

# A Comparative Assessment of Jared Diamond's Explanation of Inequality

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*Abstract: This essay assesses Jared Diamond's explanation of inequality presented in his book *Guns, Germs and Steel: a short history of everybody for the last 13,000 years*. It argues that his bio-geographical emphasis is too strong and that, by underestimating the influence of culture on history's course, his analysis remains incomplete. First, a number of criticisms of Diamond's work are presented that highlight potential flaws in his theory, but at present do not fatally undermine it. Then the 'cultural critique' is introduced: A comparative analysis of competing explanations highlights the importance of culture in explaining the disparity between Europe and China that appeared over the last five hundred years. I contend that one does not have to attribute any explanation of history as definitive to realise that culture was significant in this divergence. Finally, 'cultural critique' is applied to other important experiences in history: the decline of the Fertile Crescent, European colonialism, and some pre-modern scenarios. It is deduced from the evidence that bio-geography has been influential in history but an explanation of disparity regarding cultural influences as 'wild cards' of no great significance is inadequate. As such, Diamond's book does not provide a comprehensive account of inequality.*

*Keywords: inequality, culture, bio-geography, comprehensive historical explanation*

## Introduction

Inequality is the subject of an ever-increasing amount of literature in the contemporary world, often focused on the disparity in wealth between nations. Jared Diamond, in his book *Guns, Germs and Steel* (GGS), has forwarded an explanation of how such inequality arose. This essay will assess his analysis. The contention here is that while he has produced a persuasive account of the disparities of the world, his evaluation is inadequate. The importance of bio-geography in shaping the contemporary world is unquestionable, but Diamond has given it too much weight to a subject that has multiple causes, many of which cannot be accounted for by the physical environment. By comparing the work of other writers on the subject and engaging in a detailed examination of cultural factors, I highlight the flaws in Diamond's work as a comprehensive account of world history and inequality.

Three important issues need addressing before I begin this essay. First, the definition of inequality used here is that of the disparity between regions. It is duly noted that the term can be defined in a number of different ways, and that dimensions such as intra-national inequality can contribute to the economic performance of a nation, but it is perhaps more important to assess Diamond's claims under his

own definition first and foremost<sup>1</sup>. His explanation is of broad inequality between continents and so this is where our focus will also lie. Secondly, the subject of responses to inequality must be raised. There is an important link between poverty and inequality, connecting the subject closely with development research and policy, an area on which GGS is silent. Some feel his 'geography as destiny' approach leaves us with something close to nihilism; human inequality as preordained<sup>2</sup>. This is an unfair criticism. Admittedly, his essay might have been more forthcoming about normative reflections on the situation, but its lack of attention to remedy does not make him a fatalist; it is in keeping with the positivist goal of explanation. I will assess this work against its proposed aims, not be sidetracked with speculative judgements about the author. This is connected to the fact that Diamond's focus is on the broad course of history, not the complex picture of the globalised world. Again, the focus in this essay will be to reflect on his arguments in the light of his professed goals. I will therefore not engage in any depth with contemporary world dynamics: they deserve a discussion of their own.

### **Guns, Germs, and Steel**

Diamond's explanation of inequality is neatly summed up in his epilogue. He notes four key sets of variables. First, there were 'continental differences in the wild plant and animal species available as starting materials for domestication'<sup>3</sup>. Of the very few animals and plants that could be tamed, Eurasia was most well-endowed due to its size and diversity, and because it did not suffer a large mammal extinction phase when humans first came into contact with them in the late-Pleistocene era, as happened on the other continents<sup>4</sup>. Food production, Diamond asserts, is the necessary basis for all non-food-production activity, such as political organisation, technological development, and military build-up, as it provides surplus food freeing others from former hunter-gathering duties<sup>5</sup>.

The second factor favouring Eurasia was 'its east-west major axis and its relatively modest ecological and geographical barriers', which greatly enhanced the possibility of 'diffusion and migration'<sup>6</sup>. Both crops and livestock depend heavily on climate and therefore are much more easily transferred across latitude than longitude<sup>7</sup>. Furthermore, Eurasia is home to much less dramatic environmental obstacles which could bar political and linguistic unification, or communication, and therefore complicate diffusion<sup>8</sup>. Connected to this is a third factor: the possibility of inter-continental diffusion. The continents lacking animals and plants for domestication differed in their capacity for acquisition from elsewhere: Africa linking fairly early with Eurasia; America and Australia developing in isolation until the last thousand years<sup>9</sup>.

