many nations are culturally or linguistically diverse—China an exception—most people speak Mandarin and very similar culturally—they had an early unification.
- 58. North Chinese and South Chinese—genetically different due to geographic separation—North closer to Tibetans and Nepalese, are taller, paler with smaller eyes—South closer to Thai and Vietnamese.
- 59. Geographic factors led to China's early cultural and political unification—one of world's earliest food production, new technology such as paper, gunpowder—South Chinese settled over Thailand, Laos, Vietnam and then rest of southeast Asia—China had a huge influence over the rest of east and southeast Asia.
- 60. South Chinese replaced previous inhabitants of southeast Asia—some remains like some peoples in Malay peninsula, Andaman islands and Sri Lanka suggest they must have been darker skin with curly hair.

## 2.17 Speedboat to Polynesia

- 61. Earlier, South Chinese farmers replaced hunter-gatherers of mainland south east Asia (Thailand, Laos, etc.)—Technological advancements moved from North China to South China
- 62. Austronesian expansion—one of the most important mass migrations in the last 6000 years—Austronesian-speaking South Chinese farmers to Taiwan, then to Philippines, then to Vietnam and Malaysia, then to Polynesia—replaced the hunter-gatherer natives but couldn't advance much further to the mainland which were already occupied by farmers from South China; because they had no advantage over them as they had over hunter-gatherers?
- 63. Austronesian speakers could not replace New Guineans who were already food producers unlike similar people in Indonesia who were still hunter-gatherers.
- 64. Austronesian languages no longer used in mainland China today—replaced (as many other languages were) by Sino-Tibetan speakers.
- 65. Due to ecological barriers, Austronesian speakers could not colonize Australia?

## 2.18 Hemispheres colliding

- 66. No big domesticable mammal in Americas—Eurasia had headstart in food production paving way to guns, germs and steel
- 67. New World (Western Hemisphere): the Americas—Old World (Eastern Hemisphere): the rest of the globe—Collision of the New World and Old World since Columbus: the biggest population replacement of the last 13,000 years—Europeans had technological advantage such as

- (a) Metals—copper, bronze, iron used in Eurasia—stone, wood, bones were primary materials for tools in Americas
  - (b) Military tech—steel used in armor, helmets, swords and daggers by Europeans; stone, wood, bows and arrows used by Americans—horses vs. no animals
  - (c) Source of power to operate machines—big animals like horses, cattle and donkeys to pull plows or wheels—industrial revo based on water and wind power in medieval Europe (generally Industrial Revolution means 18th-cen Europe with invention of steam power)—Americas still relied on human muscle power.
  - (d) Wheels and water transport, writing, political organization in Europe—writing was very limited to the elite of Mesoamerica—Aztecs and Incas: the only empires in Americas
68. Eurasia been inhabited by humans for a million years, Americas reached (through Alaska) only around 12,000 BC, then dispersed—Eurasia had a head start, east-west axis, domesticable plants and animals leading to early food production hence had more time to develop guns, germs and steel.
69. Barriers in Americas—food production never diffused from Mississippi valley to modern-day California and Oregon—llama, guinea pig, potato of the Andean highlands never reached Mexican highlands, so Mesoamerica and North America remained without domestic mammals except dogs—domestic sunflower of eastern US never reached Mesoamerica, and domestic turkey of Mesoamerica never made it to South America or eastern US—wheels and writing systems invented in Mesoamerica never made it to Andes.
70. Writing systems developed in the Fertile Crescent diffused to most of Eurasia except those areas where Chinese writing system took hold—food production is the main driving force behind this diffusion.
71. Native Americans from Alaska colonized part of Eurasia (through the Bering Strait).
72. Vikings on Vinland—first documented attempt of European colonization of America—Norse people from Norway colonized Iceland by 874 AD, then Greenland by 986 AD, then attempted North America between about 1000 and 1300 AD—
- (a) One archaeological site of Norse people in Newfoundland (possibly Vinland in Norse sagas)—small site, no evidence of expansion or conquest, possibly just one winter camp?—Norse sagas documented Native American attack on Norse people.
  - (b) Iceland—cold climate but self-sustainable—inhabited by Norse people still today
  - (c) Greenland—unable to sustain self through food production—had to rely on imports from Iceland and Norway (who were too poor and too small themselves)—Norse population in Greenland never exceeded a few thousands—suddenly (and mysteriously) disappeared, possibly exterminated by Native American Eskimos

