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**PLAGUES AND POWER:
THE EVOLUTIONARY INFLUENCE OF DISEASE
ON GREAT POWER COMPETITION**

by

Travis S. Slone

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Thesis Advisor:
Second Reader:

Thomas Jamison
John J. Arquilla

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ON GREAT POWER COMPETITION**

Travis S. Slone
Major, United States Air Force
BSBA, Arkansas Tech University, 2005
MBA, American Military University, 2013

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June 2021**

Approved by: Thomas Jamison
Advisor

John J. Arquilla
Second Reader

Douglas A. Borer
Chair, Department of Defense Analysis

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ABSTRACT

Disease has contributed to the reshuffling of the regional and global orders throughout history. Strangely, this variable has been neglected vis-à-vis Great Power Competition (GPC), creating a “plague gap” in the literature on international relations and transitions of power. In general, historians and political scientists connect power shifts to military clashes, diplomacy, or economic developments. Investigating the emergence and spread of novel diseases throughout time offers a new variable to the discussion. My findings explore how disease has factored into the decline of some empires (the Athenian, Roman, Byzantine, and Mongol empires) and the expansion of others (Spain and Great Britain). In GPC disease can be used as an instrument of conquest or as a collaborative tool of governance. Disease can weaken states’ abilities to compete economically and militarily with rivals. The ongoing GPC with the People’s Republic of China (PRC) and the 2019 Novel Coronavirus Disease (COVID-19) pandemic provides yet another example of this pattern. My research suggests the possibility that COVID-19 will accelerate Chinese superiority and reshape the international order in the PRC’s favor. Consideration must be given to the inclusion of disease in determining national policy in GPC.

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LIST OF ACRONYMS AND ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
BCE	before common era
BRI	Belt and Road Initiative
CE	common era
COVID-19	Coronavirus Disease 2019
EU	European Union
G7	Group of Seven
G8	Group of Eight
GDP	gross domestic product
GPC	Great Power Competition
HIV	Human Immunodeficiency Virus
MOH	Ministry of Health
PRC	People's Republic of China
SARS	Severe Acute Respiratory Syndrome
UN	United Nations
UNAIDS	United Nations Acquired Immune Deficiency Syndrome
USSR	Union of Soviet Socialist Republics
U.S.	United States
WHA	World Health Assembly
WHO	World Health Organization
WWI	World War I
WWII	World War II

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I. INTRODUCTION

This thesis assesses the effect(s) of disease on regional and global competitions resulting in power transitions. Traditionally, power shifts are measured mainly by political, economic, and military capabilities and resources in the international system. The foundational efforts to understand power shifts rely on international relations models, like the Balance of Power Theory, as the baseline for measurement and transition of power. Balance of Power Theory emphasizes the deterrence of a state that strived to use its power to control others. At the conceptual level, this is sound logic, but the effects of disease are generally not factored into the equation. The inclusion of disease as a sometimes-decisive factor may help us understand how and why great powers lose out or gain ground. Disease is not limited to historical empires; it has persisted in modern times and will likely continue well into the future. The current COVID-19 pandemic showcases the power of disease in a globalized world despite revolutionary medical practices.

A. THE PLAGUE GAP

By and large, the literature on international relations predicts that power shifts will occur by way of economic, political, and/or military means, but has excluded disease from the calculus. Arguments from international relations authorities such as John Mearsheimer contend the power for a state is a function of economic and military capabilities to influence great power controls, completely excluding disease.¹ Other international relations theorists share the same sentiments, such as Inis Claude and Kenneth Waltz. Along the same lines, historian Paul Kennedy asserted that nations and empires tend to overextend themselves militarily and economically, which leads to power shifts.² This exclusion of disease as a variable has created a “plague gap” in the power politics literature. Other historians write about the effect of disease on populations, but failed mention power transitions associated

¹ John J. Mearsheimer, *The Tragedy of Great Power Politics*, Updated edition. (New York: WWNorton & Company, 2014), 55.

² Paul Kennedy, *The Rise and Fall of the Great Powers* (New York: Random House, 1987), xv–xvi.

with the outbreak. Jared Diamond and William McNeill wrote extensively about disease throughout the history of man and linked disease as a tool of decline.

This thesis will fill the “plague gap” with historical and current examples of disease and nation competition. Establishing the place of disease among economic and military means to shift power provides another measure and can help answer how regional and international orders rise and fall.

B. KEY ARGUMENTS

This thesis captures the ways in which disease has affected power throughout history. The main findings of the research have uncovered a trend in power transition enabled by disease. It makes three major arguments. The first: disease can stop the expansion of economic and military power. Territorial and commercial expansion has been a basis of power but also as a means of disease transmission—as is evident with Greece and Rome. Expansion fueled trading, and the movement of goods associated with trade as well as troops to protect the growth, connecting the classical world.³ These increased movements also introduced novel diseases to the empire’s population with often volatile outcomes.⁴ The introduction of smallpox into Ancient Athens and the bubonic plague into the Byzantine Empire are examples.

Second, disease can assist expansion when a population is immune. Leveraging the immunity, states expand into uncharted territories, decimated the locals and swung the power pendulum in favor of the colonizer or aggressor. During the colonialization of the Americas, the European colonizers utilized the lessons of the “military revolution” against the people of the New World.⁵ The accompaniment of disease and, when combined with the military revolution, profoundly affected the conquests in the New World. The Spanish

³ William Hardy McNeill, *Plagues and Peoples*, 1st ed (Garden City, N.Y: Anchor Books Editions, 1976), 113–15.

⁴ Jared Diamond, *Guns, Germs, and Steel: The Fates of Human Societies* (New York: Norton, 2017), 81–108.

⁵ Geoffrey Parker, *The Military Revolution: Military Innovation and the Rise of the West, 1500–1800* (Cambridge: Cambridge University Press, 1988).

utilized disease in the defense of Havana, while Lord Jeffrey Amherst weaponized smallpox, spreading it to the Native Americans.

Lastly, collaboration on or offer of humanitarian and medical aid spurs the possibility for cooperation. In the twentieth-century, medical technological breakthroughs provided the belief that infectious disease had lost its power over humanity.⁶ This motivated collaboration by unlikely Great Powers led to the eradication of one disease (smallpox) and set forth organizations to fight for disease prevention globally. However, disease control benefited those with available resources and furthered the GPC. The wealth of a nation greatly determined the response to an outbreak and the ability to offer support to other, less fortunate nations. In the twenty-first century, two novel outbreaks of disease from China demonstrate this tension. The PRC's ability to conceal the exact toll of disease on its society allows for powerful messaging to outside observers. As with smallpox, a global threat united the world and incentivized cooperation, but also drove GPC. In these instances, China emerged first and provided assistance the world desperately needed, filled the void left by other Great Powers engulfed in their struggles.

C. METHODOLOGY

In order to fill the “plague gap” in literature, this thesis first researched international relations theorists and historians to identify the lack of disease inclusion into power shifts. To fill this gap, historical case studies in which disease altered power were chosen and then grouped into chapters based on effects and the era of occurrence. The focus on only one specific conflict or a single period would be too narrow for this project's scope. The vignettes offer historical samples of plague-induced power shifts from the perspective of both primary and secondary sources. The evolution of a disease in power transitions throughout history filled the “plague gap,” which had previously excluded it from the Balance of Power theories and other historical sources.

⁶ McNeill, *Plagues and Peoples*, 9.

D. CHAPTER OUTLINE

This thesis focuses on historical examples where disease caused or contributed to the decline of a regional influencer or a Great Power. Following the introduction, the second chapter, “Plague Gap in Power Politics,” describes the Balance of Power Theory and the prospect to consider disease as a variable. The use of numerous political scientists’ work in the chapter charted how military, economic, and political factors, but not disease, contributed to power shifts. The second part shifts to historians and their coverage of disease. These writings demonstrate the debilitating effects of disease on populations, but do not relate those effects to power transitions.

The rest of the thesis spans from the ancient world to the present. The third chapter, “Old World Imperialism,” includes empires from the ancient world. The Athenian, Roman, Byzantine, and Mongol Empires each have extensive documentation on disease and the power shifts that resulted. In each case, expansion introduced disease. The logistical requirements for trade served as the facilitator for germ introduction into susceptible populations. The decline in the economy and military of the empires by disease set forth a shift in regional supremacy.

The fourth chapter, titled “Colonization and Competition Between Great Powers,” examines the discovery of a “New World” by European colonizers. The ability of imperial powers to use disease—whether intentional or not—against the local populace accelerated the gains in power. Disease factored into the conflicts that occurred between European powers in the New World as well. The established power in the region held immunities over its rivals and provided an advantage in local battles—notably in the case of Havana (1762).

The fifth chapter, “Twentieth-Century International Power Relations and Global Cooperation,” encompasses pandemics and the successes achieved by global cooperation. Medical achievements in the twentieth century allowed governments to eliminate disease in one case and control disease, but only if the nation had the resources. The emerging and underdeveloped countries lack the ability to fund these endeavors and rely on the

willingness of superpowers to assist. That motivation drove collaboration, in the case of the U.S. and the Soviet Union, but frictions remained because of the Cold War animosities.

The sixth chapter, “Twenty-First Century Pandemics: A Change in the International Order?,” comprises of two novel diseases that spread from China, accelerated by globalization and the lack of information from the Chinese government. Despite the modern advances in medicine, the diseases disrupted everyday governmental, business, and societal functions. China’s ability to recover first from the outbreaks put it in an advantageous position to assist recovery and accelerate the rise of China economically and its improved image as a responsible, effective government.

The research reveals that disease has been a significant causal variable in power transitions along with economic and military terms. On this basis, I recommend the inclusion of disease in any future literature on the subject. Additionally, revisions or additions should be made to previous writings on the topic to include disease as an equal variable. Political scientists and historians need to emphasize the importance of disease to ruling governments to include disease as a factor in national policy. Understanding how disease has impacted our predecessors remains essential as the world becomes more connected, more reliant on each other, and yet characterized by GPC.

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II. PLAGUE GAP IN POWER POLITICS

The combination of alliance politics and military capabilities forms the basis of the Balance of Power Theory. Simply put, “a balance of power involves a particular distribution of power among the states for that system such that no single state and no existing alliance has an ‘overwhelming’ or ‘preponderant’ amount of power.”⁷ The Balance of Power Theory does not view states in the international system as equals and is in line with a realist view, which focuses upon differentials in relative power between competing nation-states and alliances.⁸ States use their power, both political and military, to check other states and maintain their relative advantages and security.

What occurs with the introduction of a disease into this system? How will it affect the state’s capabilities and its ability to compete in the international system? The imbalance caused by a large-scale, prolonged pandemic on a state’s economy may tip the balance of power to the state that can recover the quickest. Whether a state is independent or dependent on other states may affect the decrease or increase of power post-plague. These critical questions remain relevant throughout the examples discussed in the process of this thesis.

A. POWER AND POLITICS

Typically, social scientists and historians have researched power in terms of economic and military resources and capabilities. For example, Hans Morgenthau’s book, *Politics Among Nations: The Struggle for Power and Peace* (1948) addresses, supports, and critiques numerous theories about power. He primarily supports and focuses on realism theory regarding power and its interaction with other nations globally.⁹ Foreign and

⁷ Dina A. Zinnes, “An Analytical Study of the Balance of Power Theories,” *Journal of Peace Research* 4, no. 3 (September 1, 1967): 272, <https://doi.org/10.1177/002234336700400304>.

⁸ Michael Sheehan, *The Balance of Power: History & Theory* (Milton Park, Abingdon, Oxfordshire: Routledge, 2004), 8, <https://doi.org/10.4324/9780203344613>.

⁹ Hans Joachim Morgenthau, *Politics among Nations; the Struggle for Power and Peace*, 5th ed. (New York: Knopf; by Random House, 1972), 3–15. First edition was published in 1948. See also “Democracy and Efficiency” by Woodrow Wilson.

domestic politics reveal three basic patterns: states try either keeping power, increasing power, or demonstrating power.¹⁰ The struggle for power in international relations is among a series of competing coalitions. The ideology of power in international politics is often in tension with the demands of reason, morality, and justice; the morality, mores, and law intervene to protect society against a superior power from dominating through brute force.¹¹ Morgenthau does not list disease as a factor in any of the theories discussed—his definition of power is in economic and military terms.

Inis Claude expands on Morgenthau's in his in *Power and International Relations* (1962), Inis Claude Jr. denotes power mainly in terms of military capability and the capacity to coerce, kill, and destroy.¹² He writes extensively about the balance of power and divides his analysis into states of equilibrium or disequilibrium.¹³ The shift in power due to an unbalanced system will affect how a state's ability to maintain its military and economy in the international system.¹⁴

Paul Kennedy further addressed the question of power in *The Rise and Fall of the Great Powers: Economic Change and Military Conflict from 1500 to 2000* (1987).¹⁵ He asserts nations never remain constant "because of the uneven rate of growth among different societies and of the technological and organizational breakthroughs which bring a greater advantage to one society than to another."¹⁶ Kennedy omits disease as a causal factor to power shifts and attributes the changes to states that overextend themselves

¹⁰ Morgenthau, *Politics among Nations; the Struggle for Power and Peace*, 40.

¹¹ Morgenthau, 225–26.

¹² Inis L. Claude, Jr., *Power and International Relations* (New York: Random House, 1962), 6. See also A. F. Pollard, *The Balance of Power*, for further critiques of Balance of Power theory and if it is even possible to have a "balance."

¹³ Claude, 16.

¹⁴ In contrast to internally focused and developed forms of power, collective security calls for an alliance system in which nations unite in protecting the stability of the international order. See: Claude, *Power and International Relations*, 144–45.

¹⁵ Kennedy, *The Rise and Fall of the Great Powers*. Although a historian, his research was similar to the social scientists in this section.

¹⁶ Kennedy, XV–XVI. See also William H. McNeil, *A World History*. McNeil emphasizes that in any given age the world balance was liable to disturbances emanating from one or more great powers affecting the balance of power.

militarily and economically. A state's replacement as a leader in the international system occurs when another country converts its resource bases into a military power that outstrips the leader.¹⁷

In Kenneth Waltz's book, *Theory of International Politics* (1979), he argues that one must study the state in the international system to understand the state. Waltz examines how an anarchic system affects a state through the distribution of capabilities.¹⁸ How a state aligns its capabilities affects its position in the international system by economic and military effects. Waltz uses the balance of power theory to express how the imbalances of capabilities are dangerous for weaker states due to the larger states' temptations to engage in adventurous activities.¹⁹ Waltz's research demonstrates that a state's power is essential to its position in the international system and follows suit and many other social scientists by excluding disease as a factor affecting power.

In line with Kennedy and Waltz, John Mearsheimer stated the basis of power ties to particular material capabilities in his book *The Tragedy of International Politics* (2014).²⁰ The balance of power for a state is a function of tangible assets that a great power controls, including its economic and military capabilities. Mearsheimer, in response to Waltz, proposed a theory of offensive realism: a state is concerned with how to survive in the international system where there is no one to protect them, and the state quickly realizes that power is the key to survival.²¹ Power in the international system is gained or lost at the expense of other states, and a state's ultimate goal is to become a hegemon in the system.²² A Great Power can become a regional hegemon when no other state in the region

¹⁷ Kennedy, XVI. Kennedy's research covers the period beginning in 1500, what he determines to be the divide between modern and premodern times. Even though the epidemic starts before Kennedy's timeline, the pandemic's effects influenced the affected nations' power beyond his theory.

¹⁸ Waltz, *Theory of International Politics*, 102.

¹⁹ Waltz, 132.

²⁰ Mearsheimer, *The Tragedy of Great Power Politics*, 55.

²¹ Mearsheimer, 20–21.

²² Mearsheimer, 21. See also George Quester, *Offense and Defense in the International System*, for the offense-defense balance in international relations.

can sufficiently challenge their military capabilities, but the transition to a global hegemon is virtually impossible because balances have always formed to thwart aspirants.²³

Recently, Graham Allison's book, *Destined for War: Can America and China Escape Thucydides's Trap?* (2017) found 16 cases in which a major nation's rise disrupted the position of a dominant state and suggested the likelihood of war.²⁴ Allison focused on the term geo-economics in financial and commercial strength measurements to discuss power transmission without ever mentioning disease as a variable.²⁵ Allison did not explore the possibility that after a global pandemic the economic power ceded might be enough to alter the international system's standings.

As the review above suggests, scholars have been excluded plagues from international relations and the Balance of Power Theory. Diseases lie in the sometimes unforeseen and uncontrollable acts of nature that affect the human race, explaining its exclusion. In terms of economic and military force, the constant variables seem to be more measurable or controllable—nevertheless disease remains.

B. POWER, POLITICS, AND DISEASE: THE PLAGUE GAP

Historians have generally been more attentive to the subject of disease and power. For example, William H. McNeill, *Plagues and Peoples* (1976) covers the impact of diseases on human history. His analysis begins with the early man as a hunter/gatherer, then transitions to human migration and population clusters. Humans' ability to alter the natural balance is extraordinary and has set biological evolution into overdrive.²⁶ Humans' interaction with nature has clearly emphasized the importance of diseases, to include its impact on the rise of societies and political disagreements.

²³ Mearsheimer, 40–41.

²⁴ Graham T. Allison, *Destined for War: Can America and China Escape Thucydides's Trap?* (Boston: Houghton Mifflin Harcourt, 2017), vii.

²⁵ Allison, 20–21.

²⁶ McNeill, *Plagues and Peoples*, 15–16. See also Marcia C. Inhorn and Peter Brown, "The Anthropology of Infectious Disease."

Geoffrey Parker expanded on these themes in his book *Global Crisis*. He examines how climate change, mainly in the Europe and Asia, combined with political, economic, military, and social developments, affected a nation's power, ultimately leading to war in some cases during the mid-seventeenth century.²⁷ Introducing climate change as a causal variable is similar to the introduction of disease into the calculation. Famines and illnesses resulting from natural disasters come closest to a variable like plagues. A nation's ability to overcome the widespread catastrophe suggests how pandemics fit into power politics. The interdependence of nations and the natural disaster examples Parker gives about widespread destruction of resources highlights how—as in a pandemic—states collapse.²⁸ In one of Parker's chapters titled "Hunger is the Greatest Enemy," he examined the supply chain's failure during the seventeenth century in Beijing, Istanbul, Madrid, and other influential cities. The disorder of the supply system led to the governments listed above being unable to feed all of their populations, and some accounts estimate the population of the globe was reduced by one-third.²⁹ China, a powerful country during this period, suffered greatly, and it took centuries to recover, both politically and militarily.³⁰ Much like famine, pandemics can alter power for centuries to come, especially if introduced into an inferior population.