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<sup>1</sup> On the impact of domestic inequality, see for instance Ethan B. Kapstein, *Sharing the Wealth: Workers and the World Economy* (New York: W.W. Norton & Company, 1999), pp. 40-42.

<sup>2</sup> Christopher D. Merrett, 'Debating Destiny: Nihilism or Hope in Guns, Germs, and Steel?', *Antipode*, 35: 4 (2003), pp. 804-5.

<sup>3</sup> Jared Diamond, *Guns, Germs and Steel: A Short History of Everybody for the last 13,000 Years* (London: Vintage, 2005), p. 406

<sup>4</sup> *ibid.*, p. 406. To see detailed discussion of these factors individually see pp. 174-5 and pp. 153-156

<sup>5</sup> *ibid.*, p. 406

<sup>6</sup> *ibid.*, p. 407

<sup>7</sup> *ibid.*, p. 407

<sup>8</sup> *ibid.*, p. 407

<sup>9</sup> *ibid.*, p. 407

Lastly, area and total population size have been influential. Larger endowments in both of these means 'more potential inventors, more competing societies, more innovations available to adopt – and more pressure to adopt and retain innovations, because societies failing to do so will tend to be eliminated by competing societies'<sup>10</sup>. Eurasia again had most in these areas, only rivalled by America whose peoples were too 'fragmented by geography and ecology' to make the assets count<sup>11</sup>.

Diamond does not conclude his work with only these aspects; mention is made of cultural and individual influences<sup>12</sup>. He duly notes that both idiosyncrasies 'throw wild cards into the course of history' but argues that these factors are 'scarcely relevant', as they would not have greatly altered 'history's broadest patterns'<sup>13</sup>. In other words, these influences are like a tree falling into a river; they may divert the flow at one point temporarily but they will not alter the overall direction, this has already been shaped by the natural environmental background, and the diversion will barely be noticed downstream.

### **The Factual Problem**

Let us now turn our attention to the first set of critiques of Diamond's work. Some critics argue that certain claims made in GGS are not consistent with the evidence and that some assertions are false. The emphasis placed on the physical attributes of the world makes the validity of claims all the more important; the factual evidence is essentially both the means and ends of Diamond's case.

Critics question his claim that the mental ability of different peoples is comparable<sup>14</sup>. This is naturally a broad view – he is not claiming that all people are of equal intelligence; more that the 'innate' intelligence level found on different continents shows no one people superior. Rushton makes the case that differences do exist, correlating with geographical distribution of intelligence and brain size, the relationship between the two, and heritability<sup>15</sup>. To ignore such evidence, as Rushton believes Diamond does, is equivalent to arguing 'that natural selection stopped when anatomically modern humans arose in Africa 100,000 years ago'<sup>16</sup>. This critique, however, seems misguided. Diamond's claim is addressing the basic knowledge of humans thirteen thousand years ago; natural selection would take place only within the already given environment. He does acknowledge geographically related differences in ability to perform tasks but asserts that 'levels' of intelligence are context specific<sup>17</sup>. IQ tests themselves are culturally distorted by the 'effects of childhood environment and learned knowledge', and this could not be more so than when one recognises that such tests are only applicable to a certain type of intelligence; to coin Diamond's personal example, even someone of his undoubtedly high IQ has great difficulty following a jungle trail or erecting a shelter – tasks that New Guineans perform almost mindlessly<sup>18</sup>. Without more conclusive evidence of 'innate intelligence' Diamond's claims that humans were generally equally apt to change their own environments, endowments allowing, cannot be decisively refuted.

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<sup>10</sup> *ibid*, p. 407

<sup>11</sup> *ibid*, p. 408

<sup>12</sup> *ibid*, pp. 417-420

<sup>13</sup> Diamond, *Guns, Germs and Steel*, p. 420

<sup>14</sup> *ibid*, pp. 18-22

<sup>15</sup> J. Philippe Rushton, 'Book Review: Guns, Germs & Steel', *Population and Environment*, 21: 1 (1999), pp. 103-105

