



Section 2. Demography and ethnography

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IS OUR CIVILIZATION IN DANGER? AN ANALYSIS OF THE FACTORS THAT FAIL EMPIRES

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Abstract

This paper parallels the complex threats facing modern civilization and the challenges that led to the collapse of historical empires. Drawing on the 'Horsemen of the Apocalypse,' it highlights five critical factors: major population movements, new epidemic diseases, state failure due to warfare, the breakdown of trade routes, and climate change. The paper introduces a sixth factor – technology – emphasizing its dual role as both a driver of progress and potential source of societal decline. Through historical examples, current events, and scholarly perspectives, the paper explores the fragile state of today's civilization and advocates for the urgent need for collective actions to address these existential risks. Ultimately, it calls for dialogue on sustainable practices and long term solutions to strengthen the foundation of our shared future, stressing the importance of unity and collaboration in this endeavor.

Keywords: civilization, population movements, epidemic diseases, state failure, warfare, trade, climate change, technology, society

From the fall of ancient empires to modern-day crises, the question of why civilizations collapse has captivated scholars and thinkers alike. Historian Ian Morris called the five factors that contribute to the collapse of civilizations the «Horsemen of the Apocalypse,» in his TED talk "Incredible Archaeological Discoveries" (Ian Morris. 2016). These five include: major population movements, the rise of new epidemic diseases, state failure and increased warfare, the collapse of trade routes, and climate change. He

claims that, "These five factors that almost always crop up" (Ian Morris. 2016) have led to the collapse of many ancient civilizations. Though these are major components in causing the collapse of civilization, they are not enough. Given the prevalence of technology in the world today, I would add its impact on influencing populations and the climate is significant enough to consider it as another factor. The collapse of a civilization could be due to human-induced and also natural effects such as those proposed by Morris,

which have placed our current global civilization in danger.

Scholars have described civilization as a complex phase of human society, encompassing a broadly evolved system of governance, cultural expression, economic activity, and shared social standards. The first of the five Horsemen, major population movements have historically played a critical role in the collapse of civilizations. The sudden increase of population exacerbates resource depletion as more people compete for limited food, water, and energy, leading to increased resource scarcity, social tensions, and ultimately death. Other calamities can also result in a sudden loss of population in a civilization that could lead to its collapse. This depopulation can be caused by factors such as diseases, warfare, and famine. In addition, fertility and birth rate can have a significant impact on the population. For example, in the twenty-first century, the birth rate in Japan has been low and this has negatively affected their economic sector. Public investors have played a lesser role in banking, and "the private sector holds a majority of JGBs today, implying a greater dependence on less stable ... private investors, including foreigners, to refinance its debt" (Patrick Imam. 2013). This instability has detrimental impacts on economic developments. If economic development has a sufficient enough decline, then this can harm the production of resources that keeps the society moving.

The rise of new epidemic diseases, the second Horseman, has been a major factor in the collapse of civilizations causing massive numbers of deaths thereby ruining the social and economic structure of society. For example, one of the greatest outbreaks of plague, the Black Death of Europe (in the period 1347 to 1350) caused the death of "a quarter of the population in Europe, over 25 million people, and another 25 million in Asia and Africa" (About John Frith. 2023). This epidemic of the 14 th century led to severe labor shortages, economic decline, and social unrest which "By 1430, Europe's population was lower than it had been in 1290 and would not recover the pre-pandemic level until the 16th century" (About John Frith. 2023). Similarly, pandemics like COVID-19 are much more recent and have had similar impacts on our current society. Widespread lockdown and business closures have caused a severe recession, leading to high unemployment, business failures, and increased poverty. These epidemics weakened the ability of affected societies to function, defend themselves, and maintain order, all factors which can often accelerate their eventual demise and put our current civilization in danger.

State failure and increased warfare are other critical factors or the third Horseman that can lead to the collapse of civilizations. The intensity of war exacerbates existing societal issues by destroying infrastructure, displacing populations, and depleting resources. These factors can be easily seen through the history of the Transatlantic Slave Trade. While many African nations face societal instability, fueled by economic underdevelopment, history shows that "[t]he African countries that are the poorest today are the ones from which the most slaves were taken ... the procurement of slaves through internal warfare, raiding, and kidnapping resulted in subsequent state collapse" (Nathan Nunn. 2006). As warfare rages on, it perpetuates a cycle of violence and instability, ultimately pushing civilizations towards collapse by dismantling the very structures that support societal stability and growth. Modern weapons make the prospect of an apocalypse possible. These weapons are so powerful that even "[n] uclear war in itself could result in an existential risk: either the extinction of our species, or a permanent catapult back to the Stone Age" (Luke Kemp. 2022). A post nuclear world will make it nearly impossible to maintain or recover our current civilization.