Jared Diamond's book *Guns, Germs, and Steel* explored the impact of power transitions by disease directly. Diamond asks why the Native Americans, Africans, and Aboriginal Australians were not the ones who "decimated, subjugated, or exterminated" the Europeans and Asians?³¹ Diamond's explanation is the colonial expansion underway during 1500 CE and the vast difference in technology and political organization. Additionally, Diamond links the introduction of germs from domestic animals, combined with the significant advantage in weaponry, technology, and political organization, as the

²⁷ Geoffrey Parker, *Global Crisis: War, Climate and Catastrophe in the Seventeenth Century* (New Haven, CT: Yale University Press, 2013), xxv–xxxii.

²⁸ Parker, 1–24.

²⁹ Parker, 55–76.

³⁰ Parker, 115–17.

³¹ Diamond, *Guns, Germs, and Steel*, 15.

reason for the inequality.³² The introduction of disease explained how so few European immigrants conquered so much of the Americas, despite being vastly outnumbered by the local populace. Eurasian advantages over other populations lasted for centuries. However, in today's interdependent international system, the benefits have been leveled mainly by the distribution of technology and alliances. One nation does not hold a monopoly over crucial weaponry or technology; instead, several great powers hold similar developments setting most of the world on an even playing field. Furthermore, nations align with other nations in which they share common interests reducing political organization's advantage. The germ is a different variable.

C. CONCLUSION

The inclusion of disease into power political calculations accounts for an essential variable in determining why some nations gain power and others lose power. The “plague gap” in power politics exposes, especially in today's interdependent, COVID-ridden world, how important it is for a nation to handle a pandemic and develops a historical pathway of disease in GPC. Filling the “plague gap” should bring attention to examples throughout history when plagues have profoundly altered power relations. This thesis' ensuing chapter will emphasize just how significant disease can be in international relations and the making—or un-making—of global order.

³² Diamond, 205.

III. OLD WORLD IMPERIALISM

Power politics is not a new concept; ancient civilizations laid many foundations for current international relations theory. In the Mediterranean, ancient states increased power by conquering weaker opponents to increase resources. Hand in hand with territorial expansion, trade flourished across the empires' newly seized areas and brought in novel goods that interconnected the classical world.³³ The increased movement and introduction of different goods increased wealth, while it also exposed populations to disease.³⁴ Such exposures often had volatile results.

This chapter will examine three societies' rise in the Mediterranean and one Asian society, followed by their subsequent decline due to several factors, including disease. The first case is the Plague of Athens, which occurred during the Peloponnesian War (431—404 BCE). This conflict primarily pitted Athens against Sparta for primacy in the Aegean world. The epidemic experienced by Athens and the conflict resulted in a power decline that forced serious strategic adjustment, ultimately leading to Athens' surrender to Sparta. The next case is the Antonine Plague: an infectious outbreak in the Roman Empire under Emperor Marcus Aurelius (161—180 CE). The outbreak weakened the empire's ability to maintain its control of the Mediterranean and forced Marcus Aurelius to scale back his plan to move the imperial frontier up to the Carpathians. The third study is the Byzantine Empire—formerly known as the Eastern Roman Empire—and the Black Plague's first appearance under Emperor Justinian I (527—565 CE) and the severe strategic consequences. The fourth case in this chapter is the Mongol Empire and the outbreak of the bubonic plague (1348). Later, to be known as the Black Death, the plague fatally weakened the Mongol Empire and restructured Europe. Filling the plague gap in the balance of power theory, this chapter charts the impact of disease on regional supremacies and the subsequent restructuring of the ancient and premodern worlds power relations. The chapter explains how imperial expansion fueled by economic networks encouraged the

³³ McNeill, *Plagues and Peoples*, 113–15.

³⁴ Diamond, *Guns, Germs, and Steel*, 81–108.

unknowing spread of disease. The results devastated the populations, which diminished the necessary manpower for the empires' militaries and destabilized their social stability.

A. ANCIENT ATHENS: THE PLAGUE OF 430—427 BCE

The Peloponnesian War occurred between the Athenian-led Delian League versus the Spartan-led Corinthian League from 431—404 BCE.³⁵ Before the war, several decades of peace existed in the region between the Greek states. By both the democratically aligned Athens and authoritarian Spartan, expansion defined a fractious, bipolar Greek world, with war as the likely outcome.³⁶ The ensuing conflict would prove to be the ultimate confrontation between the two Greek city-states and their allies.³⁷ Thucydides, an Athenian historian (and a general), recounted the war in his writings, including an unknown disease that infected and killed thousands of Athenians and inflicted a setback from which their society never fully recovered.³⁸

Before the Persian invasions of Greece in 490 and 480 BCE, Sparta was the dominant power in the region for more than a century, relying on its powerful land army.³⁹ The Persians' attack united the Greeks, and after expelling the Persians from Greece, Athens experienced remarkable economic, military and cultural resurgence referred to as the "Golden Age" for Athens.⁴⁰ In 431 BCE, Sparta believed Athens posed a grave security threat and attacked Athens' ally Plataea, one cause of the Peloponnesian War that pitted the two great adversaries against each other in a conflict that altered the balance of power.⁴¹

³⁵ Thucydides, *The Peloponnesian War*, trans. Richard Crawley (New York: Random House, Inc., 1951), vii.

³⁶ Donald Kagan, *The Outbreak of the Peloponnesian War* (Ithaca, NY: Cornell University Press, 2013), 350, <https://doi.org/10.7591/9780801467219>. See Also Graham Allison, *Destined for War: Can America and China Escape Thucydides's Trap*. Allison defines this as Thucydides's Trap—the severe structural stress caused when a rising power (Athens) threatens to upend a ruling one (Sparta), pp. 29.

³⁷ Thucydides, *The Peloponnesian War*, xix.

³⁸ McNeill, *Plagues and Peoples*, 121. See Also A.J. Holladay and J.C.F Poole, "Thucydides and the Plague of Athens" and Edward Lytton and Oswyn Murray, *Athens: Its Rise and Fall*.

³⁹ Allison, *Destined for War*, 30–31.

⁴⁰ Victor Davis Hanson, *A War like No Other: How the Athenians and Spartans Fought the Peloponnesian War*, Random House trade paperback ed. (New York: Random House, 2006), 5.

⁴¹ Donald Kagan, *New History of the Peloponnesian War* (Ithaca, NY: Cornell University Press, 2013), 77, <http://ebookcentral.proquest.com/lib/ebook-nps/detail.action?docID=3138453>.

In the summer of 430 BCE, Sparta besieged Athens.⁴² Pericles—Athens' leader and chief strategist—relocated all noncombatants behind fortified city walls before the Spartans' arrival, cramming thousands of citizens inside Athens for months. During this phase of the war, an unfamiliar disease began to spread through the city's crowded refugee encampments. The citizens were baffled by the sicknesses because the year had been relatively healthy.⁴³ Thucydides wrote:

People in good health were all of the sudden attacked by violent heats in the head, and redness and inflammation in the eyes, the inward parts, such as the throat or tongue, becoming bloody, and emitting an unnatural and fetid breath...Externally the body was not very hot to the touch, nor pale in its appearance, but reddish, livid, and breaking out into small pustules and ulcers.⁴⁴

Based on Thucydides' description of symptoms, the most likely disease was smallpox, but numerous other contagions are possible, and this diagnosis still has yet to be scientifically confirmed.⁴⁵ Thucydides wrote that the disease began in Ethiopia and spread north to Egypt and Libya and was then carried into Athens by way of the Athenian navy.⁴⁶

Initially, the Athenians believed the Spartans had poisoned the drinking wells in Piraeus, Athens's port, to prepare an assault on the city.⁴⁷ As the disease spread beyond the wells and the deaths became more frequent and destructive, it was clear it was contagion and not poison. The other Greek city-states had never experienced anything quite like the sickness devastating Athens.⁴⁸ Between 25–35 percent of the Athenian population died due

⁴² Hanson, *A War like No Other*, 65–66.

⁴³ Thucydides, *The Landmark Thucydides: A Comprehensive Guide to The Peloponnesian War*, ed. Robert B. Strassler (The Free Press, 1996), 118–19.

⁴⁴ Thucydides, 119.

⁴⁵ J. N. Hays, *Epidemics and Pandemics: Their Impacts on Human History* (Santa Barbara, CA: ABC-CLIO, 2005).

⁴⁶ Thucydides, *The Landmark Thucydides*, 118.

⁴⁷ Hanson, *A War Like No Other*, 70–71.

⁴⁸ Hanson, 65. The Spartans were not in as close of quarters as the Athenians behind the city walls.

to the epidemic, affecting all districts and age groups.⁴⁹ The classicist Victor Davis Hanson estimated the death toll of the plague at over 100,000.⁵⁰ The close quarters likely increased the infection's spread once it arrived in Athens and aided in the spreading outside of the city's walls to the countryside and military reinforcements.

The epidemic lasted four years, causing incredible losses in the early stages of the war. This greatly hindered Athens' ability to reinforce its armies.⁵¹ Pericles' death—caused by the epidemic—led the Athenians to switch to a very conservative military approach (avoiding land battles and hoping to wear down the Spartans with sea power), shifting the balance of power in favor of the more aggressive Spartans.⁵² Furthermore, Sparta and its allies were affected very little by the disease, enabling continued campaigns into the region and further swinging the power pendulum in Sparta's favor.⁵³

Athens felt the plague's social and military repercussions for the remainder of the war. When faced with risking death by either disease or Spartan hoplites, lawlessness and brutality ensued, changing Athenian culture.⁵⁴ Thucydides captures the citizens' behavior in his writings,

Nor was this the only form of lawless extravagance which owed its origin to the plague. Men now did just what they pleased, coolly [*sic*] venturing on what they had formerly done only in a corner, seeing the rapid transitions produced by persons in prosperity suddenly dying and those who before had nothing succeeding to their property...Such was the nature of the calamity, and heavily did it weigh on the Athenians; death raging within the city and devastation without.⁵⁵

⁴⁹ Hays, *Epidemics and Pandemics*, 1–7.

⁵⁰ Hanson, *A War like No Other*, 80.

⁵¹ Hays, *Epidemics and Pandemics*, 5.

⁵² Thucydides, *The Landmark Thucydides*, 111–21.

⁵³ Thucydides, 111–21.

⁵⁴ Hanson, *A War like No Other*, 78.

⁵⁵ Thucydides, *The Landmark Thucydides*, 121.

The citizens ignored the laws and their gods because of the disease's morbidity, which started to unravel previous societal norms.⁵⁶

The death toll battered Athenian human resources. The slaves of Athens had a pivotal role in sustaining the economy and supporting military operations.⁵⁷ Athens used slaves for agricultural production, mining of building materials and precious metals, and domestic servants. The sudden death of the citizens and slaves contributed significantly to the downward spiral of the economy and further hindered the military's logistical and medical support. Athens waged war with caregivers providing for the sick and injured, baggage carriers to accompany Athenian phalanx movements, and slaves to power the Athenian naval vessels' oars.⁵⁸

These losses to disease during the early stages of the war greatly impacted its course negatively for Athens. The Athenian army had roughly 15,000–20,000 military-aged males able to fill the hoplite ranks at the war's onset.⁵⁹ Within four years, the disease killed 34 percent of the best troops available for battle. Combat losses and the deaths of hundreds of women of child-bearing age women hindered Athens from increasing troop levels for future land campaigns. Mysteriously, the disease entirely disappeared by 427 BCE, but its effects held heavy over the Athenian society for the next quarter-century of war before surrendering to Sparta in 403 BCE.⁶⁰

Throughout the war, the resilience of the Athenian Empire suggests the disease was not determinative to defeat but that it significantly altered the trajectory in Sparta's favor. Athens' inability to repopulate its army during the early phases of the war and the Spartan forces remaining mostly unaffected greatly influenced its course. The plague inflicted losses on the population that dramatically hindered Athenian strategy. Some scholars argue that only repeated epidemics may depress population levels for an extended period, but the

⁵⁶ Hanson, *A War Like No Other*, 77.

⁵⁷ Hanson, 80–81.

⁵⁸ Hanson, 81.

⁵⁹ Hanson, 79–81.

⁶⁰ Thucydides, *The Landmark Thucydides*, 549–52. J.N. Hays objects that the disease had the impact scholars contribute to the decline of Athens.

pandemic's early arrival influenced the war. In terms of cultural and soft power, the panic and fear of the disease further changed the Athenian culture leading to the decline of the "Golden Age," aiding in Athens' eventual fall to Sparta. Subsequent Mediterranean empires were not immune to disease dynamics and suffered similar yet significant setbacks as a result.

B. THE ROMAN EMPIRE: THE ANTONINE PLAGUE (165—180 CE)

At its peak, the Roman Empire spanned across three continents and accounted for a quarter of the world's population.⁶¹ The empire's stability allowed for urbanization at rates unseen in the ancient world, and cities grew beyond their established borders into uncultivated land.⁶² The empire relied heavily on imports to feed Rome's increasing population and other urban settlements.⁶³ The logistics of supplying such a large population challenged the supply chain, forcing the expansion of commerce into previously unexplored regions in Northern Africa and the Middle East. The Romans constructed thousands of miles of new roads, secured sea lanes. Societies, philosophies, commodities, and microbes moved along the new lines of communication.⁶⁴ Through this expansion, the possibility of contagion grew. The Roman advance into new surroundings combined with the trade zones' connectivity brought unseen diseases to the empire. The Romans experienced several smaller outbreaks of illness brought on by mosquitoes and exotic animals imported for entertainment.⁶⁵ These paled in comparison to the Antonine Plague that attacked the empire.

⁶¹ Kyle Harper, *The Fate of Rome: Climate, Disease, and the End of an Empire* (Princeton, NJ: Princeton University Press, 2017), 7–9. See Also Brian Campbell, *The Romans and Their World: A Short Introduction*.

⁶² Brian Campbell, *The Romans and Their World: A Short Introduction* (New Haven, CN: Yale University Press, 2012), 53, <http://ebookcentral.proquest.com/lib/ebook-nps/detail.action?docID=3420759>.

⁶³ Harper, *The Fate of Rome*, 11. See Also J.A. Goldstone, "Efflorescences and Economic Growth in World History: Rethinking the Rise of the West and the Industrial Revolution," pp. 323–89.

⁶⁴ Harper, 17. See Also Brian Campbell, *The Romans and Their World: A Short Introduction*.

⁶⁵ Harper, 17. See Also William H. McNeil, *Plagues and People*, pp. 130–31.

In winter 165 CE, Roman troops were near present-day Baghdad, fighting the Parthians along the empire's eastern periphery.⁶⁶ Upon returning to northern Italy—the Parthians were never truly subdued—Roman legionaries began to mysteriously fall ill and die within a few days of illness. Co-emperor, Lucius Verus, died during his return to Rome after leading the Parthian campaign.⁶⁷ The disease quickly spread through the communities that the Roman army had passed through, and it soon began to creep towards Rome.⁶⁸ Much of the Roman population lived in urban settlements and often resided in overcrowded dwellings, living in unsanitary conditions.⁶⁹ This environment promoted the spread of disease similar to the conditions faced by citizens of Athens.

At the onset of the disease in Rome, the Roman physician Claudius Galenus, or Galen, was summoned to investigate—and like Thucydides—he documented the plague, although for medical purposes instead of historical.⁷⁰ Galen describes the disease; “on the outside the body was not hot to the touch, nor was there [*sic*] pallor; the skin was rather red, livid, and broke out into small blister and ulcers.”⁷¹ This description and other symptoms are similar to the disease described by Thucydides, pointing towards smallpox as the culprit. Galen was also concerned about the long-lasting effects the plague would have on the population.⁷² Galen was not alone in his concerns for the empire as it affected the thoughts of theirs as well.

Emperor Marcus Aurelius reflected on the plague and its effects on Roman society in his book, *Meditations*. He said, “For a far greater plague is the corruption of the mind,

⁶⁶ Charles River Editions, *The Antonine Plague: The History and Legacy of the Ancient Roman Empire's Worst Pandemic* (Las Vegas, NV: Independent Publisher, December 2020), 13–14.

⁶⁷ Rebecca Flemming, “Galen and the Plague,” in *Galen's Treatise Περὶ Ἀλυντίας (De Indolentia) in Context*, ed. Caroline Petit, vol. 52, *A Tale of Resilience* (Boston: Brill, 2019), 223–24, <http://www.jstor.org/stable/10.1163/j.ctvrk2wj.12>.

⁶⁸ Hays, *Epidemics and Pandemics*, 18–19.

⁶⁹ Hays, 18.

⁷⁰ R. J. Littman and M. L. Littman, “Galen and the Antonine Plague,” *The American Journal of Philology* 94, no. 3 (1973): 244, <https://doi.org/10.2307/293979>.

⁷¹ Flemming, “Galen and the Plague,” 229.

⁷² Flemming, 229–30.

than any certain change and distemper of the common air can be.”⁷³ Like the citizens’ response in ancient Athens, Roman citizens experienced death caused by disease on a scale yet unseen in the empire. Upwards of 2,000 a day died in Rome, which demoralized the city, causing panic and fear.⁷⁴ The disease did not discriminate. Marcus Aurelius writes:

Those words which once were common and ordinary, are now become obscure and obsolete; and so the names of men once commonly known and famous, are now become in a manner and obsolete names. Camillus, Cieso, Volesius, Leonnatus; not long after, Scipio, Cato, then Augustus, then Adrianus, then Antonius Pius: all these in a short time will be out of date, and, as things of another world as it were, become fabulous. And this I say of them, who once shined as the wonders of their ages, for as for the rest, no sooner are they expired, than with them all their fame and memory.⁷⁵

The loss of so many prominent figures, including his confidant Lucius Verus, signified a turning point.⁷⁶ The usual outlets of festivals or gladiator fights stopped, causing anxiety and discontent in Rome and other cities.⁷⁷ Alongside the societal woes, the empire’s agricultural and trade economies suffered greatly.