<sup>16</sup> *ibid*, p. 106

<sup>17</sup> Diamond, *Guns, Germs and Steel*, p. 20

<sup>18</sup> *ibid*, p. 20

It is claimed elsewhere that Diamond's assertions on the origins and dates of his key endowment areas are questionable. Blaut argues that the dates of Fertile Crescent food production are not yet proven, and that the claim about superior value of their crops is scientifically untenable<sup>19</sup>. Similarly, Slayter asserts that food production already existed in the Americas when the Europeans arrived<sup>20</sup>. Merrett claims Diamond overlooks this as he is seeking comparisons with the European model of farming<sup>21</sup>. Blaut also notes that in some cases 'animals came into use as a consequence of the development of surplus-producing agriculture, not as a cause of it'<sup>22</sup>. There may also be ecological errors. The benefits of an east-west axis for diffusion between the productive regions of Eurasia are less conclusive when one notes that these places are 'quite isolated from one another, separated by deserts and high mountains'<sup>23</sup>. Contrastingly, America does not suffer from all the typological restrictions attributed to it<sup>24</sup>. Furthermore, the notion of ecological constraints to north-south crop diffusion are questionable in light of evidence that maize originating in Peru was planted in Canada before European arrival<sup>25</sup>. Finally, Blaut notes that there is difficulty proving where exactly in the Chinese region of Asia Austronesian languages originated<sup>26</sup>. It is difficult to adjudicate in this debate between experts. Suffice to say that due to the nature of Diamond's bio-geographical argument he requires empirical fact, not speculation. Without unambiguous evidence on such issues we can neither affirm nor dismiss Diamond's work, but clearly his case is not proven beyond doubt.

One important issue raised by such criticism perhaps deserves separate attention; provability. Blaut continues his question of farming animals by highlighting that 'Diamond can only show that the species that were domesticable were suitable for domestication'<sup>27</sup>. Diamond's claim is that 'of the world's 148...candidates for domestication – only 14 passed the test'<sup>28</sup>. He provides a detailed analysis of the requirements for domestication and clarifies his point by noting the failure of modern efforts (with knowledge amassed from all corners of the world) to domesticate any other candidates<sup>29</sup>. However, his conclusion is still somewhat circular. The variables deemed to have been influential are deduced from what happened – the only test of the hypothesis is the one under examination. With no control experiment (an obvious impossibility) such assertions cannot be irrefutably validated. This relates to a wider debate over his entire work, within which there is only one test subject, the world, and only one fastest-progressing landmass, Eurasia. Extrapolating reasons for uneven development therefore requires comparisons with other continents. When this has been done, however, there is no other context for confirmation assessment – retracing the findings over the experiment they were deduced from is, of course, not a test at all. This certainly does not prove Diamond incorrect, but it does mean that empirical

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<sup>19</sup> James M. Blaut, 'Environmentalism and Eurocentrism', *Geographical Review*, 89: 3 (1999), p. 394

<sup>20</sup> Andrew Slayter, 'Neo-Environmental Determinism, Intellectual Damage Control, and Nature/Society Science', *Antipode*, 35: 4 (2003), p. 813

<sup>21</sup> Merrett, 'Debating Destiny', p. 804

<sup>22</sup> Blaut, 'Environmentalism and Eurocentrism', p. 399

<sup>23</sup> *ibid*, p. 395

<sup>24</sup> *ibid*, pp. 397-398

<sup>25</sup> *ibid*, pp. 395

<sup>26</sup> *ibid*, p. 400

<sup>27</sup> *ibid*, p. 398

<sup>28</sup> Diamond, *Guns, Germs and Steel*, p. 168

<sup>29</sup> Diamond, *Guns, Germs and Steel*, pp. 166-174

validation evades him. As noted above, however, his work relies on fact and the lingering uncertainty means that his work effectively remains under contention.

There are a number of critiques, then, over Diamond's evidence and methods. These are important in assessing his work – they may yet prove his theory false – but all three critiques are far from conclusive. They raise definite questions over the comprehensiveness of GGS but, without definite empirical proof, they do not invalidate the book. They have been important to consider under the remit of this essay but further research is needed on their subject before they can provide a fatal appraisal of Diamond's explanation of inequality.

### **The Cultural Critique and Disparity in Eurasia**

We will now turn our attention to a more pressing critique of GGS, namely the importance of culture in the course of history. As noted earlier in this essay, cultural and individual influences are seen by Diamond as 'history's wild cards', not altering the course of its broadest patterns. However, such a claim cannot be sustained under close examination. When considering the differences in national riches in the modern era (Yali's question) bio-geography alone cannot explain history's broadest patterns. This can be seen most clearly in relation to the final question in GGS: why Europe? Most of Diamond's work focuses on explaining 'why Eurasia?' but this enquiry does not address Yali's question in enough detail to provide a comprehensive answer. When questioning inequality Yali does not ask why Eurasia developed first, he asks why 'you white people' did. The peoples he was referring to were Europeans, not Eurasians. We must therefore test Diamond's theory of bio-geographical importance both within Eurasia as well as outside. Beginning with the former, other explanations will be used to highlight various cultural factors that may have contributed to disparity over the last five hundred years.