73. Second attempt of Eurasian colonization of Americas succeeded due to guns, germs and steel—
- (a) First colony at West Indies—where Columbus landed in 1492—native Islands, estimated to be more than one million in number, were quickly exterminated by germs and genocide.
  - (b) First colony at American mainland founded around 1508 at Panama
  - (c) Conquest of the two main empires—Aztecs and Incas—completed in the first half of 16th century
  - (d) Conquest of central America and northern South America completed in 16th and 17th centuries
  - (e) Most advanced native societies of North America—US Southeast and Mississippi river system—their destruction probably accomplished largely by germs alone, introduced by Europeans which advanced ahead of them
  - (f) California gold rush of 1848-52—large number of immigrants flooded the state—exterminated the natives
74. Highest Native American populations today live in Peru, Bolivia, Mexico and Guatemala—American population today is a mixture of peoples originating from all continents except Australia.

## 2.19 How Africa became black

75. Africa's diverse peoples resulted from its diverse geography and long prehistory—no other continent approaches Africa in terms of human diversity—even before arrival of white colonialists, Africa already harbored five of world's six major divisions of humanity; three of them are natives to Africa—one-quarter of world's languages are spoken only in Africa.
76. Five major human groups who populated Africa by 1000 AD are blacks, whites, African Pygmies, Khoisan and Asians—Pygmies and Khoisan still confined to Africa only—the only group absent in Africa are Aboriginal Australians and their relatives.
- (a) Distribution of peoples in Africa—whites in upper Africa such as Egypt, Libya, Sudan, Morocco, etc.—going down, blacks—pygmies in mid-Africa—then blacks again—then Khoisan in southern Africa—finally Madagascar has mixture of both Asians and blacks.
  - (b) Pygmies—very short height, very tightly curled hair, less black and more red than blacks, more extensive body and facial hair—once settled in large numbers, were hunter-gatherers, slowly replaced by farmer blacks
  - (c) Khoisan—yellowish skin tone, small stature, composed of Khoi people and San people—replaced and exterminated in large numbers by European colonialists

- (d) Madagascar people speak Austronesian languages—they were already well established when Europeans arrived in 1500—how on earth did Austronesian people from Borneo reach there during prehistoric times, with only boats and no compass?
- 77. Western civilization, originated in Middle East, brought to new heights by Greeks and Romans, produced world's three great religions: Christianity, Judaism and Islam—those religions arose among Semitic speaking people (Semitic family: Aramaic, Hebrew, Arabic)—Semitic language family is one branch of Afroasiatic language family, all other branches are confined to Africa; even Semitic subfamily itself is mainly African; one branch of Afroasiatic family reached Middle East.
- 78. Coffee plants first domesticated in Ethiopia—reached Arabia and then around the world.
- 79. Much of the indigenous domesticated plants in Africa came from above the equator—southern Africa devoid of domesticable plants means delayed food production—then it was northern Africa peoples who replaced the southern peoples.
- 80. The earliest food production in Africa was in Sahara (not in Egypt as one may have guessed)—between 9000 and 4000 BC, Sahara was more humid, had lakes and was teemed with game.
- 81. Austronesian expansion to Madagascar—happened sometime between 300 and 800 AD—exterminated strange (otherworldly) flora of Madagascar which had evolved in isolation—came as a full-fledged expedition, and not some sailors driven off course; because they were able to colonize?
  - (a) Around that time, sea trade routes existed between Egypt and India, and also between India and Indonesia—did they first reached India from Indonesia, and then east African coast through these trade routes and then landed on Madagascar?—or did they sail directly across the Indian ocean and land directly on Madagascar?
  - (b) Portuguese explorer Vasco da Gama—first European to reach Africa; landed on Cape of Good Hope, then reached Kenya, there some traders guided him to India through the trade route.
- 82. Bantu expansion—the blacks originating in Nigeria and Cameroon went eastward and southward, replaced pygmies and Khoisan peoples—they couldn't dominate Khoisan of the extreme south due to ecological barriers (for instance, different climate and their crops don't grow?)—Khoisan South Africa had Mediterranean winter rain climate—Europeans lucky to land there? they were already used to that climate, dominated Khoisan, then went out to dominate the blacks?