Citizens across the empire felt the economic impact. The Romans were unable to feed themselves because of agricultural output decline caused by either death of workers or people fleeing to escape the pestilence.⁷⁸ The fatalities and evacuations of citizens greatly affected tax collections leaving the Roman treasury in evermore dire straits.⁷⁹ The monetary system crisis, stemming from the halt to silver coin production in Egypt, caused high inflation, making what little goods that were still available unaffordable.⁸⁰

⁷³ Marcus Aurelius, *Meditations* (San Bernardino, CA: Black & White Classics, 2014), 88–89.

⁷⁴ Littman and Littman, “Galen and the Antonine Plague,” 243.

⁷⁵ Marcus Aurelius, *Meditations*, 38–39.

⁷⁶ Littman and Littman, “Galen and the Antonine Plague,” 243–44.

⁷⁷ Charles River Editions, *The Antonine Plague*, 33–35.

⁷⁸ Hays, *Epidemics and Pandemics*, 19–20.

⁷⁹ Harper, *The Fate of Rome*, 112.

⁸⁰ Harper, 12–13.

Additionally, the decline of public building projects and the decrease in marble and brick production further cemented the disease's disastrous effects on the Roman economy,⁸¹

The decline of the empire's economy combined with the fifteen-year epidemic's high mortality rate, with an estimated five-ten million deaths, was particularly devastating for the Roman army.⁸² The crippled Roman legions were less able to defend the borders around the empire adequately. The constant deaths within the military must have made campaign planning extremely challenging, aiding Rome's enemies. The disease circulated throughout the empire and occasionally revisited previously affected cities ending the revitalization that just began.⁸³

The Roman Empire was under siege by disease, trapped in an economic recession, and facing increasingly hostile enemies at its borders, exploiting the new weakness. Despite all this, the final tipping point may be Emperor Marcus Aurelius' death—likely to the plague that bears his name, in 180 CE.⁸⁴ Like Pericles, the death of the majestic leader sent shockwaves throughout the empire. His final words, “Why do you weep for me? Why do you not rather consider the pestilence and the common death?” showcased his patriarchal affection for the empire.⁸⁵ Commodus, his son, became the new emperor and was assassinated in 192 CE due to his atrocities and eccentricities, ending the rule of the Antonines.⁸⁶ The empire never fully recovered from its economic, military, and leadership debility due to the epidemic.

As with Athens, the Roman Empire's conquest brought vast wealth and prosperity to the empire, but with growth, the likelihood of disease spreading increased. The continued expansion and logistical system to support the empire connected the Romans to

⁸¹ Hays, *Epidemics and Pandemics*, 20.

⁸² Hays, 17.

⁸³ McNeill, *Plagues and Peoples*, 130–31.

⁸⁴ Alfred Jay Bollet, *Plagues & Poxes: The Impact of Human History on Epidemic Disease* (New York: Demos Medical Publishing, 2004), 19, <http://ebookcentral.proquest.com/lib/ebook-nps/detail.action?docID=289782>.

⁸⁵ Charles River Editions, *The Antonine Plague*, 34–35.

⁸⁶ P. V. N. Myers, *Rome: Its Rise and Fall; A Text-Book for High Schools and Colleges*. (Boston: Ginn & Company, 1900), 371, <http://hdl.handle.net/2027/hvd.hnjxec>.

unfamiliar lands. The rapidity with which the disease spread and the mortality rate shocked the Roman culture by its indiscriminate spread, affecting everyday citizens and public figures. The resulting loss of life set the economy in turmoil, further weakening the empire. The empire's inability to reinforce its military additionally hindered the protection of its boundaries. It forced Aurelius to abandon his plan to extend the empire's northern border in central Europe to the Carpathian Mountains—which would have increased security against northern barbarian tribes immeasurably for centuries to come. The Antonine Plague not only exacerbated the decline but created ongoing issues felt well into the empire's future. Rome's survivor in the East, the Byzantine Empire, faced similar challenges.

C. THE BYZANTINE EMPIRE: THE PLAGUE OF JUSTINIAN (541—547 CE)

After Marcus Aurelius died in 180 CE, the reign of what was known as the Five Good Emperors ended, marking the beginning of a long decline of power for the Roman Empire in the West.⁸⁷ The Western Roman Empire fell after a series of invasions in 476 CE, but its Eastern counterpart lived on in the form of the Byzantine Empire for another millennium. The capital Constantinople provided a strategic position straddling the European/Asian continents, provided better harbors for shipping, and closer proximity to Asian trading powers than the Italian Peninsula.⁸⁸ Under Emperor Justinian's rule beginning in 527, the Byzantine Empire recovered numerous western provinces, sustained a short peace with the Persians and increased expansion eastward.⁸⁹ Constantinople became a global hub for trade, and its connections with India and China put not only people and goods on the move but also new diseases.

Trade within the empire and its partners flourished, aided by the movement of goods on ships.⁹⁰ The Romans used ships to move and, in combination with land silos, store vast grain quantities to feed and sustain the empire. The enormous amounts of grain

⁸⁷ Myers, 371.

⁸⁸ Myers, 397–98.

⁸⁹ Harper, *The Fate of Rome*, 203–06.

⁹⁰ Harper, 200–201.

attracted large numbers of rats.⁹¹ Rat stowaways were a common sight on transport ships. New micro parasitism carried by fleas on black rats originating on ships sailing from India introduced a novel disease in the Eastern Empire.⁹² The first outbreak began in Egypt near Pelusium in 541 and then Alexandria, causing a heavy death toll.⁹³ From Egypt, the plague moved north up the coasts of Palestine and Syria, always originating in the ports and then moving inland.⁹⁴

The bubonic plague's first occurrence arrived in Constantinople in March 542, lasting only four months because the rat and human populations crashed so quickly that the epidemic could no longer support itself.⁹⁵ At first, the death toll rose slightly above the average death rate in Constantinople, but soon it increased rapidly until the death toll soared to around ten thousand daily.⁹⁶ Byzantine scholar Procopius of Caesarea, much like his predecessors Thucydides and Galen documented the plague:

The first symptoms were fever and lassitude, neither of which seemed life-threatening. But soon, if not on the same day, then shortly thereafter, buboes appeared in the groin or armpits, or sometimes beside the ears or on the thighs. Then the disease progressed rapidly. The victim might fall into a lethargic state or else become delirious, and eating was difficult. Some suffered from none of these symptoms but died painfully when their buboes gangrened...A number of victims broke out with black blisters like lentils over their bodies, and these died swiftly...Pregnant women who contracted

⁹¹ William Rosen, *Justinian's Flea: The First Great Plague and the End of the Roman Empire* (London: Penguin Books, 2007), 163.

⁹² Rosen, 163. See Also David M. Wagner et al., "Yersinia Pestis and the Plague of Justinian 541–543 AD: A Genomic Analysis," *The Lancet Infectious Diseases* 14, no. 4 (April 2014): 319–26, [http://dx.doi.org.libproxy.nps.edu/10.1016/S1473-3099\(13\)70323-2](http://dx.doi.org.libproxy.nps.edu/10.1016/S1473-3099(13)70323-2). Two bodies were recovered and believed to be from the time period and confirmed with radiocarbon dating. DNA was sequenced and analyzed confirming Y pestis lineages or the bubonic plague.

⁹³ Harper, *The Fate of Rome*, 223. See Also J.N. Hays, *Epidemics and Pandemics* and William McNeill, *Plagues and People*. See also Lester K. Little, *Plague and the End of Antiquity: The Pandemic of 541–750*. Contributor Robert Sallares says the rats were from southern Asia brought in by trade on ships, but the flea is thought to be native to northeastern Africa pointing towards Egypt as the place the plague began.

⁹⁴ James Allan Evans, *The Power Game in Byzantium: Antonina and the Empress Theodora* (London: Bloomsbury Publishing Plc, 2011), 160–61, <http://ebookcentral.proquest.com/lib/ebook-nps/detail.action?docID=5309449>.

⁹⁵ Rosen, *Justinian's Flea*, 210. See Also Kyler Harper, *The Fate of Rome*, pp. 226–27.

⁹⁶ Hays, *Epidemics and Pandemics*, 23.

the disease generally died through miscarriage or in childbirth, though young males suffered the heaviest toll.⁹⁷

Greek poet and principal historian to Emperor Justinian I Agathias Scholasticus further reported, “death was swift: in two or three days—five at the most...Animals—dogs, mice and even snakes—were affected.”⁹⁸

The estimated death rate in 542 CE was between 50–60 percent in Constantinople, equating to 250,000–300,000 casualties in a city over a half million people in just four months.⁹⁹ Even Emperor Justinian was not immune; he survived after contracting the plague in the initial onset. Procopius said, “Confusion began to reign everywhere and in all ways,” as the dead bodies quickly began to overrun government services in Constantinople, causing the social order to unravel soon.¹⁰⁰ Those who could afford to leave fled the city, and a saying attributed to Galen encouraging the departures decreed, “I urge you to go far away and don’t come back soon.”¹⁰¹ The city disregarded burial rituals and neglected necessary environmental control. Justinian appointed his clerk Theodoros to organize an emergency response, and historian John of Ephesus commented about the sights in the city, and the pits dug for dead bodies outside the walls: “The dead were cross-hatched in layer, like hay in a stack. The victims were trodden upon by feet and trampled like spoiled grapes...The corpse which was trampled sank and was immersed in the pus of those below it...like watching the wine-press of the fury of the wrath of God, that was a sign of the end times.”¹⁰²

⁹⁷ J. A. S. Evans, *The Age of Justinian: The Circumstances of Imperial Power* (London: Taylor & Francis Group, 1996), 160–61, <http://ebookcentral.proquest.com/lib/ebook-nps/detail.action?docID=165859>. See Also James Allan Evans, *The Power Game in Byzantium*.

⁹⁸ Evans, 161.

⁹⁹ Harper, *The Fate of Rome*, 226–27. J. N. Hays, in *Epidemics and Pandemics* argues 300,000 deaths should be regarded as questionable because of historical records and the death toll was simply very high.

¹⁰⁰ Harper, 226–27.

¹⁰¹ Dionysios Stathakopoulos, “Crime and Punishment: The Plague in the Byzantine Empire, 541–749,” in *Plague and the End of Antiquity: The Pandemic of 541–750*, ed. Lester K. Little (Cambridge, UK: Cambridge University Press, 2007), 111.

¹⁰² Harper, *The Fate of Rome*, 227.

The Plague quickly spread outside the capital, and citizens from the countryside commented about the pestilence spread to “the whole country...every place in the country.”¹⁰³ Its speed and severity left the affected regions defenseless and annihilated entire populations.¹⁰⁴ Crops rotted in unharvested fields, and grapes rotted on the vines because no one was there to harvest them, causing famine to coincide with the plague.¹⁰⁵ Constantinople’s economy was in shambles; the price of gold bottomed out, building projects suddenly stopped, trade ceased throughout the empire as towns disappeared, and taxation increased to all-time highs on the surviving citizens to recover the lost income.¹⁰⁶

Like Rome and Greece, the sudden loss of young, military-age men strained Byzantine Army recruitment and, combined with combat losses, hindered the army’s campaign capabilities. During the first wave of the pandemic, military campaigns were toned down remarkably.¹⁰⁷ During the post-plague years, the empire struggled with army recruitment shortages. The numerous waves of the plague within the empire further burdened Emperor Justinian’s objectives and hindered his ability to mobilize an army, much less pay for one.¹⁰⁸

Over the next two centuries, 541—750 CE, the plague revisited Constantinople another six times, and overall there were about eighteen outbreaks in the Byzantine Empire.¹⁰⁹ Each episode of the plague struck fast and inflicted similar outcomes as in its first appearance in 541 CE. The Eastern Empire’s population in 500 CE was estimated to be just below 30 million people, 100 years later—58 years after the onset of the Plague of Justinian—the population was estimated to be slightly above 10 million people.¹¹⁰ The plague’s multiple waves had devastating effects on the Byzantine Empire and the lands

¹⁰³ Harper, 229.

¹⁰⁴ Hays, *Epidemics and Pandemics*, 26–27.

¹⁰⁵ Harper, *The Fate of Rome*, 229.

¹⁰⁶ Harper, 234–35.

¹⁰⁷ Dionysios Stathakopoulos, “Crime and Punishment,” 116.

¹⁰⁸ Harper, *The Fate of Rome*, 234.

¹⁰⁹ Dionysios Stathakopoulos, “Crime and Punishment,” 105.

¹¹⁰ Harper, *The Fate of Rome*, 245.

surrounding the Mediterranean. The epidemic made its way east to Persia and north and west as far the British Isles.¹¹¹ The disease never settled anywhere for long but remained lethal in its sporadic occurrences. In the two centuries of the Plague of Justinian, there was not a single decade the plague was not active in the Mediterranean region, and much like its sudden appearance, it mysteriously vanished.¹¹²

The despair caused by the Plague of Justinian took a tremendous toll on the Byzantine Empire's stability and the regions surrounding the empire. The Byzantines struggled economically and militarily because of the millions of citizens killed throughout the two centuries in which the plague continually recurred. The death faced by the Byzantines was on a previously unseen scale, and the society struggled with everyday existence. Each plague occurrence had similar effects across the empire, setting back the strides made in between the outbreaks. Military power was necessary for the Byzantine Empire to protect and expand its borders. Still, the inability to reinforce the army after the numerous waves of the plague weakened the military's future capabilities, signifying the halt to its outward expansion until its eventual fall centuries later.

D. THE MONGOL EMPIRE AND THE BLACK DEATH (1348)

The Mongol Empire, founded by Genghis Khan in 1206 and lasting beyond his death in 1227, subjugated more lands and people in twenty-five years than the Romans had in four hundred.¹¹³ While often maligned, the Mongol Empire was a sophisticated experiment in the early modern state and empire building. Genghis Khan discarded the feudal system of aristocratic privilege and birth; he created a new approach based on individual merit, loyalty, and achievement and connected Europe with Asia by organizing trading towns along the Silk Road to create history's largest free trade zones.¹¹⁴ At the

¹¹¹ Lester K. Little, "Life and Afterlife of the First Plague Pandemic," in *Plague and the End of Antiquity: The Pandemic of 541–750*, ed. Lester K. Little (Cambridge, UK: Cambridge University Press, 2007), 3–4.

¹¹² Little, 3.

¹¹³ Jack Weatherford, *Genghis Khan and the Making of the Modern World* (New York: Broadway Books, 2004), xviii–xix.

¹¹⁴ Weatherford, xix.

peak of the Mongol Empire (1279-1350), it ruled over all of China, nearly all of Russia, and Central Asia, including modern Iraq and Iran.¹¹⁵

Genghis Khan's empire connected and incorporated the conquered civilizations into a new world order, and previously regional civilizations had no knowledge of their neighbors beyond the horizon.¹¹⁶ The movement of people and goods across the Eurasian continent connected the civilizations culturally and epidemiologically. The Mongols established a communication system capable of rapidly distributing information throughout the empire.¹¹⁷ Soon, troop movements, caravans of goods, and postal riders frequented the Silk Road, exposing more significant numbers to ailments. The plague introduced by the Mongols ended their empire and restructured Europe.

After Genghis Khan died, the Mongol Empire's dynasty was threatened from within by internal power struggles within his family, and externally by something more sinister and mysterious than the internal tussles—the plague.¹¹⁸ In 1332, the plague struck Hubei province in China, and lasted for a century, reducing the population between one-half and two-thirds.¹¹⁹ The Mongols' depended on China as its manufacturing center, and in an echo of earlier cases, the Silk Road that moved goods throughout Eurasia also served as a roadway for the disease.¹²⁰

The trade networks established by the Mongols allowed for the free flow of goods and fleas through trading posts.¹²¹ The flea spread the plague westward over the next decade from small camps to villages, cities, and continents. As with the previous chapter's

¹¹⁵ McNeill, *Plagues and Peoples*, 162–63.

¹¹⁶ Weatherford, *Genghis Khan and the Making of the Modern World*, xix.

¹¹⁷ McNeill, *Plagues and Peoples*, 163.

¹¹⁸ Weatherford, *Genghis Khan and the Making of the Modern World*, 241–42. See Also William McNeill, *Plagues and Peoples*, 161–62 and Henry H. Howorth, *History of the Mongols: From the 9th to the 19th Century*, a series of books documenting the complete family lineage, Mongol Empire's expansion after Genghis Khan's death, and the legacy of the Mongol Empire.

¹¹⁹ McNeill, *Plagues and Peoples*, 174.

¹²⁰ Weatherford, *Genghis Khan and the Making of the Modern World*, 242–44.

¹²¹ Weatherford, 242–44 , See Also John Aberth, *The Black Death: The Great Mortality of 1348–1350*.

epidemics, the bubonic plague affected urban areas more readily, completely depopulating the cities and altering the social order.¹²² The historian Henry H. Howorth writes:

The victims were suddenly struck...as with a knife, at the breast, at the shoulder-blade, or between the shoulders; a devouring fire consumed the entrails, blood flowed at the mouth, a burning fever was succeeded by a shivering cold, tumors [sic] appeared on the neck, the hips, under the arms, or behind the shoulder-blade. The issue was always the same—inevitable death, swift but terrible. Out of each hundred persons but ten remained well.¹²³

The plague was deadly to the Mongols, but it posed less danger of becoming an epidemic in the sparsely populated plains. The concentration of Mongols for battle created the environment the plague needed to inflict mass casualties on the army, creating a manpower crisis similar to the ones that hit the Greeks and Romans.

The plague struck the Mongol army in 1345 while it besieged Genoese merchants in Caffa on the north coast of the Black Sea in its territory's western expanses.¹²⁴ The plague-stricken Mongol army retreated, but according to a lawyer named Gabriele de Mussis, the soldiers "ordered that their cadavers be placed on catapults and lobbed into the city of Caffa in order that the intolerable stench of those bodies might extinguish everyone [inside]."¹²⁵ This tactic does not align with the Mongol practice and demonstrates rashness because of the plague. From Caffa, the plague spread into Europe in 1346 and became known as the Black Death. The American medievalist David Herlihy states:

We cannot cite exact losses; there are no global figures. The populations of some cities and villages, in areas as far removed from each other as England and Italy, fell in the late decades of the fourteenth century by 70 or 80

¹²² Weatherford, *Genghis Khan and the Making of the Modern World*, 245–48.