Having exhausted the broad environmental differences in his discussion of whole-world history Diamond turns to extra dynamics that aided Europe's continued rise while seeing a relative decline in their Asian rivals. We will focus first on comparisons with China which easily rivals the length of European history. Diamond highlights China's political unity, a product of their less indented coastline and lack of outlier islands, and determining that government decisions affected the whole land<sup>30</sup>. Thus despite promising fifteenth-century treasure voyages, when a political dispute was won by a faction who looked unfavourably on seafaring 'it stopped sending fleets, eventually dismantled shipyards, and forbade ocean-going shipping'<sup>31</sup>. Consequently, China never made a colonial voyage to Europe or America. In contrast, Europe's political fragmentation allowed Columbus to turn to seven different monarchs before finally receiving backing for his exploration of the world<sup>32</sup>. Once America had been discovered, close geographical competition meant that avoiding seafaring would disadvantage any of Europe's major powers<sup>33</sup>. Unification and lack of nearby competition, then, meant that Chinese development suffered from 'a typical aberration in local politics'<sup>34</sup>.

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<sup>30</sup> Diamond, *Guns, Germs and Steel*, pp. 412-416

<sup>31</sup> *ibid*, p. 412

<sup>32</sup> *ibid*, pp. 412-413

<sup>33</sup> *ibid*, p. 413

<sup>34</sup> *ibid*, p. 412

There are a number of reasons why this explanation seems unsatisfactory. First, it seems too populated with political considerations to be deemed geographical. It is perhaps questionable why China's unity had not been so detrimental to development in the past if it was so significant at this point. The key determinant seems to be a collection of particular political concerns. Diamond tries to pass this off as a 'typical aberration' which Goodheart notes is basically an oxymoron<sup>35</sup>. Power struggles are essentially defined by the politics involved. McNeill explains the decision as one resulting from the overruling assertions of the Ming court who, living far away from the Southern coast, were more concerned with northwest frontier defences than the possible gains of seafaring<sup>36</sup>. Not only does this decision seem determined by the concerns of the Ming Emperor, but it also perhaps reflects the relatively less significant political influence of merchants in the Chinese court, even when compared to hardly-democratic individual European states<sup>37</sup>. The unified nature of the region naturally contributed to the impact of this decision but the struggle correlates to the political dynamics of the country.

McNeill also questions how different history might have been if the Portuguese had encountered a large Chinese empire, but there is reason to believe, even from his work, that these events do not explain intra-Eurasian divergence<sup>38</sup>. Pomeranz notes that it was not until the mid-eighteenth century that Europe was outstripping China in production and economic efficiency<sup>39</sup>. McNeill describes a series of social uprisings over opium smoking and land holdings beginning in this period and culminating in the Taiping rebellion that 'worsened the economic condition of the country as a whole'<sup>40</sup>. On this reading Diamond's dates for relative Chinese decline appear incorrect. It would not only suggest that the central dictate against seafaring was not the turning point – key events happened sometime after this – but also that the political concerns of the Chinese population were a contributory factor, something not accounted for even by the blanket impact of having a regionally unified government.

These criticisms seem perhaps even stronger when contrasted with events in Europe, most notably the Industrial Revolution. Diamond downplays this phenomenon using one sentence to argue that 'water and wind power had begun already in medieval times'<sup>41</sup>. He neglects to note, however, that James Watt's steam engine was five times more powerful than a waterwheel and could be placed, multiplied, and concentrated with no regard to the location of water-flows<sup>42</sup>. This, Goldstone argues, was the key turning point; England was merely on course for an 'efflorescence' common to many economies in the last thousand years until technological innovation allowed growth to become self-sustaining<sup>43</sup>. Goldstone attributes this not to the steam engine itself but to British Protestantism leading them down the specific 'engine science' approach to production as a branch of uniquely European traditions of logical and rational

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<sup>35</sup> Eugene Goodheart, 'Is History a Science?', *Philosophy and Literature*, 29: 2 (2005), p. 478

<sup>36</sup> William H. McNeill, *The Rise of the West: A History of the Human Community* (Chicago & London: University of Chicago Press, 1963), pp. 526-527

<sup>37</sup> An argument noted but not forwarded by Gale Stokes, 'The Fates of Human Societies: A Review of Recent Macrohistories', *The American Historical Review*, 106: 2 (2001), p. 517