The fourth Horseman or the collapse of trade routes can lead to the decline of civilizations by undermining the economic and cultural exchanges that sustain them. Trade routes are the lifeblood of civilizations, enabling the movement of goods, resources and ideas. When trade routes are disturbed, society can undergo drastic changes. In the Late Bronze Age, there was a vast trading network in the Mediterranean Sea that allowed ancient city-states to trade resources like copper and tin. Due to several natural disasters, these trade routes began to falter and the exchange of "tin and copper were disrupted and cities began to fall" (Dave Roos. 2021), this

had a cascading effect, eventually causing most of the civilizations involved to collapse. Similar to the disruptions in the tin copper trade, modern commerce is also susceptible to outside influences such as political events and warfare. Following Russia's invasion of Ukraine in 2022, "Oil surged above \$100 a barrel for the first time since 2014, triggering fears of a disruption to energy exports at a time of already tight supplies" (Brendan Murray et. al. 2022). Because Ukraine plays a key role in providing raw materials to countries in Europe, the jump in energy prices suggest further disruptions to global trade which exacerbated the fragile post-Covid economies. Economic declines can cause society to become more vulnerable to external threats like diseases, natural disasters, and climate change, exacerbated by instability caused by deteriorating cultural exchange routes. These factors can all lead to a civilization's demise.

The fifth Horseman, or climate change, is a driving factor of societal collapse. The natural resources that keep society functional are limited, but prioritizing economic growth over sustainability leads to overconsumption. Overconsumption, especially by the rich, accelerates the depletion of these resources, increases waste and pollution, which further degrades the environment. According to an article at a Stanford initiative, "[The] predicament is getting continually and rapidly worse, driven by overpopulation, overconsumption among the rich, and the use of environmentally malign technologies and socio-economic-political arrangements to service the consumption" (Paul R. Ehrlich. 2015). These problems persist because the wealthy use technologies that harm the environment and follow economic and political systems that focus on quick economic gain instead of long-term climate stability. For example, a Yale study demonstrates how droughts in the Middle East are being more disruptive and frequent, as a result of a rapidly warming planet under duress (Richard Conniff. 2012). This unsustainable form of development damages the natural system we depend on, making it harder to grow food, get enough water, and maintain a stable climate.

The newest and "sixth" Horseman, technology is beneficial in humans' lives in many

ways, but it can also cause societal decline if it evolves too rapidly. Advanced technology can create lasting damage on the climate and the environment. Artificial Intelligence (AI) definitely makes people's lives simpler, but running AI systems require a lot of computing power and electricity. A Scientific American article that explored the climate impact caused by AI states, "[W]hen OpenAI trained its LLM called GPT-3, that work produced the equivalent of around 500 tons of carbon dioxide" (Jude Coleman. 2023). The excessive power required to run it results in the release of carbon dioxide emissions to the atmosphere, worsening global warming. Industries that AI is often used in also harm the climate in significant ways. In the fast fashion sectors, AI is typically used to create algorithms for advertising. This promotion of consumerism is what causes the fashion industry "to produce up to eight percent of global emissions" (Jude Coleman. 2023). For a single industry to be responsible for such a large percentage of emissions is absurd. This is a direct cause of consumerism fueled by rapidly evolving AI, and worsens issues that cause societal deterioration, such as global warming. The expeditious advancement of technology also has harmful social impact. For children, it is apparent that "[t]he use of screen devices as calming tools during early childhood can also interfere with the development of important emotion-regulation skills" (Jude Coleman. 2023). When childrens rely more on electric products, it "often strips away critical elements of social interaction," ("How does technology affect kids' social development?" 2023) making it difficult for kids to develop healthy social and communication skills. The combined impact of electronics on social health and AI on climate health are indicative of societal decay caused by accelerated technological growth.

Our civilization is at stake, facing unprecedented challenges that threaten its very foundation. The modern-day equivalents of the "six" Horsemen of the Apocalypse: major population movements, the rise of new epidemic diseases, state failure and increased warfare, the collapse of trade routes, climate change, and technology have created a precarious situation resulting in widespread disruption and pose a severe risk to our collective future. However, despite these formi-

dable threats, we can still mitigate these destructive forces and ensure the continuation and prosperity of our civilization. By working together and committing to long-term solutions, we can address these challenges and build a more stable and sustainable future.

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