¹²³ Henry H. Howorth, *History of the Mongols, from the 9th to the 19th Century*. (New York, 1965), 205, <http://hdl.handle.net/2027/osu.32435022918304>.

¹²⁴ John Aberth, *The Black Death the Great Mortality of 1348–1350: A Brief History with Documents*, 1st ed. 2005., The Bedford Series in History and Culture (New York: Palgrave Macmillan U.S., 2005), 13, <https://doi.org/10.1007/978-1-137-10349-9>.

¹²⁵ Aberth, 13.

percent. The more we learn of the late medieval collapse in human numbers, the more awesome it appears.¹²⁶

The Mongol rulers in Persia and Russia could not trade with China and Mongolia due to the plague.¹²⁷ The stoppage of the flow of goods from China westward into the empire deprived the Mongols of the primary commerce of trade and tribute. The Mongol Golden Horde already had fault lines in their political relationships with each other in the century after Genghis Khan's death. Still, with the occurrence of the plague, the complex cultural and commercial system collapsed.¹²⁸ The Mongol Empire relied on the swift and continuous movement of people, goods, and information to maintain control, but the isolation severed the connections.

The Mongols thrived on military strength and commercial wealth to govern conquered lands in which they were outnumbered by as much as a thousand to one.¹²⁹ Unfortunately, the loss of the flow of goods and the dissipation of the army's strength created a volatile situation that could quickly turn hostile and forced the separated Golden Family to align with religious factions in the occupied regions to maintain control, further fracturing the empire. The local elites in Korea, Russia, and China expelled the Mongols and took back control of the Mongols' government, returning it to the native dynasties.¹³⁰ Despite the Mongol Empire's fall, the successive rulers continued many Mongol governmental practices, keeping the façade of the former empire seemingly intact.¹³¹ The fractured kingdom and the communication system's breakup left the Europeans uninformed of the Mongol Empire's fall.

¹²⁶ David Herlihy, *The Black Death and the Transformation of the West* (Cambridge, MA: Harvard University Press, 1997), 16. See Also John Kelly, *The Great Mortality: An Intimate History of the Black Death, The Most Devastating Plague of All Time*.

¹²⁷ Weatherford, *Genghis Khan and the Making of the Modern World*, 247–48.

¹²⁸ Weatherford, 247.

¹²⁹ Weatherford, 247.

¹³⁰ Weatherford., 251–52. See Also Timothy May, *The Mongols*, 94–101 and Jack Weatherford, *The Secret History of the Mongol Queens*, pp. 130.

¹³¹ Weatherford, 251–54.

Genghis Khan built an empire more extensive than the Roman Empire in only a quarter of a century. The Mongols relied on military strength to conquer and maintain foreign lands and complemented the occupation with a vast trade network enriching the conquered lands. The widespread free-trade zones brought fleas carrying the bubonic plague from China. The extensive network of roadways along the Silk Road enabled the plague's movement through the Mongol Empire and into Europe to become known as the Black Death. Although not spared by the pandemic, the Mongol sparse arrangements allowed them to fare better than the regions to the east and west. The Black Death mostly cut off from the world to the Mongols. The Golden Family of Khan descendants integrated with the local cultures to maintain power over the Mongol Empire's various kingdoms. The lack of trade commerce and the inability to reinforce the armies around the empire strained the Mongols local relationships. The associations restructured the former Mongol Empire and changed the dynamics of Eurasia, further transforming the region into modern Eurasia.

E. CONCLUSION

The cases considered in this chapter highlight the devastating effects of disease on Great Powers and their ability to shift the power balance when struck by disease. Each of the societies studied shared commonalities leading up to and throughout the novel pathogens' outbreaks. The capitals in the Mediterranean cultures were the cores of these empires, while the Mongols relied on trade zones created after conquering a state. The trade economies for each empire fueled expansion and enhanced the power held in the Mediterranean and Asia. However, both trade and military action, which fostered economic growth and imperial security, also exposed these empires to novel diseases for which people had little immunity.

The introduction of disease into densely populated urban areas is another commonality shared by these societies. The spread of disease was rapid and deadly in their population centers. The sudden onset quickly outran the governments' abilities to handle the sick, and as a result, the corpses began to accumulate within the cities. The death tolls led to towns shutting down and citizens fleeing trying to escape the epidemic, but this only

spread the disease out into the rural lands—with the resulting deaths in the countryside negatively affecting agriculture, thus leading to food shortages, furthering the panic and desperation. Troop movements further spread disease and weakened the military’s ability to maintain control in these empires’ contested regions. The initial death tolls were high, and when combined with numerous waves of disease, it created manpower crises. The militaries in all three cases struggled to replenish their forces over the ensuing decades. The death of citizens in the city, the losses to the military by both disease and conflict, the collapse of the economies, and the governments’ inability to cope with these epidemics weakened the great powers of the time—and well beyond the conclusion of the various outbreaks. This chapter closes the plague gap by underlining the impact of disease on ancient regional hegemonies and the ensuing restructuring of power relations. Imperialist expansion connected areas but resulted in the spread of disease, causing mass casualties to society, diminishing manpower, and destabilizing the social structure.

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IV. NEW WORLD COLONIZATION AND COMPETITION BETWEEN GREAT POWERS

This chapter examines three cases that demonstrate how the Great Powers of Europe gained influence and territory in the “New World” via numerous factors, but primarily through diseases and their effects on populations. As with the early civilizations from the previous chapter, disease had a formidable impact on New World colonialism. In all cases, the conquerors introduced—intentionally or not—pathogens to which only they had immunities, aiding in forceful territorial development and defense at times.

The first case details the Aztecs’ interaction with the Spanish Conquistadors from 1519—1521. The Spaniards’ numerically inferior force introduced pathogens to which the Aztecs had no immunities, helping destroy the manpower of the Aztecs and their organized resistance. The second case covers the Spanish reinforcement of the Americas by way of fortifications by disease. In 1762, the British seized the Spanish stronghold in Havana, but an outbreak of yellow fever made the British unable to retain the city. This chapter’s last case is the siege of Fort Pitt in 1763 during Pontiac’s Rebellion. An Indian uprising in the Ohio River Valley surprised the British, but smallpox was introduced by the British to the Indian population with disastrous effects. Filling the plague gap, this chapter charts the impact disease has had on societies when used strategically in terms of offensive and defensive operations related to GPC.

A. SPANISH COLONIZATION OF MEXICO: THE FALL OF THE AZTEC EMPIRE (1519—1521)

The late-fifteenth and early-sixteenth century witnessed a series of wars and modernizations in Europe—Geoffrey Parker called it the “Military Revolution”—which promoted an age of European Military superiority over other areas of the globe.¹³² Scholars have used various methods to explain the rise of European maritime imperialism in the early modern era, but disease was among the imperialist tools as with earlier examples. Arguably most notable, Spanish Conquistador Hernán Cortés arrived in 1519

¹³² Parker, *The Military Revolution*.

near Veracruz on Mexico's central coast and discovered the Aztec Empire and the riches for which they were searching.¹³³ The vastly outnumbered Spanish force toppled the Aztec Empire, numbering close to 1.6 million people—by 1521, primarily aided by disease striking the Aztecs, superior Spanish weapons technology, and alliances with natives.¹³⁴ The conquest established Spain's foothold in the region by way of disease.

Hernán Cortés arrived in Central Mexico in February 1519 after setting sail from a Spanish colony in Cuba following the myths from previous expeditions about a wealthy kingdom in the mountains west of Veracruz. A contingent of conquistadors, numbering around 500, landed, and Aztec ambassadors met them on the shore. Though summoned back to Cuba by Governor Velásquez, Cortés disregarded the directive and, in November 1519, entered the Aztec capital of Tenochtitlan, which had a population of 200,000.¹³⁵ While in the capital, Cortés learned of a Spanish force sent to arrest him in the spring of 1520 for insubordination, but Panfilo Narvaez—leader of the new party—and his forces were later convinced to join Cortés, bringing his troops to slightly under 900 men.¹³⁶ The Spanish troops sent to arrest Cortés introduced smallpox into the Yucatan Peninsula inhabitants before joining Cortés. Once united with Cortés, smallpox spread into the capital, setting forth an outbreak in Central Mexico.¹³⁷

¹³³ Richard F. Townsend, *The Aztecs*, Rev. ed., 2nd ed., Ancient Peoples and Places (London: Thames & Hudson, 2000), 7–8. Smallpox arrived in the Mayan Empire on the Yucatan Peninsula at roughly the same time as the Aztecs with similarly devastating effects and ended the empire in 1521 CE, pp. 70–72. Around 1530 CE, smallpox moved southward down the Andean cordillera to the Incan Empire, and it was conquered by the Spanish in 1533 CE, pp. 72–73. See Also Robert Wauchoppe, *The Indian Background of Latin American History: The Maya, Aztec, Inca, and Their Predecessors* and Hugh Thomas, *Conquest*.

¹³⁴ Michael E. Smith, *The Aztecs* (Chicester, UK: John Wiley & Sons, Incorporated, 2011), 290, <http://ebookcentral.proquest.com/lib/ebook-nps/detail.action?docID=1143522>. He estimates the population closer to nine million, but William T. Sanders, “The Population of the Central Mexican Symbiotic Region, the Basin of Mexico, and The Teotihuacan Valley in the Sixteenth Century,” in *The Native Population of the Americas in 1492*, by William M. Denevan and W. George Lovell (Madison, WI: University of Wisconsin Press, 1992), 85–150, <http://ebookcentral.proquest.com/lib/ebook-nps/detail.action?docID=3445162> estimates the population closer to 1.2 million Aztecs. Jared Diamond in *Guns, Germs, and Steel* attributes germs, technology, and political organization superiority by European states all attributed to the fall of the Americas, pp. 339–345.

¹³⁵ Smith, 190 and Townsend, *The Aztecs*, 15–36.

¹³⁶ Michael B. A. Oldstone, *Viruses, Plagues, and History* (Cary, UK: Oxford University Press, Incorporated, 2000), 61–62. See Also David F. Marley, *Wars of the Americas*, pp 14–24.

¹³⁷ Nobel David Cook, *Born To Die: Disease and New World Conquest, 1492–1650* (Cambridge, UK: Cambridge University Press, 1998), 65.

Cortés fled Tenochtitlan from an Aztec military uprising in the summer of 1520 which led to the death of Moctezuma and his brother Cuitlahuac's appointment as the Aztec leader.¹³⁸ While Cortés was away, the smallpox epidemic struck the Aztecs, crippling the empire. Spanish historian at the time, López de Gómara describes the smallpox outbreak as so damaging that it was necessary to pull "the houses down to cover the corpses...they subsequently used the date as a marker for the end of an old era and beginning of a new. They counted the year from it, as from some famous event."¹³⁹ The Spanish invaders were immune to (some had had smallpox already, others were less affected than the Aztecs when they got it) smallpox, but the Aztecs, not knowing this, believed them to be supernatural and sent by angry gods for punishment.¹⁴⁰ Panic among the population ensued, and society quickly unraveled, as with the Greek and Roman civilizations.

Tenochtitlan's population either died or fled from the disease, leaving no one to care for the sick and run society's necessities.¹⁴¹ The city's districts began to fall ill; the new emperor, members of the royal family and the empire's subjects, and the Aztec troops died of smallpox, filling the streets with dead bodies.¹⁴² Soon after the smallpox outbreak began, the famine which often accompanies mass outbreaks began. The once-flourishing markets provided not only goods but a social outlet for the exchange of ideas and information.¹⁴³ The urbanized concentration of people proved to be deadly—just as with other diseases. López de Gómara describes the disaster in Central Mexico as: "And then came famine, not because of a want of bread, but of meal, for the women do nothing but grind maize between two stones and bake it. The women, then, fell sick of smallpox, bread failed, and many died of hunger."¹⁴⁴

¹³⁸ Townsend, *The Aztecs*, 35–37.

¹³⁹ Cook, *Born To Die: Disease and New World Conquest, 1492–1650*, 27.

¹⁴⁰ Oldstone, *Viruses, Plagues, and History*, 62.

¹⁴¹ Cook, *Born To Die: Disease and New World Conquest, 1492–1650*, 66–67.

¹⁴² Oldstone, *Viruses, Plagues, and History*, 62.

¹⁴³ Townsend, *The Aztecs*, 181.

¹⁴⁴ Cook, *Born To Die: Disease and New World Conquest, 1492–1650*, 67.

All this came a critical moment for the Spanish. Cortés besieged the city in the summer of 1521 with nearly 900 Spaniards plus several thousand allies from the neighboring Tlacopan tribe.¹⁴⁵ The siege on the stricken city lasted several months. When the attacking force finally recaptured the Aztec capital, Friar Bernardino de Sahagún said, “the streets were so filled with dead and sick people that our men walked over nothing but bodies.”¹⁴⁶ As a result of smallpox alone, 900,000 people in the empire died from 1519—1521.¹⁴⁷ Historian William McNeill notes, “Clearly, if smallpox had not broken out when it did, Cortez’s [sic] victory would have been more difficult, and perhaps impossible.”¹⁴⁸ However deadly the smallpox outbreak had been, the alliance of native tribes by Cortés gave him a significant advantage in troop numbers during the battle for Tenochtitlan.¹⁴⁹ The disease was especially devastating to the Aztec elites since they interacted with the Spaniards the most.¹⁵⁰ The outcome not only diminished raw manpower but effective leadership as well.

In sum, Cortés’ conquistadors discovered the Aztec Empire the great riches it held to fuel the Spanish Empire. Cortés’ forces were vastly outnumbered but were able to conquer and colonize the Aztecs. The unknown introduction of smallpox to the Aztecs by the Spaniards was a key to victory. The Spanish had superior weapons and tactics, but the panic and death caused by smallpox proved to be the great divider, limiting the Aztecs’ ability to fend off the invaders. The Spanish colonization of Central Mexico added to the Spanish Empire and separated Spain from the other European Great Powers.

¹⁴⁵ Townsend, *The Aztecs*, 41.

¹⁴⁶ Cook, *Born To Die: Disease and New World Conquest, 1492–1650*, 67.

¹⁴⁷ Smith, *The Aztecs*, 290.

¹⁴⁸ McNeill, *Plagues and Peoples*, 216.

¹⁴⁹ Hugh Thomas, *Conquest: Montezuma, Cortés, and the Fall of Old Mexico* (New York: Simon & Schuster, 1993), 489.

¹⁵⁰ Thomas, 593.

B. DISEASE AND THE DEFENSE OF THE SPANISH EMPIRE IN THE AMERICAS: THE SIEGE OF HAVANA (1762)

Over the next century, five great powers of the Atlantic world—Spain, France, Portugal, the Dutch, and England—competed for influence and territory in the Americas.¹⁵¹ Spain used the knowledge gained of immunities as a defensive means in the New World, a tactic most clearly seen in the defense of Havana during the Seven Years' War.

Nearly a century and a half after the Aztecs fell to Hernán Cortés, the Spanish Empire recognized logistical difficulties, and the tyranny of distance of the New World from Europe would not protect the resources from invaders forever.¹⁵² Spain constructed a network of fortified strongholds in the Americas, creating strategic chokeholds along sea routes to control the movement of trade and treasure.¹⁵³ Along with the fortifications, the Spanish recognized the significance of their acquired immunity to yellow fever. The Spanish filled their garrisons with recruits from the local area to provide such immunities and protect Havana's prized port—Spanish America's linchpin.¹⁵⁴ During the Seven Years' War and the British siege of Havana, yellow fever turned a British conquest into a pyrrhic victory and a stalemate. Unable to hold Havana, Britain returned it to Spain. Thus, disease and immunity proved of both offensive and defensive value to Spanish imperialism. Or, as Spanish engineer Francisco Ricaud de Tirgale said in 1761 (shortly before he died in Cuba), "fortifications and mines could delay attackers, but experience shows it is the climate alone that debilitates armies."¹⁵⁵

¹⁵¹ J.R. McNeill, *Mosquito Empires: Ecology and War in the Greater Caribbean, 1620–1914* (New York: Cambridge University Press, 2010), 16–20.

¹⁵² McNeill, 137–38.

¹⁵³ McNeill, 137–38. .

¹⁵⁴ McNeill, 169. See Also Stephen Brumwell, *Redcoats: The British Soldier and War in the Americas, 1755–1763* (Cambridge; Cambridge University Press, 2002), pp. 154–55, The Anglo-American army attempted to besiege Cartagena and due to disease, 10,000 or the 14,000 troops sent died by disease, fewer than one in ten deaths resulted from combat. Illustrated how unacclimatised troops pay a heavy price by way of disease.

¹⁵⁵ McNeill, 175.

The Spanish reliance on strategic forts and immunities to yellow fever as part of their imperial defense was prominent throughout the New World and embodied in Veracruz. The lowlands provided an excellent source of stagnating water that mosquitoes required, and recruits from upland Mexico or Spain died at exorbitant rates—in the worst year, 50 percent.¹⁵⁶ A British officer recalled in 1740; visitors risked their lives in summer:

Vera Cruz [sic] is reckoned unhealthy, especially when the *flota* is there, or any great concourse of people...; and when a great number of people loges in the Town together during these heats [sic] they are visited with a pestilential distemper called the *vomito prieto*, of which disease many people die.¹⁵⁷

The ideal Spanish fortifications in the Caribbean entailed sizeable defenses that required the invaders weeks to prepare for the siege in the low-lying, swampy areas outside the batteries.¹⁵⁸ In combination with their soldiers' immunity to yellow fever, the Spaniards created a ring of fortifications capable of repelling competing Great Powers from Europe.

The Seven Years' War—known in the U.S. as the French and Indian War—offered a concrete test of these defenses. The conflict erupted between 1754 between the Anglo-Prussian alliance France—with Spain joining France after 1761.¹⁵⁹ The fighting was trivial to the Spanish, mostly confined away from their area of interest until they entered the war. In response, the British government under William Pitt hoped to seize Havana, the key to the Indies.

Within fifty-seven days of Spain's declaration of war, British planners began to prepare for the assault on Havana with an assault force of 12,000 soldiers, slightly more than 14,000 sailors and 3,000 hired hands to crew the nearly 200 transport vessels, and a

¹⁵⁶ McNeill, 141.

¹⁵⁷ McNeill, 141.

¹⁵⁸ McNeill, 143–44.