<sup>38</sup> McNeill, *The Rise of the West*, p. 526

<sup>39</sup> Kenneth Pomeranz, *The Great Divergence: China, Europe, and the Making of the Modern World Economy* (Princeton & Oxford: Princeton University Press, 2000), p. 206

<sup>40</sup> McNeill, *The Rise of the West*, p. 716

<sup>41</sup> Diamond, *Guns, Germs and Steel*, p. 359

<sup>42</sup> Jack A. Goldstone, 'Efflorescences and Economic Growth in World History: Rethinking the "Rise of the West" and the Industrial Revolution', *Journal of World History*, 13: 2 (2002), p. 361

<sup>43</sup> *ibid*, p. 356

science connected to the questioning of authority in the Reformation period<sup>44</sup>. He reinforces his point by noting that China also had unique technologies in the era but ‘there is a great gap between a fascination with instruments and reliance on them as the primary means of generating agreed-upon knowledge’<sup>45</sup>. Directly to the point, the argument purports that Europe’s relative rise was a product of the Industrial Revolution – a phenomenon Diamond ignores when discussing the disparity of Eurasia, and one Goldstone attributes to culture, not geographical factors.

In a similar vein, Robbins argues against Diamond’s assertion that ecology was the dominant influence on diffusion, claiming instead the importance of networks among and between societies<sup>46</sup>. McNeill notes that, in response to the internal unrest detailed above, the Chinese government undertook many measures to safeguard the image of superiority of the Celestial Empire<sup>47</sup>. Accordingly Landes asserts that the key constraints to Chinese development were political traditions – a culture seeking to maintain Chinese superiority was naturally unwilling to accept beneficial technological improvements from foreigners<sup>48</sup>. This stands in sharp contrast to Europeans who ‘learned rather greedily’, as Mokyr terms it, acquiring all useful technology that they did not already have, and then adding to it<sup>49</sup>. As a result of cultural dynamics then, it is argued, China did not benefit from technological diffusion – a claim that runs directly against Diamond’s assertion that the key determinant of this process was ecology.

A different interpretation of the Industrial Revolution is Wong’s claim that the chief factor in economic change in nineteenth-century Europe was the ‘contingent fit between the institutions of capitalism and the technologies of industrialisation’<sup>50</sup>. He links this to Chinese hierarchical society that focused on unified culture and relative societal equity, not allowing for the individualism that spurred on capitalist competition and industrial development in Europe<sup>51</sup>. A comparatively centralised Chinese state perhaps played a fundamental role but it was the culturally derived political factors that are given primary causal importance.

Wong’s views, however, are questioned of over-emphasis on European capitalism. Pomeranz makes the case that eighteenth-century Europe was no closer to Smithian ideas of freedom and efficiency than China, perhaps less so<sup>52</sup>. He advances the explanation that European colonial expansion freed them from ‘the fundamental constraints of energy use and resource availability that had previously limited *everyone’s* horizons’<sup>53</sup>. This line of argument is taken also by Frank who details supply and demand factors of the world economy. He argues that without American silver, and also the transatlantic markets colonisation generated, the Europeans would not have been able to ‘purchase a seat’ in the markets of the much further developed Chinese<sup>54</sup>. When all countries had to cost-cut to stay competitive in the eighteenth-century, population dynamics dictated that the economically rational response in Asia was to invest in

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<sup>44</sup> Goldstone, ‘Efflorescences and Economic Growth in World History’, pp. 364-373

<sup>45</sup> *ibid*, p. 369

<sup>46</sup> Paul Robbins, ‘Networks and Knowledge Systems: An Alternative to “Race or Place”’, *Antipode*, 35: 4 (2003), p. 821

<sup>47</sup> McNeill, *The Rise of the West*, pp. 716-717

<sup>48</sup> David S. Landes, *The Wealth and Poverty of Nations: Why Some Are So Rich and Some So Poor* (London: Abacus, 1999), pp. 45-59

<sup>49</sup> Joel Mokyr, ‘Eurocentricity Triumphant’, *American Historical Review*, 104: 4 (1999), p. 1243

<sup>50</sup> R. Bin Wong, *China Transformed: Historical Change and the Limits of European Experience* (Ithaca & London: Cornell University Press, 1997), p. 279

<sup>51</sup> *ibid*, pp. 280-282

<sup>52</sup> Pomeranz, *The Great Divergence*, p. 107

<sup>53</sup> *ibid*, p. 207

<sup>54</sup> Andre Gunter Frank, *ReOrient: Global Economy in the Asian Age* (Berkeley: University of California Press, 1998), p. 282

labour, while in Europe it was to develop labour-saving machinery<sup>55</sup>. This is not to discredit the achievements of British technological enhancements but to assert that they were responsive to world markets<sup>56</sup>. In the long-term, industrialisation paid-off and the economic rationale behind the process, for Frank, therefore explains the 'rise of the west'. This perhaps raises doubts over Wong's attribution of capitalism to Europe but, for our purposes, confirms the importance of free market culture and an interlinked world economy in shaping inequality within Eurasia – a judgment very much in contrast with Diamond's focus on independent divergent trajectories based on geographical differences.