## 2.20 Who are the Japanese?

- 83. Japanese peoples—very distinctive culture and language (quite different from any other)—more or less homogeneous, looks similar to Koreans; except for very different

Ainu people (long bearded) on Hokkaido island (northernmost)

84. Four conflicting theories about Japanese origins—
  - (a) Most popular theory in Japan: that Japanese gradually evolved from the Ice Age people who inhabited long before 20,000 BC
  - (b) Still widespread theory in Japan—Japanese descended from horse-riding Central Asian nomads who passed through Korea to conquer Japan in 4th-cen AD but who were not Koreans
  - (c) Theory favored by Western and Korean archaeologists—Japanese are descendants of Korean immigrants who arrived with rice paddy agriculture around 400 BC
  - (d) Modern Japanese were mixture of all the above three
85. Japan—very wet, high rainfall, summer rain—80% of land is mountainous unsuitable for agriculture, only 14% is farmland—very green despite human settlement, 70% land covered by forest—in proportion to available area of farmland, Japan is the most densely populated major human society.
86. Until Japanese immigration into Hokkaido and northern Honshu in late 19th-cen, Ainu people occupied those areas, were hunter-gatherers, had limited agriculture—Japanese confined to the three islands
87. Chronicles of Korea and Japan are untrustworthy; glorifying themselves—Chinese (who occupied North Korea from 103 BC to 313 AD) chronicles Japanese as “Eastern Barbarians”: numerous small communities fighting each other.
88. Sea of Japan is shallow—even shallower during Ice Ages—facilitating travel by land bridge via South Korea (from south) and Sakhalin island of Russia (from north)—stone tools indicate human arrival as early as half a million years ago—stone tools of Northern Japan resemble those of Siberia and North China; tools of Southern Japan resemble those of Korea and South China; suggests both north and south land bridges were used
89. World’s oldest known pottery appeared in Japan 12,700 years ago (at Kyushu island) among Jomon people (hunter-gatherers)—rare case of pottery appearing before food production; but they already reached a considerable degree of sedentism—were conservative, occupied Japan for more than 10,000 years, relatively unchanged—had no agriculture, no metal tools, no writing, no weaving
90. A new lifestyle began around 400 BC in Kyushu island (from South Korea?)—termed as “Yayoi”—agriculture, dams, canals, irrigation, more sophisticated pottery very similar to Korean pottery, Korean style houses—wars during Yayoi Japan (indicating Chinese chronicles are true?)
91. Yayoi people—possibly South Korean descendants; farmers who liked Japan’s climate for food production—either massive immigration or low number but amplified by food production soon outnumbered Jomon people; drove them northwards—but did not make it to northern most Honshu and Hokkaido islands.

92. Biological tests indicate modern Japanese are blend of Yayoi and Jomon, but less Jomon genes—archaeology supports this claim.
93. Yayoi language of Kyushu (originally from Korea?), possibly influenced by Austronesian languages (from Taiwan?), also picked up vocabulary from Ainu language, then evolved to modern Japanese?—the modern Korean language is derived from language of kingdom of Silla which unified Korea in the preceding centuries—Silla was not the one closest to Japan; there were huge diversity in languages? but after unification, Silla-language became dominant and the ancient Korean (which went to Japan) went disappeared in Korea?
94. In 1910, Japan annexed Korea with the Japan-Korea treaty—then Korea was ruled as a part of the Empire of Japan under the name Chōsen between 1910-1945.

## **2007 Afterword: Rich and poor countries in the light of Guns, Germs and Steel**

95. Economists attribute national wealth to “human institutions”—laws, codes of behavior, operating principles of societies, governments and societies—convincing examples include neighboring nations which are quite different in wealth—North Korea and South Korea, West Germany and East Germany persisting even after 15 years of fall of Berlin Wall.
96. Good institutions, according to economists, mean economic, social and political institutions that encourage individuals to work toward increase in national wealth—usually means control of inflation, educational opportunities, effectiveness of government, enforcement of contracts, freedom of trade barriers, incentives and opportunities for investment of capital, lack of corruption, low risk of assassination, open currency exchange, protection of private property rights, rule of law and unimpeded flow of capital.
97. Geographic factors—tropical countries are poorer; look at Africa; northernmost and southernmost African countries richer than all the rest—river systems, diverse altitudes, climate make a difference.