¹⁵⁹ McNeill, 169.

reserve force of almost 4,000 in North America.¹⁶⁰ Havana's population was close to 50,000 people and fortified heavily with 10,000 to 11,000 defenders.¹⁶¹ The British had a small window for an attack because of geographic features, weather patterns, and the yellow fever season.

The British landed near Havana and quickly captured strategic positions around the city, aided by the fair-weather conditions and a superior force.¹⁶² The British surrounded Havana putting colonial governor Juan de Prado in a precarious position. Yellow fever was an ally of the Spanish, given their immunity to it, and aided in the British defeat in Cartagena years earlier.¹⁶³ No such luck was forthcoming for Juan de Pedro. The rainy season and subsequent rise in yellow fever cases did not occur as anticipated. Facing defeat, Prado was obligated to seek terms of surrender to the British army commander, the Earl of Albemarle.¹⁶⁴

Incredibly, within days of the Spanish surrender of Havana to the British, the rains began to fall, and yellow fever overtook the British.¹⁶⁵ Albemarle understood the significance of yellow fever, writing: "So reduced by sickness, and the well so unfit for almost any service, that, if the governor had been firm, he might have named his own terms. Had Prado held out another week or two he might have held out forever...or had the North Americans not come when they did, the siege would have failed."¹⁶⁶

The rainy season unleashed yellow fever's full wrath on the remaining British invaders. By mid-October, Albemarle had lost more men to yellow fever than the British

¹⁶⁰ David Marley, *Wars of the Americas: A Chronology of Armed Conflict in the New World, 1492 to the Present* (Santa Barbara, CA: ABC-CLIO, 1998), 290–92. See Also David Syrett, *The Siege and Capture of Havana, 1762*.

¹⁶¹ McNeill, *Mosquito Empires*, 171–74.

¹⁶² McNeill, 178–83.

¹⁶³ McNeill, 178.

¹⁶⁴ McNeill, 182.

¹⁶⁵ McNeill, 182–83.

¹⁶⁶ McNeill, 183. See Also Fred Anderson, *Crucible of War*, pp. 500–02.

had lost in the entire Seven Years' War in all of North America.¹⁶⁷ Over 4,700 soldiers had died of disease, and of the 11,000 plus sent for the siege, only 2,067 were fit for duty, weakening the British the hold on western Cuba. The navy did not fare any better, losing upwards of 3,000 sailors to disease, and when combined with the army's deaths, the occupation of Havana killed about 10,000 British troops.¹⁶⁸ Benjamin Franklin wrote, "It has been however the dearest conquest by far that we have purchas'd this war when we consider the terrible Havock [sic] made by the sickness in that brave Army of Veterans, now almost totally ruined."¹⁶⁹

As peace negotiations opened, Yellow fever was still rampant in Havana, killing the British daily. The Peace of Paris, signed in February 1763, called for the British to turn Havana back to the Spanish despite the great sacrifices taken to conquer the city.¹⁷⁰ Additionally, British elites expressed no desire for further Caribbean conquest, even if successful, due to the terrible experience at Havana.¹⁷¹ The manpower shortage from yellow fever had cascading effects for the British and their American colonial policies and the ability to respond to armed insurrection. Spain did not escape unphased either. The shock of losing Havana, the loss of naval vessels, and trade disputes severely weakened its Bourbon alliance with France and its ability to project power in the region.¹⁷²

The Spanish understood all this and advanced their hold on the Caribbean by way of disease. Spain preferred to recruit soldiers locally because of their immunities to yellow fever. Still, if locals were not available, Spain sent sizeable numbers of troops with the expectation that many would die, but some would gain immunity. The Spanish used fortifications to delay sieges on strategic positions, which exposed the invaders to yellow fever. Despite the British siege's success at Havana, the staggering deaths by yellow fever

¹⁶⁷ Daniel A. Baugh, *The Global Seven Years War, 1754–1763: Britain and France in a Great Power Contest*, 1st ed., Modern Wars in Perspective (Harlow, England; Longman, 2011), 608–9.

¹⁶⁸ McNeill, *Mosquito Empires*, 185–86.

¹⁶⁹ McNeill, 186.

¹⁷⁰ McNeill, 186. Spain conceded Florida and France gave the British Louisiana, the Mississippi Valley, the Ohio River Valley, and Canada.

¹⁷¹ McNeill, 186.

¹⁷² Baugh, *The Global Seven Years War, 1754–1763*, 647.

and the end of war forced the British to return Havana to Spain. It also brought an end to the British objectives of seizing other territories from Spain in the Americas. The Spanish temporarily lost Havana, but the peace treaty returned its prized port safeguarding its hold over the area. In the case of the Spanish colonization efforts, disease proved to be a tool of imperialist expansion and a defensive mainstay.

C. **BIOLOGICAL WARFARE: PONTIAC’S REBELLION—SIEGE OF FORT PITT (1763)**

In the spring of 1763, warriors from numerous American Indian tribes began besieging outlying British outposts after the policies of General Jeffery Amherst—British North American commander—imperiled the cultural and economic way of life of the Native Americans.¹⁷³ The stunning success by the Indians in the early stages of Pontiac’s Rebellion saw several British forts sacked, leaving only Fort Pitt and Detroit in the Ohio Valley and Great Lakes region. An outbreak of smallpox occurred in Fort Pitt, and General Amherst ordered Fort Pitt to give blankets from the smallpox hospital to the Indians.¹⁷⁴ The British learned the effect of disease from their experiences in Cuba. The outbreak crippled the Indian forces enabling the British to reclaim the lost territory. Disease—in this case, a calculated weaponized form—was used as a tool for power in the face of an ascendant enemy force.

The Seven Years’ War, concluded by the Treaty of Paris, ceded Great Britain all Canada, the Great Lakes, the Ohio territory, and the Acadia maritime provinces from France in 1763.¹⁷⁵ The Native Americans in the newly acquired lands held long-running

¹⁷³ Francis E. Flavin, “A Pox on Amherst: Smallpox, Sir Jeffery, and a Town Named Amherst,” *Historical Journal of Massachusetts* 30, no. 1 (Winter 2002): 10–12. See Also David F. Marley, *Wars of the Americas*, pp. 297 and Fred Anderson, *Crucible of War*, pp. 545–53.

¹⁷⁴ Oldstone, *Viruses, Plagues, and History*, 63. Francis Flavin, “A Pox on Amherst” and Elizabeth Fenn, “Biological Warfare in the Eighteenth-Century North America: Beyond Jeffery Amherst” both contend while Amherst discussed giving the Indians blankets with smallpox, it might have been carried out weeks prior before his orders. Jack Diamond in *Guns, Germs, and Steel*, estimates range up to 95 percent of the original Native Americans were killed by the European invaders by way of war and disease, pp. 359.

¹⁷⁵ Baugh, *The Global Seven Years War, 1754–1763*, 639–40. Many other land secessions took place between Britain, France, and Spain to satisfy the parties to agree to the Treaty of Paris in 1763. See Also Francis Parkman, *The Battle for North America*, pp 738–46.

alliances with the French. Suddenly, the Native Americans were under British rule.¹⁷⁶ The expected change in loyalty also came with new territorial policies from the British General Amherst—who had to cut expenses because of the drain of the war on the royal treasury.¹⁷⁷ The policy change included banning gifts intended for the Indians they depended on, including armaments, food rations, and alcohol. The prohibition offended the Indians in the Ohio Valley and Great Lakes region in North America. Under Ottawa chieftain Pontiac, several tribes banded together to form an army, at times numbering close to 10,000.¹⁷⁸

The Indian confederation attacked British outposts in the region and began to campaign eastward toward Fort Pitt, located in what is today western Pennsylvania, in May of 1763.¹⁷⁹ The following month the Indians had taken all of the significant British settlements, except the forts at Detroit and Pitt. Fort Pitt's population had swelled to a population over 500—including soldiers and refugees—fleeing Pontiac's army, but then smallpox broke out among the inhabitants.¹⁸⁰ Captain Ecuyer—commander of Fort Pitt—wrote Bouquet anxiously about the situation: “We are so crowded in the fort that I fear disease, for, in spite of every care, I cannot keep the place as clean as I should like. Besides, the smallpox is among us.”¹⁸¹

With Fort Pitt cut off from resupply, General Amherst ordered a contingent from New York to reinforce it.¹⁸² However, many of these units were still recuperating from the effects of disease after returning from Havana. A weakened Fort Pitt and a rescue army mostly unable to march forced the British to conceive a counterattack against the invaders.

¹⁷⁶ David Marley, *Wars of the Americas: A Chronology of Armed Conflict in the New World, 1492 to the Present* (Santa Barbara, Calif: ABC-CLIO, 1998), 296–97.

¹⁷⁷ Flavin, “A Pox on Amherst,” 10.

¹⁷⁸ Marley, *Wars of the Americas*, 297. The 10,000-man army did not march together, but was merely the collection of all the Indians joined together to fight throughout the region.

¹⁷⁹ Elizabeth A. Fenn, “Biological Warfare in Eighteenth-Century North America: Beyond Jeffery Amherst,” *The Journal of American History* 86, no. 4 (2000): 1553, <https://doi.org/10.2307/2567577>.

¹⁸⁰ Fred Anderson, *Crucible of War: The Seven Years' War and the Fate of Empire in British North America, 1754–1766*, 1st ed. (New York: Alfred A. Knopf, 2000), 541. See Also Elizabeth Finn, “Biological Warfare in Eighteenth-Century North America: Beyond Jeffery Amherst,” pp. 1553.

¹⁸¹ Walter O'Meara, *Guns at the Forks* (Pittsburgh: University of Pittsburgh Press, 1979), 229, <http://ebookcentral.proquest.com/lib/ebook-nps/detail.action?docID=2038147>.

¹⁸² Anderson, *Crucible of War*, 541.

A series of letters between Colonel Bouquet and General Amherst shows the two discussed the possibilities of intentionally spreading smallpox to the Indians.¹⁸³ General Amherst corresponded with Colonel Bouquet in July 1763, and they exchanged several communications: Amherst writes, “You will do well to try to inoculate the Indians by means of blankets, as well as to try every other method that can serve extirpate the execrable race.”¹⁸⁴

An invoice certified by Captain Ecuyer on August 13, 1763, shows the British gave the Indians sundries of two blankets, one silk handkerchief, and one linen to infect them with smallpox.¹⁸⁵ The Indians lived in close-knit dwellings, and the British knew the disease would spread rapidly, infecting both warriors and their families. Similar to the Spanish, the British understood the power disease would have on unexposed populations—from their lessons learned in Cuba, perhaps.

During Pontiac’s Rebellion, smallpox epidemics broke out in the region, and a force of only 400 Shawnee and Delaware Indians surrounded Fort Pitt.¹⁸⁶ Unable to take the fort after nearly a month of siege, the Indians moved to intercept the reinforcements led by Colonel Bouquet. Near Bushy Run, east of Pittsburgh, the Indians and Colonel Bouquet’s forces met.¹⁸⁷ The British troops were still weary from the war with France, and the Indians were reeling from smallpox. Colonel Bouquet handily defeated the Indians ending the

¹⁸³ Flavin, “A Pox on Amherst,” 12. Elizabeth A. Fenn, “Biological Warfare in Eighteenth-Century North America: Beyond Jeffery Amherst,” pp. 1554, states the timeline remains unclear, William Trent, a trader, reports on June 24, 1763 CE the British troops at Fort Pitt handed blankets and a handkerchief from the small pox hospital to the Indians prior to Gen Amherst and Col Bouquet’s communication and smallpox outbreaks could have begun in early spring.

¹⁸⁴ Flavin, 18–19. See also William McNeill, *Plagues and People*, pp. 257 and Michael Oldstone, *Viruses, Plagues, & History*, pp. 65.

¹⁸⁵ Fenn, “Biological Warfare in Eighteenth-Century North America,” 1554–55. Francis Flavin in “A Pox on Amherst,” pp. 22, found a corrected invoice dating August 13, 1763 CE for the sundries handed to the Indians. With that correction, the British government countenanced the distribution of infected blankets. However, it is still not proven that the actions were taken on General Amherst’s direction.

¹⁸⁶ O’Meara, *Guns at the Forks*, 229–30.

¹⁸⁷ Howard H. Peckham, *Pontiac and the Indian Uprising*, (Chicago: University of Chicago Press, 1961), 212–13.

threat near Fort Pitt but incurred heavy losses.¹⁸⁸ Neither side was able to undertake offensive operations in the area because of disease.

General Amherst's austere policies sparked an uprising from the Indians after the war and the peace treaty signed with France. Pontiac banded several tribes together and launched an assault on the British forts in the Ohio River Valley, surprising the British. British soldiers weakened by the yellow fever outbreaks in Havana the year prior slowed the response force. British military leaders in the area unleashed smallpox onto the Indians by giving them blankets from the smallpox hospital ward at Fort Pitt. The epidemic quickly spread through the Indians, weakening the warrior army leading to their eventual defeat in the Pittsburgh area by Colonel Bouquet. Both sides felt the effects of disease unleashed by a foe. But in the end, the use of biological warfare allowed Britain to consolidate its newly-won hold on North America.

D. CONCLUSION

The cases considered in this chapter highlight the devastating effects of disease when introduced to societies without immunities. Each of the great powers relied on superior military and technology forces to conquer a substantially larger force—altering the New World borders and Old World order of power in the process.

The introduction of disease into a susceptible population—whether intentional or not—is the commonality. The cases of imperial conquest in the New World all benefited from the introduction of disease into society. Smallpox overcame the Aztecs and the Native Americans, a factor as important as military field operations. The Spanish used immunities gained from disease to fortify the Americas from European invaders. The British were able to seize a Spanish stronghold. Once yellow fever set in, they did not have the force required to sustain the fort, much fewer operations in the Caribbean, and it had lasting effects on their responses to the Indians in North America. Pontiac's rebellion strained the already overextended British force, and biological warfare likely proved to be the tactic required to quell the Native American uprising. Much like the empires in the previous chapter,

¹⁸⁸ Peckham, 213.

disease overtook a society and inflicted heavy losses to civilian and military populations. Indigenous societies' inability to respond to the diseases the invading forces brought weakened them. It allowed the Great Powers to conquer and hold territory, reshaping the New World and the GPC to control it.

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V. TWENTIETH-CENTURY INTERNATIONAL POWER RELATIONS AND GLOBAL COOPERATION

This chapter will examine twentieth-century pandemics and the medical breakthroughs to combat disease's effects on society by institutions and governments. Scientific advances and institutional infrastructure give researchers the ability to study and mitigate certain diseases unlike any time in history, creating a "technocracy" of disease control. The cases below suggest that disease in a globalized world can be both a motivation for collaboration and a device of GPC.

The first case is the 1918 Spanish Flu pandemic—arising in the concluding months of WWI—that engulfed the globe killing an estimated 50 million people.¹⁸⁹ The health organizations formed post-hostilities led to revolutionary medical advances in disease transmission tracing and infection prevention still seen today. The second case is the international cooperation by the newly formed medical organization fighting and eradicating smallpox worldwide with the unlikely collaboration of two superpowers locked in a Cold War. The last case is the appearance of a novel disease—AIDS—and the world's response, for better or ill. Taken together, this chapter charts both global cooperation against disease and the potential for nations to manipulate disease mitigation in ways that advance their interests. A country's capacity to handle disease further delineates the plague gap in Balance of Power Theory. Twentieth-century technological and scientific advances give nations the ability to identify and possibly prevent mass outbreaks like never before. The act of preventing pandemics not only protects a nation's power but establishes a field of GPC unto itself.

A. THE GREAT WAR AND GREAT INFLUENZA: THE SPANISH FLU OUTBREAK (1918)

Early in 1918, a pandemic began to sweep through the world—aided by natural virulence and troop and refugee mass movement—creating the most recorded disease event

¹⁸⁹ Hays, *Epidemics and Pandemics*, 385.

in human history.¹⁹⁰ The 1918 influenza outbreak threatened to unravel the international system.¹⁹¹ Yet, out of the Great Power conflict of WWI, the post-flu world witnessed the development of global cooperation designed to fight disease in all nations, not just the great powers. The subsequent research in response to the Spanish Influenza infection led to identifying the outbreak and created a path to fight future diseases.¹⁹²

In 1918, Haskell County, Kansas, experienced a strange outbreak circulating among Dr. Loring Miner's patients.¹⁹³ Influenza struck quickly with severe illness only hours after contraction, to death in the following days for dozens of cases. The isolated county contained the outbreak for the most part, but Camp Funston on Fort Riley, 300 miles from Haskell County, was home to 56,000 troops training for WWI.¹⁹⁴ The camp was the second-largest military base in America, and much like Greek and Roman settlements, the living quarters were ill-equipped to house the number of recruits and provide adequate heat and clothing.¹⁹⁵ By late February 1918, the record cold winter took its toll on the camp, and three soldiers, two on leave and one recruit, became exposed to influenza—bringing it to Camp Funston.¹⁹⁶ More than 1,100 soldiers required admission to the hospital within three weeks, and thousands more went to the base infirmaries—with the precise number not documented.¹⁹⁷ Despite the severity of influenza, only thirty-eight men died, but the camp sent a steady flow of soldiers to other American bases and the war effort in Europe.

¹⁹⁰ Hays, 385.

¹⁹¹ Laura Spinney, *Pale Rider: The Spanish Flu of 1918 and How It Changed the World* (New York: Public Affairs, 2017), 247.

¹⁹² McNeill, *Plagues and Peoples*, 292–93.

¹⁹³ Paul Kupperberg, *The Influenza Pandemic of 1918–1919*, Great Historic Disasters (New York: Chelsea House Publishers, 2008), 23. See Also J.N. Hays, *Epidemics and Pandemics*, pp. 385–86. John M. Barry in *The Great Influenza*, says no one will know with absolute certainty the influenza pandemic began in Kansas, but numerous scientists agree the evidence strongly suggest the pandemic began in the United States. The evidence also strongly suggests Haskell County as the site of origin.

¹⁹⁴ John M. Barry, *The Great Influenza: The Epic Story of the Deadliest Plague in History* (New York: Penguin Books, 2005), 91–97. See Also Laura Spinney, *Pale Rider*, pp 37–39.

¹⁹⁵ Kupperberg, *The Influenza Pandemic of 1918–1919*, 24.