Let me conclude this section with a comment on what has been said. It is reasonably clear that Diamond's work seems to lack comprehensiveness when looking at the divergence between China and Europe over the last five hundred years. However, the comparative approach alerts us to another important factor: there is little agreement over what explains this disparity. Here we can see the value of taking such an approach; it has allowed for analysis without having to make a normative judgement between interpretations. It has not been the aim to attribute any rival theories with the title of "superior"; more to highlight that cultural factors do make a difference in the broader course of history. This is also not to argue that geography was unimportant. It has not been asserted that it did not contribute to the unification of China, or that this factor was irrelevant. Furthermore, it has not been the intention to "agree" with specific interpretations of explanatory factors; the cultural barriers to diffusion in China, for instance, were not raised to argue that, in the grand scheme of history, geographical factors (such as isolation) were irrelevant; more that they cannot be deemed dominantly significant in all cases. This argument should not be misinterpreted as arguing that culture was history's dominant force either – for the record, I no more agree with Landes' explanation than with Diamond's; the critique is to highlight the importance of balance in what is undoubtedly a multi-causal phenomenon. Put simply, the cultural critique is not to dispel the notion that bio-geography matters; it is to argue that history's broadest courses cannot be explained without reference to cultural influences. They certainly cannot be labelled as ultimately insignificant 'wild cards'.

It is duly noted that the discussion of divergence between Europe and China over the last five hundred years is a focus that does not even address all the relevant disparities arising in Eurasia in that time period, let alone the rest of world history. The attention paid to this particular case was intended to establish the 'cultural critique' in relation to one important area. With this now done, let us address the issue with regard to other key times and places.

### **The Cultural Critique and the decline of the Fertile Crescent**

The Fertile Crescent (now roughly 'the Middle East') is noted in GGS to have had the earliest of starts on food production<sup>57</sup>. Diamond looks at bio-geographical factors to explain how they lost their lead. Fragility, he claims, meant that after deforesting for early food production they could not continue to use the land for the same purposes; most of it turned to 'desert, semidesert, steppe, or heavily eroded or

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<sup>55</sup> *ibid*, pp. 298-318

<sup>56</sup> *ibid*, p. 289

<sup>57</sup> Diamond, *Guns, Germs and Steel*, pp. 98-103

salinized terrain unsuited for agriculture<sup>58</sup>. This combined with the fact that they 'possessed no further compelling geographical advantages' resulted in their relative decline<sup>59</sup>.

The empirical data here seems faultless, but it appears a rather incomplete account of Middle East history. There is no mention, for instance of the writings of Al-Ghazali and medieval age developments in Islam. By the twelfth-century Muslim countries were probably ahead of the rest of the world in technological and philosophical thought but tension arose between rationalist reasoning and Islamic sacred sciences<sup>60</sup>. I do not wish to enter into a religious-rational compatibility debate here, but something must be said of the 'radical distrust of human reason' professed by influential Fertile Crescent theologians of the era<sup>61</sup>. McNeill's claim that the result of their writings was 'to throttle almost all innovation in Muslim science and philosophy' can surely not go unacknowledged<sup>62</sup>. The relative influence of environment constraints and technological clamps on Middle Eastern development is difficult to decipher but their history is incomplete without recognising both factors.

Taking one brief reflection on the contemporary picture also seems important here to note that certain Middle Eastern countries today are extremely rich and that their wealth is based almost entirely on oil. This invites two comments. Firstly, while they were an early centre for food production, this fact contributes little to understanding the wealth of the region today. Secondly, their contemporary wealth gives them significant political power in a world economy so dependent on the resource; a factor that could greatly improve their future prospects if bargained with wisely. This highlights that farming resources are not the only endowments aiding wealth creation and that global political economy is important in national trajectories.