¹⁹⁶ Kupperberg, 24.

¹⁹⁷ Barry, *The Great Influenza*, 96–97.

Disease often accompanies concentrated human activity and movement; the Great Influenza was no different. The U.S.' entrance into WWI in 1917 required full engagement by the American people. Like American soldiers living in close quarters at Camp Funston, millions of factory workers crammed into the cities and lived in similar, tight quarters.¹⁹⁸ The mingling of so many people was a tinderbox for disease spread, and soon the flu was an epidemic in America. By April 1918, the flu reached the Western Front and developed into a pandemic.¹⁹⁹ By June 29, 1918, Dr. Martin Salazar—a member of the Spanish Health Department—reported to the Royal Academy of Madrid about an unreported epidemic circulating in Spain.²⁰⁰ With no evidence in other countries, the term Spanish Influenza became attached.

As with most other disease outbreaks in earlier chapters, several waves struck. By August 1918, the disease returned with even deadlier effects in France and made its way back across the Atlantic to begin a second wave in the U.S.²⁰¹ The second wave spread quickly, first through the armies amassed in the European theater, then spread across the globe—a deadly side effect of the Great War.²⁰² Doctors and nurses were away from civilian practices because of the war, which further impeded the response.²⁰³ Governments worldwide dealt with the rapid collapse of basic public services—healthcare, burials, and local government services—within a couple of weeks of the pandemic striking. By 1919, the influenza pandemic began to subside, but the outbreak left an estimated 50 million people dead worldwide compared to the estimated 20 million military and civilian deaths directly caused by WWI.²⁰⁴

¹⁹⁸ Barry, 132.

¹⁹⁹ Spinney, *Laura Spinney Pale Rider*, 37.

²⁰⁰ Romeo Vitelli, “Surviving the Spanish Flu Pandemic,” *Providentia* (Toronto: Newstex, May 3, 2020), <http://search.proquest.com/docview/2397309291/citation/21002D1BA5BE4822PQ/13>. It is not documented widely that Spain knew the outbreak that occurred in Kansas initially.

²⁰¹ Hays, *Epidemics and Pandemics*, 385–86.

²⁰² Hays, 388–89.

²⁰³ Hays, 388.

²⁰⁴ Hays, 385 and John Graham Royde-Smith, “World War I - Killed, Wounded, and Missing,” accessed March 30, 2021, <https://www.britannica.com/event/World-War-I/Killed-wounded-and-missing>.

The significant global death toll probably paved the way for scientific research to collect specimen samples for analysis, unlike previous epidemics in history.²⁰⁵ In the U.S., scientific advances in germ theory leading up to the war enabled researchers to understand and fight the virus. Dr. Paul Lewis of the Philips Institute in Philadelphia altered the traditional method of using animals for vaccine/serum testing instead of using blood from influenza survivors to develop a vaccine from the survivors' antibodies.²⁰⁶ Despite medical advances, more outbreaks occurred, but the silver lining that emerged increased public health monitoring and services.²⁰⁷

In previous chapters, disease has at times swung the power pendulum in favor of one group. However, in the Spanish Flu's case, the pandemic's high infection rate and the great powers' engagement in WWI left little opportunity for nations to take advantage of each other's weaknesses. True, the war's conclusion led to a new order in which the U.S. emerged as a global power—albeit a reluctant one—superseding the Old-World Eurasian empires, but that transition was caveated by a sense of internationalism—of which disease control was a foundational component.²⁰⁸ President Woodrow Wilson led the U.S. into its new role, and the American problems had global ramifications.²⁰⁹ After WWI, the newly created League of Nations (which the U.S. refused to join)—designed to stabilize the international system—created its health organization and combined with the already existing anti-epidemic bureaus, which were the precursors of today's WHO.²¹⁰ The

²⁰⁵ Kupperberg, *The Influenza Pandemic of 1918–1919*, 70–71.

²⁰⁶ Kupperberg, 75–78. The serum Dr. Lewis developed was given to sixty people. Only three infections and zero deaths occurred compared to the control group, which saw ten cases of pneumonia and three deaths. By mid-October, 1918, the flu vaccine distribution was global; the Army Medical School shipped two million doses alone for soldiers and civilian employees.

²⁰⁷ Kupperberg, 83. For example, the New York City health department organized an influenza commission in October 1918 to conduct laboratory research, communal infection tracing, archive detailed patient accounts, and looking for a relationship with the flu, other infectious diseases, and the person's lifestyle. These practices led to the creation of an office to track influenza and other infectious diseases by numerous government agencies.

²⁰⁸ Adam Tooze, *The Deluge: The Great War, America and the Remaking of the Global Order, 1916–1931* (New York: Penguin Books, 2014), 3–4. The European continent was decimated after the war. The industrial buildup in the United States left it in a position to emerge as a new super power.

²⁰⁹ Tooze, 333–34.

²¹⁰ Spinney, *Laura Spinney Pale Rider*, 246. Despite President Woodrow Wilson proposing the creation of the League of Nations, the United States never joined the League of Nations.

League of Nations health branch dissolved at the onset of WWII, but after the war's conclusion, the WHO emerged in 1948 as a separate, independent organization from the UN unlike its predecessor relying on a parent body.²¹¹ The WHO has been on the front line ever since, leading the global health agenda with cooperation among its member states.²¹²

The Spanish Influenza outbreak in 1918 swept across the globe—in the waning days of WWI—while the Great Powers battled in Europe. The worldwide epidemic required a global response to combat the pandemic—despite WWI pitting the Great Powers against each other. The League of Nations helped to stabilize international relations until the outbreak of WWII, but it did create the framework for present-day health systems. This health organization aims to fight disease in all nations, not just the superpowers. In this case, disease was an agent of great power exhaustion and the making of a truly international society.

B. COMBATING DISEASE: GLOBAL COOPERATION FOR THE ERADICATION OF SMALLPOX IN THE COLD WAR

The previous chapter highlighted the Spanish and British weaponization of smallpox for power advancement in earlier eras. Attempts to eradicate disease in the twentieth century are strife with questions of power and competition between nations. Smallpox has long been a feared disease and has ravaged society for millennia. Smallpox killed nearly 300 million people in the Twentieth Century alone. Ironically, as early as the 1700s, the first vaccine ever was developed to protect humans from smallpox infection.²¹³ This technology (once refined), when combined with vaccination programs, health

²¹¹ Michael McCarthy, "A Brief History of the World Health Organization," *The Lancet* 360, no. 9340 (October 12, 2002): 1111, [http://dx.doi.org.libproxy.nps.edu/10.1016/S0140-6736\(02\)11244-X](http://dx.doi.org.libproxy.nps.edu/10.1016/S0140-6736(02)11244-X). See Also William H. McNeill, *Plagues and Peoples*, pp. 291.

²¹² Kelley Lee and Jennifer Fang, *Historical Dictionary of the World Health Organization*, Historical Dictionaries of International Organizations (Lanham, MD: Scarecrow Press, 2012), 6. Membership is not only limited to member states of the United Nations, but through other organizations, invitations can be made to other countries enabling the WHO's principles: "The enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition," Spinney, *Laura Spinney Pale Rider*, 246.

²¹³ Michael B. A. Oldstone, *Viruses, Plagues, and History* (Oxford: Oxford University Press, Incorporated, 2000), 53–55.

organizations, and governments, virtually eradicated smallpox globally—by the 1980s.²¹⁴ The global cooperation to effectively eliminate smallpox—mainly through the organizations formed after WWI and WWII—demonstrates the opportunity to combat disease despite and/or because of global tensions. However, post-war hostilities and the newfound capability to control disease offer a new arena for international competition.

An ancient disease, and often confused as a plague (bubonic), smallpox differs because survivors develop lifelong immunities.²¹⁵ From the Plague of Athens, which appeared to spare the Spartans, to the Spanish unintentional use of smallpox to conquer the Aztecs, smallpox devastation spans throughout history. Despite the survivors gaining lifelong immunities, new births and global exploration allowed the disease to remain in circulation over many centuries.²¹⁶

Over the ages, societies attempted to gain immunity to smallpox, but it required infecting healthy individuals with the variola virus (a precursor agent that gives us cowpox and other poxes as well), which carried a significant risk of contracting smallpox.²¹⁷ Benjamin Franklin and many other parents in the 1700s avoided inoculation for fear of harming their children, and Benjamin Franklin says after the loss of his four-year-old son, “I long regretted bitterly, and still regret that I had not given it [smallpox] to him by inoculation.”²¹⁸ It was not until the eighteenth-century English physician Edward Jenner used cowpox infections to produce immunity to smallpox without the danger of contracting the disease.²¹⁹ After Jenner published the results, the new smallpox vaccination began to

²¹⁴ Oldstone, 55.

²¹⁵ Alfred Jay Bollet, *Plagues & Poxes: The Impact of Human History on Epidemic Disease* (New York, Demos Medical Publishing, 2004), 76, <http://ebookcentral.proquest.com/lib/ebook-nps/detail.action?docID=289782>.

²¹⁶ Erez Manela, “A Pox on Your Narrative: Writing Disease Control into Cold War History,” *Diplomatic History* 34, no. 2 (2010): 304, <https://doi.org/10.1111/j.1467-7709.2009.00850.x>.

²¹⁷ Manela, 304.

²¹⁸ Christopher Ingraham, “Ben Franklin Lost a Son to Smallpox. Here’s His Sobering Advice for Parents Worried about Vaccines Today.: He Co-Wrote a Pamphlet on Smallpox Inoculation.,” *Washington Post* (Washington, DC: February 4, 2015), 1, <http://search.proquest.com/docview/1651265503/citation/CB5FF89BBD494C9APQ/8>.

²¹⁹ McNeill, *Plagues and Peoples*, 257–58.

circulate the globe to prevent smallpox. Historian William McNeill notes that organized medicine began to contribute statistically significantly to population growth for the first time, giving nations the power to control the disease.²²⁰

In the 1950s, the Pan-American Sanitary Organization committed to eradicating smallpox throughout the Americas, and the WHO began calling for global smallpox eradication.²²¹ The ongoing Cold War between the U.S. and the USSR initially hampered collaborative international efforts for eradication. However, policy shifts by the U.S. supported the WHO when the government witnessed the USSR's successful smallpox eradication within its borders.²²² The Cold War collaboration created a paradox, given superpower competition for influence in third-world countries—born from Cold War competition—that helped develop arguably one of the most successful partnership instances by superpowers in the Cold War history.²²³ This demonstrated that despite hostilities, global collaboration—despite international relations—can solve world health issues. It also uncovered the gain of power that comes with disease control. The elimination of smallpox occurred in all but four countries in the Americas by 1970.²²⁴ By 1980, nearly 184 years after Edward Jenner first pioneered the cowpox inoculation in England, the WHA announced smallpox eradication globally.²²⁵

Smallpox has devastated societies throughout the millennia of recorded history and altered the world—in terms of the balance of power—with each occurrence, from the fall of Athens, to the death of Marcus Aurelius that weakened the Roman Empire, smallpox has routinely modified the world order. Edward Jenner's observations and the unlikely coordination between the U.S. and the USSR during the Cold War led to eradicating one of the deadliest diseases to ever occur on earth. The interest spurred by two superpowers led to global response and advancement of influence into countries unable to combat

²²⁰ McNeill, 260.

²²¹ Oldstone, *Viruses, Plagues, and History*, 82.

²²² Manela, "A Pox on Your Narrative," 304–6.

²²³ Manel, 301.

²²⁴ Oldstone, *Viruses, Plagues, and History*, 82.

²²⁵ Oldstone, 84.

disease. The international humanitarian cooperation provided the capability to fight disease for every nation. The power of disease remains evident, given the extent taken to fight it and exposed a scenario where disease could fuel a GPC in underdeveloped countries.

C. THE GLOBAL FIGHT AGAINST ACQUIRED IMMUNE DEFICIENCY SYNDROME

In 1980, reports arose of outbreaks of a mysterious disease with unusual infections and forms of cancer and pneumonia in otherwise healthy individuals.²²⁶ Initially, concerns were low in medical communities and national governments. The prevailing thought was that infectious disease had lost its power to alter affluent societies seriously.²²⁷ The WHO, its organizational predecessors, and global collaborations successfully mitigated influenza and eliminated smallpox. Once again, an international response would be required to fight another outbreak threatening to unravel some societies. The disease identified as AIDS—HIV is the virus which causes AIDS—differed from other diseases in controllability and the expense to mitigate the effects separated the developed and undeveloped countries with the WHO in the middle.²²⁸ Although not eradicated, the prevention education and medical treatment of AIDS gives another example of a global response and exposes the potential for rival powers to exploit disease by using national resources, for example, medical aid, to further their power in the international system.

AIDS most likely originated in Africa, but the world's connectedness facilitated its movement throughout the world similar to the Mongol Empire and the spread of the Black Plague throughout Europe.²²⁹ While initially confident in their ability to stem the disease, by 1982, public and medical professionals began to show the fear that accompanied pre-modern epidemic outbreaks.²³⁰ AIDS was so much of a concern to the U.S. that the Central Intelligence Agency began to model infection predictions, and the chairman of the National

²²⁶ Hays, *Epidemics and Pandemics*, 427.

²²⁷ McNeill, *Plagues and Peoples*, 9.

²²⁸ Hays, *Epidemics and Pandemics*, 444 and McNeill, *Plagues and Peoples*, 11..

²²⁹ McNeill, *Plagues and Peoples*, 10–11.

²³⁰ Hays, *Epidemics and Pandemics*, 433.

Intelligence Council, Fritz Ermarth, said: “This is one of those new-age issues, and nobody else is doing anything.”²³¹ In 1986, after the realization AIDS might not be containable, the WHO proposed world strategies to combat the epidemic.²³² However, political, social, and economic tensions rose over preventative program recommendations. In 1987, the advent of therapeutic drugs for AIDS further divided the world into nations that could and could not afford treatment.²³³

When the WHO called for an AIDS response in the late 1980s, the global contribution was \$44 million, and by 1990 the annual grant was \$165 million, but this stagnated due to the program’s ineffectiveness.²³⁴ Finally, in 1996, the UN formed UNAIDS, which combined numerous centralized efforts into one collaborative global program, raising nearly \$2.3 billion by early 2004.²³⁵ Despite this, many countries in Africa would not take action against AIDS because of the feared international stigma, discouraging research against AIDS.²³⁶ By 2000—twenty years since its discovery—AIDS had infected over 53 million people and, by itself, was reversing the improvement in human longevity and economic growth in Africa.²³⁷

Over time, the development of therapeutic drugs known as “cocktails” for AIDS has lessened or slowed HIV, but the cost has been high. For example, in the early 2000s, a triple cocktail in South Africa cost roughly \$600 U.S. per month, with only an estimated

²³¹ Barton Gellman, “Death Watch: The Global Response to AIDS in Africa; World Shunned Signs of the Coming Plague Series: DEATH WATCH; 1/3: [FINAL Edition],” *The Washington Post*, July 5, 2000, sec. A Sec, 3. The National Intelligence Council reports to Director of National Intelligence and connects the United States Intelligence community to the policy makers in the United States.

²³² Peter Piot et al., “A Global Response to AIDS: Lessons Learned, Next Steps,” *Science* 304, no. 5679 (June 25, 2004): 1910.

²³³ Hays, *Epidemics and Pandemics*, 443–45.

²³⁴ Hays, 444. In comparison, the smallpox program was a 300 million U.S. dollar effort and the Bovine Tuberculosis eradication in U.S. herds was a 450 million U.S. dollars over 50 years, A. M. Nelson, “The Cost of Disease Eradication. Smallpox and Bovine Tuberculosis,” *Annals of the New York Academy of Sciences* 894 (1999): 83–91, <https://doi.org/10.1111/j.1749-6632.1999.tb08048.x>.

²³⁵ Hays, 83–91.

²³⁶ Hays, 83–91. The United States outbreak in the early 1980s was between the gay male communities and intravenous drug users. Many nations feared the stigma associated with AIDS. Until recently, HIV/AIDS was invariably fatal, but drug cocktails and awareness have mitigated the disease.

²³⁷ Gellman, “Death Watch,” 3.

ten thousand of the four million-plus infected able to afford the treatment.²³⁸ Drug manufacturers argued the high cost of research and development determined the price needed to recoup their initial investment.²³⁹

Despite the disparities, the G8 leaders pledged \$60 billion to treat AIDS in developing countries.²⁴⁰ Once again, the Great Powers of the world aligned to address a global threat with a worldwide response. However, the wealth disproportion in the world left an opening for manipulation if global alliances did not ensure equal distribution of influence. Unlike previous international collaborations, the lack of resources in certain regions, political pressures, and commercial demands hindered the programs designed to assist the world.²⁴¹ Countries with the wealth or systems to spread the cost—health insurance or government subsidies—greatly benefit from the high-cost drug manufacturers charge for treatments.

The global response to AIDS shows the relevance of disease despite the medical advances in containment. Medical researchers had no cure, and treatment of AIDS, was costly leaving many regions in the world unable to afford the “cocktail” treatments. Nations with the resources to minimize and distribute AIDS treatment to those incapable provided an avenue for increased influence. The withholding of relief by a Great Power until certain conditions are met puts an impoverished nation at its mercy. Desperation can lead to irrational decisions during an epidemic, whatever the intentions of the Great Power behind the offer.

D. CONCLUSION

The cases considered in this chapter illustrate twentieth-century pandemics and the global efforts to combat their effects. Disease in a globalized world is not only an incentive for cooperation but can also be a tool of GPC. Medical breakthroughs allowed the world

²³⁸ Hays, *Epidemics and Pandemics*, 445.

²³⁹ Hays, 445. Pharmaceutical companies have taken legal action against nations to prevent the sale of generic versions of AIDS cocktails. In 2000, one company announced legal action against Ghana to prevent generic cocktails, and the Ghanaian government backed down rather than offend the company.

²⁴⁰ Oldstone, *Viruses, Plagues, and History*, 282.

²⁴¹ Oldstone, 278.

to control diseases' effects therapeutically and gave a chance for eradication. Affluent nations can influence impoverished regions and the opportunity to gain power in the area if not challenged by another authority.