## **Culture and Colonialism**

Although the subject of European expansion to the New World has been touched upon above, something of the experience itself needs be said here; it too was tied up with cultural factors. One key focus in GGS is the capacity of Europeans to conquer the Americas and not visa versa<sup>63</sup>. His reason is that Europe had developed further by 1492 so their guns, germs and steel could overpower the peoples they encountered<sup>64</sup>. The important 'collision at Cajamarca', for instance, was decided by Spanish maritime technology and military capabilities derived from their centralised political system and specialised division of labour enabled by earlier farming production combined with the development of writing that could supply sailing directions and details of exploits as motivations for potential colonisers still in Europe<sup>65</sup>. The Incas, in contrast, had been fighting a (albeit successful) civil war to keep their empire unified resulting from the internal unrest over a smallpox epidemic brought by the Spanish, and Atahualpa 'walked into their trap' lacking knowledge of the coloniser's intentions due to a lack of transmitted

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<sup>58</sup> *ibid*, pp. 410-411

<sup>59</sup> *ibid*, p. 410

<sup>60</sup> McNeill, *The Rise of the West*, pp. 501-502

<sup>61</sup> McNeill, *The Rise of the West*, pp. 502-503

<sup>62</sup> *ibid*, p. 503

<sup>63</sup> Diamond, *Guns, Germs and Steel*, pp. 67-82 & 354-375

<sup>64</sup> *ibid*, pp. 373-375

<sup>65</sup> *ibid*, pp. 78-79

information resulting from writing being a privilege only reserved for the elites<sup>66</sup>. In other words technology and disease derived from food production and its facilitation of political organisation explain the colonial encounters.

This is, to be sure, a fine explanation of how colonialism was possible, but it seems somewhat lacking in terms of *why* it happened. From the very beginning, explaining Columbus' voyage without reference to his desire to prove the world was round is difficult to sustain. In addition, while it is true that North American natives were decimated by European diseases (an even more important factor than military exploits in this case), the fact does not explain their presence<sup>67</sup>. For example the colonisation of New England is almost inexplicable without knowing that settlers were attempting to escape religious turmoil and persecution in Europe<sup>68</sup>. Similarly, the importance of news of treasure in the New World returning to Spain seems somewhat insignificant without the motive of wealth emphasized by an individualism-orientated capitalist society. This stands in stark contrast to, for instance, the Aztecs, who engaged in war primarily to find sacrificial victims for their Gods; wealth was a relatively insignificant bi-product<sup>69</sup>. In sum, Diamond's account of inequality in the colonial encounters of Europe and America is really an explanation of how but not why. Consequently, it can be deemed important in explaining the course of history in this time and place but not when considered alone; cultural influences on both sides have at least some role in determining behaviour and outcomes.

Furthermore, Moon notes that the development differentials say little about 'the social and political organisation of stabilized colonial states'<sup>70</sup>. The benefits extracted by Europe have already been touched upon but Diamond is equally unforthcoming about the impact on the colonised states. An example can be seen in Africa where colonies remained purposely underdeveloped in many important areas, notably in infrastructure, while their focuses of production centred on resources to feed the mother country<sup>71</sup>. Similarly, Jarosz's study of Madagascar shows food production corresponded first to a set-up that would establish European control and then to 'extract wealth and profit'<sup>72</sup>. In the Madagascan experience 'the shifting political and economic dimensions of resource control and extraction highlights primacy of politics and economics in European colonisation as vital "ultimate factors"<sup>73</sup>. Such cases have prompted the conclusion by Blaut that 'colonialism gave Europeans the power both to develop their own society and to prevent development from occurring elsewhere'<sup>74</sup>. The point of import for us here is that, without the process of colonialism, history's disparities may have been very different, and this process is very much linked to the motivational side of the phenomenon, not just the difference in natural capacities. Without the influence of the European drive for wealth and desire to dominate, the historical evolution of inequality

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<sup>66</sup> *ibid*, pp. 77-78 & 79-80

<sup>67</sup> Diamond, *Guns, Germs and Steel*, pp. 373-374

<sup>68</sup> George Brown Tindall & David Emory Shi, *America: A Narrative History* (New York & London: W.W. Norton & Company, 1999), pp. 65-77

<sup>69</sup> Geoffrey W. Conrad & Arthur A. Demarest, *Religion and Empire: The dynamics of Aztec and Inca expansionism* (Cambridge: Cambridge University Press, 1984), p. 69

<sup>70</sup> Suzanne Moon, 'Book Review: Guns, Germs and Steel', *Technology and Culture*, 41: 3 (2000), p. 570