The Spanish Influenza outbreak in 1918 during WWI was the world's first twentieth-century pandemic. Despite being consumed with war and its immediate after effects, the U.S. and other countries cooperated and distributed the knowledge gained from research. The cooperation led to multiple vaccines that lessened and prevented the spread of influenza. The creation of a global health organization—the WHO—to fight disease for the world and led to the improbable cooperation between the U.S. and USSR helping with smallpox eradication—eliminating one of the deadliest diseases in history. The AIDS pandemic occurring during the latter part of the twentieth century again displayed the global cooperation required to fight a pandemic. Still, globalization and privatization led to a disparity in a nation's ability to respond without foreign intervention. The disparity caused by disease leaves underdeveloped countries vulnerable, prime targets of influence by states with more resources. This is a familiar theme in the story of COVID-19, discussed in the following chapter.

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VI. TWENTY-FIRST CENTURY PANDEMICS: A CHANGE IN THE INTERNATIONAL ORDER?

This chapter will examine two novel disease outbreaks that originated in China and their regional/global impacts. In both cases, the PRC's ability to conceal and then contain the effects of disease within its borders while neighboring regions struggled created exploitation opportunities. Medical technology, healthcare availability, government control, and globalization have generated a system reliant on transnational assistance but susceptible to manipulation. Once again, the threat of a global disease in the interconnected world both incentivized cooperation and drove great power competition. Each case displayed how disease can alter a regional leader's position when other nations cannot mitigate the effects of an outbreak.

The first case, the Severe Acute Respiratory Syndrome (SARS) epidemic, occurred in 2003, mainly in East Asia. The economic impact of SARS was briefly felt, but still left countries in the region vulnerable to Chinese influence. The second case is the ongoing 2019 Novel Coronavirus Disease (COVID-19) global pandemic. The Chinese mitigated the effects of COVID-19 in their own country while other global powers struggled with containment, leaving a void in developing regions. This chapter highlights these diseases' impacts on the international system when a great power can recover quickly from an outbreak and offer assistance. SARS and COVID-19 initially infected a nation, then spread—whether intentionally or not—requiring global cooperation to contain and combat the threats they posed. However, in both cases, China recovered quickly and then portrayed a message of strength and offered material assistance as its own form of GPC. The consequences of the initial handling of the pandemic by China and its effect on China's rival India remains to be seen, but U.S. unpreparedness for COVID-19 revealed a gap in policy.

A. AN EAST ASIAN EPIDEMIC: SEVERE ACUTE RESPIRATORY SYNDROME OUTBREAK (2003)

The SARS epidemic outbreak in 2003 and initially brought comparisons to the Spanish Influenza pandemic.²⁴² Despite the infectiousness, SARS only infected 8,437 worldwide, resulting in 813 deaths.²⁴³ Although mostly contained to East Asia, the political and economic impacts from SARS travel restrictions caused a recession in the region.²⁴⁴ The successful suppression of SARS and the economic cooperation that revitalized the area set the stage for a possible shift regional in power politics.

The first case of SARS appeared in mid-November 2002 in Foshan, Guangdong. It quickly spread to several other nearby cities before rapidly spreading through different regions in China and then to 35 other countries within months.²⁴⁵ The world was put on notice when the Ministry of Health (MOH) of Canada uncovered rumors of a severe “flu-like” outbreak in Guangdong and Beijing.²⁴⁶

The WHO responded to the Canadian MOH’s information and dispatched a team to China for further investigation. However, the team was denied access and instead went to reported cases in Hanoi, Vietnam, to collect samples from a sickened individual with an unknown disease.²⁴⁷ The new strain—named SARS—led the WHO to issue international travel warnings since the disease seemed to be spreading along international air travel routes.²⁴⁸ Scientists in Hong Kong collaborated with the WHO and uncovered that the

²⁴² Grace Lee and Malcolm Warner, *The Political Economy of the SARS Epidemic: The Impact on Human Resources in East Asia* (London: Routledge, 2007), 42, <https://doi.org/10.4324/9780203934814>.

²⁴³ World Health Organization, “Cumulative Number of Reported Probable Cases of SARS,” WHO (World Health Organization), accessed April 22, 2021, https://www.who.int/csr/sars/country/2003_07_11/en/.

²⁴⁴ Lee and Warner, *The Political Economy of the SARS Epidemic*, 42–43.

²⁴⁵ Zixue Tai and Tao Sun, “The Rumoring of SARS during the 2003 Epidemic in China,” *Sociology of Health & Illness* 33, no. 5 (July 2011): 680, <https://doi.org/10.1111/j.1467-9566.2011.01329.x>. The outbreak was mainly limited to Eastern Asia with less than 500 of the reported 8,437 cases occurring outside the region.

²⁴⁶ Malik Peiris et al., *Severe Acute Respiratory Syndrome: A Clinical Guide* (Hoboken, UK: John Wiley & Sons, Incorporated, 2005), 13, <http://ebookcentral.proquest.com/lib/ebook-nps/detail.action?docID=351431>.

²⁴⁷ Peries et al., 13–14.

²⁴⁸ Tai and Sun, “The Rumoring of SARS during the 2003 Epidemic in China,” 680–81.

disease did not respond to treatments proven effective against other diseases with similar symptoms, meaning the likelihood of discovering a vaccine was low.²⁴⁹

Much like the late-twentieth-century outbreak of AIDS, the SARS outbreak needed a coordinated and effective global response. However, with SARS, near real-time information was updated as events unfolded—making this the first internationally spreading outbreak to be thoroughly, quickly reported on by such technological connectedness.²⁵⁰ Laboratories, clinicians, and epidemiologists located across the globe collaborated in virtual networks and allowed for sufficient, evidence-based information to be issued in real-time to help the WHO give warnings.²⁵¹ By early July 2003, the spread of SARS was contained, but not because of medical advances. Instead, effective containment was achieved through a globalized effort by worldwide public health organizations using the medieval method of quarantine, which worked despite people’s global mobility.²⁵²

The more relevant concern for the present was the Chinese misinformation that occurred around SARS. In late March 2003, Beijing Health Minister Zhang Wenkang reported only 22 confirmed SARS cases in Beijing, even though the PRC limited the weeklong national May Day vacation to only one day.²⁵³ China further attempted to downplay the outbreak by firing Beijing Mayor Meng Xuenong and deputy party chief Zhang Wenkang for incompetence rather than deceit.²⁵⁴ Chinese Deputy Health Minister Gao Qiang said, “The Ministry of Health was not adequately prepared to deal with a sudden new health hazard...Accurate figures have not been reported to high authorities in a timely

²⁴⁹ Donald Hanna and Yiping Huang, “The Impact of SARS on Asian Economies,” *Asian Economic Papers* 3, no. 1 (January 2004): 105–6, <https://doi.org/10.1162/1535351041747978>.

²⁵⁰ Peiris et al., *Severe Acute Respiratory Syndrome*, 15.

²⁵¹ Peiris et al., 15.

²⁵² Hanna and Yiping Huang, “The Impact of SARS on Asian Economies,” 105.

²⁵³ Erik Eckholm, “China Admits Underreporting Its SARS Cases,” *New York Times, Late Edition (East Coast)*, April 21, 2003, sec. A.

²⁵⁴ Eckholm, sec A.

manner.”²⁵⁵ Gao’s statement demonstrated the measures China was willing to take to preserve the party’s image.

The sudden public firings and announcements to the globe were surprising, given the legal system in place to discourage the free flow of information.²⁵⁶ A United States Congressional report in 2003 resolved:

It is likely that many of the government officials, reporters, and even average people in Guangdong who were aware of the potential threat posed by SARS in December and January kept quiet because they were also aware of the fate of the last person who spoke about a health crisis in the PRC: Dr. Wan Yanhai, who was detained in late August 2002 for disclosing a government report documenting the spread of AIDS in Henan province through contaminated blood. Authorities released Dr. Wan almost a month later after an enormous international outcry, but only after Dr. Wan signed a confession admitting he was guilty of revealing state secrets.²⁵⁷

The spread of SARS was not just a threat to the Chinese, but to everyone the government interacted with without providing warnings about the severity of the outbreak.

The economic effects were substantial. The WHO issued recommendations that produced fear and decreased consumer demand—especially retail sales and travel services closely linked to international travel.²⁵⁸ Tourism in the area fell by at least seventy percent when the WHO issued a general travel advisory on March 15, 2003.²⁵⁹ China and the surrounding region depend heavily on tourism from not only Asia but the United States

²⁵⁵ Eckholm, sec A.

²⁵⁶ United States Congressional-Executive Commission on China, *Information control and self-censorship in the PRC and the spread of SARS*. (Washington, D.C.: Congressional-Executive Commission on China, 2003), 6.

²⁵⁷ United States Congressional-Executive Commission on China, 6.

²⁵⁸ Jong-Wha Lee and Warwick J. McKibbin, “Globalization and Disease: The Case of SARS,” *Asian Economic Papers* 3, no. 1 (January 2004): 117, <https://doi.org/10.1162/1535351041747932>.

²⁵⁹ Bob McKercher and Kaye Chon, “The Over-Reaction to SARS and the Collapse of Asian Tourism,” *Annals of Tourism Research* 31, no. 3 (July 2004): 716–17, <https://doi.org/10.1016/j.annals.2003.11.002>.

and Europe.²⁶⁰ It took until late April 2003 for the Chinese government to establish a publicized effort to combat the disease—primarily because of international pressures.²⁶¹

The outbreak occurred during unsettling world events, which further prepared the area for more significant Chinese influence. The 2003 United States-led invasion of Iraq caused global uncertainty and further drove down travel worldwide during SARS.²⁶² During the Labor Day Golden Week' holiday in May, the added travel restrictions caused an estimated loss of 40 percent of the total annual revenues of major tourism agencies in China.²⁶³ To combat the loss, Chinese and pan-Asian tourism panels collaborated to boost the region's tourism sector once travel restrictions lifted in July 2003. This included special promotions and packages to airfares on specific routes within the area, greater cooperation between foreign countries and cities to spur travel, and donations by regional corporations ensured a recovery spurred by regional partnerships, but led by the PRC.²⁶⁴ When combined with the rapid economic growth occurring in the early 2000s, with the Asian region transitioning to become a more desired tourist destination and the short duration of SARS, this seemed to benefit China significantly.²⁶⁵

The outbreak spanned only one fiscal quarter, decreasing China's Gross Domestic Product (GDP) by one percent, while the GDP of Southeast Asia declined by half a percent on average.²⁶⁶ The outcome of SARS was better than expected for China and put the PRC in a favorable position over other Asian economies. The travel partnerships formed within the region increased the flow of tourism from China and other Asian countries and

²⁶⁰ Hanna, "The Impact of SARS on Asian Economies," 111.

²⁶¹ Yanzhong Huang, "The SARS Epidemic and Its Aftermath in China: A Political Perspective," in *Learning from SARS: Preparing for the Next Disease Outbreak: Workshop Summary* (Washington, D.C.: National Academies Press, 2004), 124, <https://www.ncbi.nlm.nih.gov/books/NBK92479/>. The Chinese became a member of the World Trade Organization in 2001 and were still trying to establish themselves as transparent and trustworthy to the other members.

²⁶² Dombey, "The Effects of SARS on the Chinese Tourism Industry," *Journal of Vacation Marketing* 10, no. 1 (December 2003): 5.

²⁶³ Dombey, 5.

²⁶⁴ Dombey, 5.

²⁶⁵ Dombey, 4.

²⁶⁶ W. Qiu et al., "The Pandemic and Its Impacts," *Health, Culture and Society* 9, no. 0 (December 8, 2017): 7, <https://doi.org/10.5195/hcs.2017.221>.

outpaced the traditional majority of travelers, usually from the U.S. or Europe.²⁶⁷ The increased Chinese travel in the area created a scenario for expansion due to the absence of tourism from the west.

The global cooperation that arose to contain and stop SARS from infecting the world again highlights the importance of collaboration by world powers and offered opportunities for competition. Although the region experienced a recession, the short period of the SARS outbreak only stunted GDP briefly. The travel restrictions helped contain the disease but kept tourists away from America and Europe. Many of the countries in the infected region around China relied heavily on tourism and, post-SARS, the increased Chinese travel provided a much-needed boost. The collaboration with other countries in the tourism sector drove a quick rebound and the Chinese presence increased influence by way of donations and overall presence in the region. SARS could have become an international pandemic, but global efforts contained the outbreak to East Asia mainly. What might happen in the next outbreak of disease if Chinese deception leads to a worldwide pandemic? The COVID-19 outbreak might answer the question.

B. 2019 NOVEL CORONAVIRUS

The exact source for the COVID-19 pandemic crippling the world is still a bit of a mystery, but the Chinese city of Wuhan is where the first confirmed case of the novel disease began in December 2019.²⁶⁸ COVID-19 quickly morphed into a worldwide phenomenon, and the WHO declared it a pandemic only two-and-a-half months after the outbreak began.²⁶⁹ The resulting global shutdowns sent governments and economies into turmoil. The subsequent strain on healthcare systems, misinformation campaigns, and international cooperation to fight back against the disease illustrated the need for a global partnership to fight a global disease. However, malign actors are using COVID-19 to

²⁶⁷ Hanna and Yiping Huang, “The Impact of SARS on Asian Economies,” 111.

²⁶⁸ Jeremy Page, Drew Hinshaw, and Betsy McKay, “In Hunt for Covid-19 Origin, Patient Zero Points to Second Wuhan Market,” *Wall Street Journal*, February 26, 2021, Eastern Edition edition, sec. World, <https://www.wsj.com/articles/in-hunt-for-covid-19-origin-patient-zero-points-to-second-wuhan-market-11614335404>.

²⁶⁹ Khae Hawn Kim, “COVID-19,” *International Neuropsychology Journal* 24, no. 1 (March 30, 2020): 1–1, <https://doi.org/10.5213/inj.2020edi.001>.

advance power because of their ability to contain and overcome COVID-19 illness effects and lockdowns designed to prevent the spread. The speed in the development of the COVID-19 vaccine is impressive and required to end the pandemic. The cooperation among governments and private corporations demonstrates how effective a globalized world can be for disease control. That said, the race to return to normalcy has created “vaccine nationalism,” like the HIV treatment inequality covered in Chapter Five, as countries choose whether to immunize their citizens first or distribute to the world.²⁷⁰ U.S. and EU hesitation in exporting the vaccine has created the opportunity for China to enhance its footprint in developing regions through assistance.²⁷¹

The infectiousness of COVID-19 struck fear into global populations worldwide and instilled worldwide lockdowns to prevent the spread.²⁷² Dubbed the “new normal,” the shutdowns sent global economies spiraling downward as the world went into isolation.²⁷³ The resulting decline reminded many analysts of the Great Depression of the 1930s in terms of GDP and unemployment, and the succeeding decline has created a power void prime for an ambitious country to seize.²⁷⁴ Despite efforts to combat the disease, it seemed to be spreading uncontrolled worldwide and overwhelming healthcare facilities within months of its discovery. To date (May 24, 2021), COVID-19—and its numerous mutations—has infected more than 166 million people and killed over three million people, but new studies suggest the death toll is twice as much as reported.²⁷⁵

²⁷⁰ Ingrid T. Katz et al., “From Vaccine Nationalism to Vaccine Equity — Finding a Path Forward,” *The New England Journal of Medicine*, no. 384 (April 8, 2021): 1281, <https://doi.org/10.1056/NEJMp2103614>.

²⁷¹ Bojan Pancevski, “China’s Covid-19 Vaccine Diplomacy Boosts Its Influence in Europe; Serbia’s Successful Use of Chinese Shots Inspires Other European Nations to Seek Beijing’s Assistance,” *Wall Street Journal (Online)*, February 13, 2021, Eastern Edition edition, sec. World, <http://search.proquest.com/docview/2489021943/citation/5353B639F39B43BCPQ/1>.

²⁷² Kim, “COVID-19.”

²⁷³ Naciye Güliz Uğur, “COVID-19 Shutdown: A Qualitative Study on Pearls and Pitfalls,” *Proceedings* 74, no. 1 (2021): 1, <https://doi.org/10.3390/proceedings2021074004>.

²⁷⁴ David C. Wheelock, “Comparing the COVID-19 Recession with the Great Depression,” accessed May 24, 2021, <https://doi.org/10.20955/es.2020.39>.

²⁷⁵ World Health Organization, “WHO Coronavirus (COVID-19) Dashboard,” accessed April 18, 2021, <https://covid19.who.int>.

The inability to control COVID-19 led to the disruption of public services and these abrupt interruptions forced governments to redistribute resources to fight the disease.²⁷⁶ The measures designed to prevent the spread only put a further financial strain on an already burdened system. The outbreak forced leaders of the G-7 countries to have an emergency meeting in the early weeks of the pandemic to coordinate a response to the economic fallout of COVID-19.²⁷⁷ Before the COVID-19 outbreak, the economic outlook for developed and major economies was positive. However, the shutdowns put global trade at a standstill overnight and stunted any growth in the second quarter of 2020.²⁷⁸ It seems to be the only path to positivity is disease containment to spur economies back to life.

However damaging the disease might seem, the country of its origin, China, used the COVID-19 crisis to position itself as a responsible world leader in the wake of disaster.²⁷⁹ The Chinese implemented extreme lockdowns to stop the spread of COVID-19 in Wuhan.²⁸⁰ Travel was halted in and out of the city, and restrictions on residents prevented them from leaving their homes. Wuhan's shutdown generated attention from the PRC leadership in Beijing and a team—led by Vice Premier Sun Chulan—was dispatched to the city and began damage control.²⁸¹ Weeks earlier, Dr. Li Wenliang sent a message warning of a possible outbreak that resembled SARS in Wuhan, but he was quickly reprimanded about his statement and signed a testimonial that accused him of making false

²⁷⁶ John-Mary Kauzya and Elizabeth Niland, “The Role of Public Service and Public Servants during the COVID-19 Pandemic,” Department of Economic and Social Affairs, June 11, 2020, <https://www.un.org/development/desa/dpad/publication/un-desa-policy-brief-79-the-role-of-public-service-and-public-servants-during-the-covid-19-pandemic/>.

²⁷⁷ James K Jackson et al., “Global Economic Effects of COVID-19” (Washington, D.C.: Congressional Research Service, 2020), 32–33. G-7 countries are Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States.

²⁷⁸ Jackson et al., 34.

²⁷⁹ David Shullman, “How China Is Exploiting the Pandemic to Export Authoritarianism,” War on the Rocks, March 31, 2020, <https://warontherocks.com/2020/03/how-china-is-exploiting-the-pandemic-to-export-authoritarianism/>.

²⁸⁰ Laura Castanon and Eunice Esomonu, “Why Is China Containing COVID-19 Better than the US?,” News@Northeastern, June 26, 2020, <https://news.northeastern.edu/2020/06/26/new-cases-of-the-coronavirus-in-china-leveled-off-in-less-than-a-month-of-restrictions-why-hasnt-the-us-had-the-same-success/>.

²⁸¹ Xiangfeng Yang, “Domestic Contestation, International Backlash, and Authoritarian Resilience: How Did the Chinese Party-State Weather the COVID-19 Crisis?,” *Journal of Contemporary China* 1–15 (2021), <https://doi.org/10.1080/10670564.2021.1893557>.

statements that disturbed the public order.²⁸² The Chinese mis-messaging to cover up the severity of COVID-19 had only just begun.

Panels of Chinese medical experts—loyal to the party—dispatched to Wuhan reported false statements of transmissibility each time the world uncovered new facts.²⁸³ Doctors' messages into a disease early warning system were either obstructed or deleted to further the cover-up. The WHO requested the PRC to verify an outbreak of disease had occurred, but instead, the Wuhan Public Security Bureau responded it had “taken measures against eight law breakers and warned against manufacturing, believing, or spreading rumors.”²⁸⁴ Additionally, the Chinese government continued to underreport infection numbers, even once China acknowledged the extent of the outbreak. Despite all this, Chinese President Xi Jinping visited Wuhan in March 2020 to declare victory over COVID-19, a propaganda message meant for the world, but the battle was still far from over within the country.²⁸⁵ The long-term effects of the initial handling by the Chinese remains to be seen.

Communal outbreaks of COVID-19 occurred in numerous other provinces, and once detected, similar lockdowns to Wuhan went into place—affecting millions more around the country.²⁸⁶ This effort appeared to work, and within two months, the pandemic peaked, while across the globe, it was going generally unchecked.²⁸⁷ The control allowed PRC messaging officials to advertise the Chinese victory over COVID-19 and provide resources other world leaders—such as the United States—could not provide since most

²⁸² The Lancet, “Li Wenliang,” *The Lancet* 395, no. 10225 (February 29, 2020): 682, [http://dx.doi.org.libproxy.nps.edu/10.1016/S0140-6736\(20\)30382-2](http://dx.doi.org.libproxy.nps.edu/10.1016/S0140-6736(20)30382-2). Dr. Wenliang later died after contracting COVID-19 from one of his patients.

²⁸³ Yang, “Domestic Contestation, International Backlash, and Authoritarian Resilience.”

²⁸⁴ Annie Sparrow, “The Chinese Government’s Cover-Up Killed Health Care Workers Worldwide,” *Foreign Policy*, March 18, 2021, <https://foreignpolicy.com/2021/03/18/china-covid-19-killed-health-care-workers-worldwide/>.

²⁸⁵ Sparrow.

²⁸⁶ Castanon and Esomonu, “Why is China Containing COVID-19 Better than the US?”

²⁸⁷ Amy Gunia, “Would China’s Draconian Coronavirus Lockdown Work Anywhere Else?,” *Time*, March 13, 2020, <https://time.com/5796425/china-coronavirus-lockdown/>.

were embattled with their own COVID-19 struggles.²⁸⁸ This strategy turned COVID-19 into an agent of Chinese soft power.

While other countries struggled to provide the supplies needed to fight a pandemic, China shipped N95 masks, protective suits, testing kits, ventilators, and loans to over 120 countries as substantial evidence of Chinese success messaging.²⁸⁹ The Chinese government officials called the global response, “The most intensive and wide-ranging emergency humanitarian operation since the founding of the People’s Republic of China in 1949.”²⁹⁰ President Jinping said the Party must “tell China’s story well, spread China’s voice, and strengthen [China’s] narrative power internationally.”²⁹¹ The openness of China’s ambitions has fueled a power competition amid a pandemic and possibly reordering the international system after the outbreak subsides. When combined with the United States’ early mismanagement of COVID-19, the consequence of “America First” foreign policy, and the openness of countries willing to accept China’s aid, the reshuffling of power and influence seems inevitable.²⁹²

The COVID-19 pandemic might only be an inflection point in a shift already occurring in global influence by the Chinese. China launched the Belt and Road Initiative (BRI) to connect China to Asia, Africa, and Europe along the historic Silk Road.²⁹³ The long-term economic strategy also includes health care initiatives, devising the “Health Silk Road,” China aims to provide health care assistance and financial incentives to underdeveloped and emerging countries.²⁹⁴ The strategy had so much of an impact that

²⁸⁸ Bates Gill, “China’s Global Influence: Post-COVID Prospects for Soft Power,” *The Washington Quarterly* 43, no. 2 (April 2, 2020): 97–115, <https://doi.org/10.1080/0163660X.2020.1771041>.

²⁸⁹ Mulakala and Ji Hongbo, “Covid-19 and China’s Soft-Power Ambitions.

²⁹⁰ Mulakala and Ji Hongbo.

²⁹¹ Gill, “China’s Global Influence.”

²⁹² Mira Rapp-Hooper, “China, America, and the International Order after the Pandemic,” *War on the Rocks*, March 24, 2020, <https://warontherocks.com/2020/03/china-america-and-the-international-order-after-the-pandemic/>.

²⁹³ Kun Tang et al., “China’s Silk Road and Global Health,” *The Lancet* 390, no. 10112 (December 9, 2017): 2595–2601, [http://dx.doi.org.libproxy.nps.edu/10.1016/S0140-6736\(17\)32898-2](http://dx.doi.org.libproxy.nps.edu/10.1016/S0140-6736(17)32898-2).

²⁹⁴ The Lancet Global Health, “Facing Forwards Along the Health Silk Road,” *The Lancet Global Health* 5, no. 10 (October 1, 2017): e948, [https://doi.org/10.1016/S2214-109X\(17\)30349-2](https://doi.org/10.1016/S2214-109X(17)30349-2).

WHO Director-General Tedros Adhanom Ghebreyesus said, “We can all learn something from China.”²⁹⁵

Governments worldwide are investing in research, testing, production, and distribution systems to take control back from the disease. The United States President Donald Trump announced the effort named “Operation Warp Speed,” a joint public-private partnership initiated by the United States government, with the overall goal of cutting the typical timeline of years to develop a vaccine down to months.²⁹⁶ Amazingly, the global efforts have worked, and several vaccines are available with varying rates of efficacy.²⁹⁷ Despite the ranges, the vaccine still provides hope to ending the pandemic. Along with other countries, the PRC developed a COVID-19 vaccine and prioritized the vaccine exports over domestic distribution, creating a “vaccine diplomacy.”²⁹⁸ China’s willingness to export its vaccine to Europe increased its clout in Europe, which struggled with pandemic and limited vaccine availability.²⁹⁹ For example, senior officials from Hungary, the Czech Republic, and Serbia reiterated, “China was offering initial shipments of one million doses deliverable within days of signing a contract—a contract with Western companies typically deliver over months and whose shipments have seen delays in Europe.”³⁰⁰

Regions beside Europe are benefiting from China’s vaccine diplomacy as well. China pledged to prioritize Mekong countries and other Southeast Asian countries with vaccines as early as August of 2020.³⁰¹ The heightened United States-China tensions in

²⁹⁵ The Lancet Global Health, e948.

²⁹⁶ John P. Moore and P. J. Klasse, “COVID-19 Vaccines: ‘Warp Speed’ Needs Mind Melds, Not Warped Minds,” *Journal of Virology* 94, no. 17 (August 17, 2020), <https://doi.org/10.1128/JVI.01083-20>.

²⁹⁷ James Palmer, “China’s Coronavirus Vaccine Diplomacy Has Mixed Results,” *Foreign Policy*, April 7, 2021, <https://foreignpolicy.com/2021/04/07/china-coronavirus-vaccine-diplomacy-sinovac-sinopharm-mixed-results/>. Chinese scientist are reporting the efficacy percentages and often the results are misleading or modified to fit into the Chinese narrative.

²⁹⁸ Palmer.

²⁹⁹ Pancevski, “China’s Covid-19 Vaccine Diplomacy Boosts Its Influence in Europe.”

³⁰⁰ Pancevski.

³⁰¹ Dingding Chen, “Is China’s COVID-19 Diplomacy Working in Southeast Asia?,” *The Diplomat* (Tokyo, United States: Tribune Content Agency LLC, February 19, 2021), <http://search.proquest.com/docview/2491564318/abstract/33EC21F697934B48PQ/1>.

the region further politicized the pandemic and vaccine distribution. Cambodia's Prime Minister accepted 600,000 vaccines from China despite the animosities from the country's withdrawal from the international vaccine efforts and asked the public to disregard the origins of the vaccine.³⁰² Other countries have followed suit; Thailand and Vietnam withdrew from the global cooperation called Covax to rely on China's vaccine solely.³⁰³

The rebranding of China has other effects on the international system and the global reordering. The COVID-19 pandemic illustrated the ideological change of some countries in response to disease and shows the fundamental importance of good governance, despite the type.³⁰⁴ All government types had their success and failures, but the Chinese model of control over the handling of COVID-19 is alluring to nations still struggling to control the pandemic.³⁰⁵

The struggle cannot be more evident than with India as it confronts yet another surge of COVID-19 in the spring of 2021. The reluctance of the United States to provide aid to India forced Indian companies to seek deals with Chinese firms to import oxygen and personal protective equipment, giving the appearance that China was there to help another deserted American ally.³⁰⁶ Former Indian foreign secretary Kanwal Sibal commented about the aid, "There's always a hidden agenda behind Beijing's outreach in such matters. China wants to signal to India that America is not a reliable partner and drive a wedge between Delhi and Washington who share a good relationship."³⁰⁷ The former Indian ambassador to Kazakhstan, Sweden, and Latvia further commented, "In a democracy, the government has to be mindful of public opinion. India would've played right into China's hands if it had accepted its offer of help considering the latter is always on the lookout for domination on the geopolitical stage. Helping India in such a crisis would

³⁰² Dingding.

³⁰³ Chen, "Is China's COVID-19 Diplomacy Working in Southeast Asia?"

³⁰⁴ Rapp-Hooper, "China, America, and the International Order after the Pandemic."

³⁰⁵ Shullman, "How China Is Exploiting the Pandemic to Export Authoritarianism."

³⁰⁶ Neeta Lal, "As U.S. and China Offer Coronavirus Aid, India Wary of Hidden Agendas," *South China Morning Post*, April 27, 2021, The Coronavirus Pandemic edition, <https://www.scmp.com/week-asia/health-environment/article/3131268/us-and-china-offer-coronavirus-aid-india-wary-hidden>.

³⁰⁷ Lal.

have conveyed those optics.”³⁰⁸ The potential destabilization of the United States’ relationship with yet another ally further showcased the extent the Chinese will go to unbalance the international order. U.S. inattentiveness against a predictable threat—disease in this case—left a gap for destabilization and showed a weakness in American strategy.³⁰⁹ Dr. John Arquilla and Dr. Nancy Roberts from the Naval Postgraduate School summarize the weakness by saying, “A good grand strategy must protect the people against microbes as well as missiles.”³¹⁰

The short-term effects on the international order caused by COVID-19 remain conditional. Current trends favor an increase in Chinese influence in Europe, Africa, and Asia by the BRI, the Health Silk Road, and their vaccine diplomacy. The United States and other nations’ mishandling of the pandemic left a void of influence, which China has filled with medical supplies, financial aid, and vaccine priority. In this case, China’s handling of the pandemic put it in a favorable position over other great powers. The apparent selflessness of China to export vaccines over the internal distribution of vaccines furthers its position as a solution to the problem. Until the pandemic subsides and the pandemic “new normal” is no more, it will be challenging to predict how the international order will fall, but signs point towards a realignment of power.

C. CONCLUSION

In both cases, a novel disease escaped from China because of global connectedness, and international cooperation turned the tide of the disease in the case of SARS. However, it still cannot be determined for COVID-19 yet. However, the power competition which emerged further fueled an ongoing struggle in power politics. The first, SARS, was contained regionally, while the second, COVID-19, astounded the world and became a global pandemic. Despite current medical technologies, globalization has connected the

³⁰⁸ Lal.

³⁰⁹ John Arquilla and Nancy Roberts, “How the Coronavirus Exposed the Flaws in America’s Security Strategy,” *The National Interest* (The Center for the National Interest, August 16, 2020), <https://nationalinterest.org/feature/how-coronavirus-exposed-flaws-america%E2%80%99s-security-strategy-166830>.

³¹⁰ Arquilla and Roberts.

world unlike any time in human history. The SARS outbreak mainly affected the Southeast Asian region, and China was there to profit from the region's despair, gaining influence through cooperation strategies. With the COVID-19 pandemic, China recovered first and quickly began to export its narrative of containment and quelling of the outbreak. The mishandling of the pandemic by other great powers left a power void in developing regions, and China was more than willing to fill it with its vaccine diplomacy. The final outcome of the seating of the great powers is still debatable, but China has gained influence which the United States might not be able to regain for some time.

VII. CONCLUSION

The “plague gap” throughout the history of international relations exposed the critical exclusion of disease as a contributor to power shifts. The cases here reveal the underlying strain disease has put on the essential elements of power—military, economic, political, societal, and technological means and resources in the international system. This thesis identified the fundamental nature of disease as one of the variables in GPC, and one that has not received adequate attention given the stakes.

A theme became evident about disease’s impact on national power during the course of this research: connectedness is both a source of power in the movement of people and goods and a liability in the spread of disease. Expansion drove trade and exploration into foreign lands and required the movement of troops to secure the voyages. Armies were exposed to novel diseases and unknowingly introduced them into the civilian population, often with disastrous effects. Disease has sometimes halted an empire’s expansion and signified slow decline.

A. OBSERVED THEMES

The lessons are not limited to older empires though. Several examples of epidemics in more modern times reveal this theme too. The global Spanish Influenza outbreak circulated by troop movements in support of WWI and the COVID-19 pandemic that spread to every continent in today’s globalized world demonstrate the theme of connectedness as a source of power and liability for disease.

Another observed theme is that urbanization marks the development of empires—the Roman Empire, for example—but is also a conduit for disease spread. As with the Athenians, Romans, and Byzantines, densely populated capitals and trade centers enabled the quick spread of disease. The combination of unsanitary conditions and medical insufficiencies incapacitated the empire’s ability to recruit new troops and adequately preserve the states’ status. Several of the case studies exhibit this theme. In the Athenian example, the onset of smallpox in the early years of the Peloponnesian War limited the resupply of troops and undermined a successful defense against the Spartans. The Romans

and Byzantines stretched their borders throughout Eurasia, but this required the movement of goods and troops, which provided a pathway for disease. The introduction of disease into the capitals stunted the expansionist thoughts and possibly began the decline of the empires. Another example is the Aztec capital of Tenochtitlan and the thousands of citizens housed in close quarters. The populations were vulnerable to disease, and once introduced, the people were unable to maintain viable defenses. The introduction of disease into urban areas holds with recent disease outbreaks of SARS and COVID-19.

Disease also affects power transitions by eroding human resources, occasional leadership death and societal chaos. The Athenians, Romans, Byzantines, Aztecs, British, Native Americans experienced manpower disruptions because of disease. The shortages hindered the groups' ability to fill the military ranks because of disease and caused the eventual transfer of power in the region. In the case of Athens, the Romans, and the Aztecs, the death of charismatic leadership sent the empires into turmoil and destabilized them. The societal turmoil spans from the "Golden Age" of Athens to the most recent pandemic in this thesis—COVID-19.

Disease may also be used strategically as an offensive or defensive weapon to pursue or sustain power. In the Spanish conquistadors in Mexico and the British Army in North America, disease played a lead role in the power transition. The Spanish unknowingly introduced smallpox to the Aztecs, and the British knowingly introduced smallpox to the Native Americans. In each case, the defender could not overcome smallpox. Contrary to the previous offensive uses of disease, the Spanish in Cuba showcased the power of disease as a defense. The Spanish New World colonizers understood their immunities to yellow fever and designed their fortifications to greater expose the British to the effects of disease. The British might have realized the lessons learned from Havana and implemented the tactic against the Native Americans.

Disease may either foster global cooperation or competition. The effort to eradicate smallpox saw the unlikely alliance between the U.S. and the USSR during the Cold War. The collaboration highlighted how effective the fight against disease could be if the Great Powers combined resources for the greater good. The smallpox vaccine diplomacy was a success story, and in large, smallpox has remained eradicated globally. The fight against

AIDS demonstrated another worldwide collaboration to eliminate disease. However, the potential competition to provide treatments for nations unable to afford the “cocktails” foreshadow the COVID-19 vaccine diplomacy employed by China today.

Finally, disease fighting narratives play a role in projecting success and power. In SARS and COVID-19, China isolated the disease outbreak and then exported a success storyline, which painted a positive picture of their handling of the situation, despite the back story. When combined with desperation from other countries engulfed in disease containment efforts, the best answer might not often be the correct answer in GPC. The struggle of the U.S. and the EU created a potential power transition to China. China had the will and ability to mitigate the pandemic. This provided an outlet for China to leverage influence over nations that had previously relied on the U.S. or EU for support.

B. FUTURE IMPACTS OF DISEASE

During this research, I have been fascinated by the impact of disease throughout history. The themes mentioned above all demonstrated the powerful effect of disease on power transitions. Each chapter introduced a new connection between disease and power filling the “plague gap.” As the thesis progressed, I was hard-pressed not to think of the U.S.’ position compared to other mighty empires and the outcome. Maybe China will surpass the U.S. after COVID-19. In the case of the Roman and Byzantine Empires, disease halted outward expansion and indicated decline. Can this happen to the U.S., or did it possibly start before COVID-19? Conceivably, the U.S.’ global influence had already declined. Did COVID-19 only accelerate the inevitable?

All these questions are unanswerable right now, but the international order will become apparent as the dust settles. Future research will be needed once COVID-19 concludes. The global position—in terms of influence—of each Great Power before and after COVID-19 will provide a clearer picture. Two effects seem probable: novel diseases will continue to infect societies; and how a nation responds to the impact of disease will determine whether it gains or loses power.

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