<sup>71</sup> E. Wayne Nafziger, *Inequality in Africa: Political elites, proletariat, peasants and the poor* (Cambridge: Cambridge University Press, 1988), pp. 35-50

<sup>72</sup> Lucy Jarosz, 'A Human Geographer's Response to *Guns, Germs and Steel*: The Case of Agrarian Development and Change in Madagascar', *Antipode*, 35: 4 (2003), p. 826

<sup>73</sup> Jarosz, 'A Human Geographer's Response to *Guns, Germs and Steel*', pp. 826-827

<sup>74</sup> James M. Blaut, *The Colonizer's Model of the World: Geographical Diffusionism and Eurocentric History* (New York & London: Guilford Press, 1993), p. 206

could look very different; it is certainly not explained merely by the disparities in power between the colonisers and the colonised.

### **Pre-Modern History and Human Willpower**

It seems important to attempt a reflection of the cultural critique on some areas of history that are not quite so recent – we have so far limited focus only as far back as the medieval ages. The reason for this is simple: much less is known of cultural characteristics of pre-modern society. This, however, does not excuse ignoring them. We will therefore take a look at two small examples to sum up the argument as regards these times. Blaut puts forward these cases. Firstly, the Khoisan people of South Africa are claimed by Diamond to have not adopted the crop Xhosa due to environmental constraints<sup>75</sup>. Blaut points out though that there are areas of the Khoisan lands that would have been accommodating to the crop<sup>76</sup>. Instead, he argues, ‘they *chose* to remain pastoralists’<sup>77</sup>. Similarly, Diamond argues that the Native Australians did not adopt food production due to a lack of their own wild plants and animals to domesticate, and relative isolation from other developed societies that could have diffused technology their way<sup>78</sup>. Blaut retorts that the supposed diffusion problems facing Australia are exaggerated by Diamond, and argues that ‘Australians *chose* not to adopt agriculture because they managed quite well without it’<sup>79</sup>. The actual relative importance of the two factors is well beyond those uneducated in evolution, and possibly all researchers given that knowledge of Aboriginal motivations is dead and buried (quite literally), but the fact that nomadic tribes still exist in the modern era suggests we should not discount the idea that human desires may influence the decision to seek economic development whatever the feasible possibilities. This leads us to an important philosophical question: does it matter whether a people could choose differently, or whether they would have chosen differently if they could have done? The answer to this question is well beyond the limits of this essay but a good point can be drawn from it; the issue of capabilities is important, but only absolutely so if human motivations are defined as preordained. Diamond works from an understanding that all people would have developed food production, and other economic enhancements, if they could have done, but evidence to suggest that human motivation lies solely in this area is lacking. This then sums up the cultural critique in the pre-modern era: bio-geography was important, but it cannot be deemed necessarily dominantly determinant; evidence here questions such an assertion and conclusive knowledge on the subject is perhaps a misnomer. The balance of nature and nurture perhaps cannot ultimately be deciphered but it is safe to say that both must be considered important in explaining history’s broadest courses; neither can be deemed a ‘wild card’.

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<sup>75</sup> Diamond, *Guns, Germs and Steel*, p. 397

<sup>76</sup> Blaut, ‘Environmentalism and Eurocentrism’, p. 396

<sup>77</sup> *ibid*, p. 396 (emphasis added)

<sup>78</sup> Diamond, *Guns, Germs and Steel*, pp. 308-317

<sup>79</sup> Blaut, ‘Environmentalism and Eurocentrism’, p. 397 (emphasis added)

## Inconclusive Conclusions

Diamond's *Guns, Germs and Steel* has undoubtedly added depth and knowledge to a question still without a conclusive answer, but he has not provided an entirely comprehensive explanation of inequality. When Yali asked him why nations populated with Caucasians developed faster than others Diamond set about answering by means of bio-geographical factors that determined history's broadest patterns, deeming cultural and individual idiosyncrasies' 'wild card' influences. Our critique of this view is that their influence has been far greater than that; culture has played an enormous role in shaping the world trends towards disparity. This can be seen most notably in the European-Chinese divergence but was undoubtedly also significant in the decline of the Fertile Crescent, the rationale of colonialism, and perhaps even in the very first societies. This is not to dismiss the idea that environmental factors were important in shaping the potential capabilities of different peoples; it merely asserts culture as more than 'history's wild card'. The impact of culture is naturally context specific and subject to different interpretations. Nevertheless, in explaining inequality both bio-geography and culture need to be considered in all places and at all times; without doing so, any 'history of everybody for the last 13,000 years' will be incomplete.

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