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## Introduction

Thou shalt call thy walls Salvation and thy gates Praise.  
—Isaiah 60:18

**WHILE THE ABOVE BIBLICAL QUOTE** reflects a prodefense sentiment often evident since man established boundaries, by the second half of the twentieth century a general disdain emerged for the continuing utility of walls, fortresses, and other barriers. The improved precision and destructiveness of weapons as well as the enhanced mobility of militaries appeared to render physical works obsolete. In the late 1950s, Yigal Allon, one of Israel's early military heroes and strategic thinkers, captured the prevailing view by observing that "no modern country can surround itself with a wall."<sup>1</sup> Fifty years later, however, a range of nations including Afghanistan, Botswana, India, Saudi Arabia, Thailand, and the United States have increasingly been attracted to such barriers, none more than Allon's Israel.<sup>2</sup> Walls stand guard along its frontiers with Lebanon, the Gaza Strip, increasingly the West Bank, and possibly soon Egypt. The relative effectiveness of these ground-based works at controlling cross-border traffic has encouraged adversary attack from the sky. Whether it be the frequent homemade Qassam rockets shot from the Gaza Strip (about three thousand through January 2008), the mixture of rockets and missiles launched by Hezbollah during the 2006 Lebanon War (more than four thousand total), or the longer-range, potentially nuclear-armed ballistic missiles potentially possessed by hostile Middle East states, a high threat perception has arisen.<sup>3</sup> In response, the Israeli Defense Forces (IDF) has pursued multiple missile defense systems, some with colorful names such as Iron Dome and David's Sling, to be part of a multilayer network. Although the West Bank "separation barrier" has controversially deviated from the Green Line (the 1967 Israel–West Bank border) in some areas, defense efforts overall have been met with approval across the political spectrum.

A growing sense of vulnerability has also prompted considerable interest in strategic defenses in the United States, albeit with far less agreement than

in Israel. Buffered by the Atlantic and Pacific oceans as well as protected by its overwhelming size and strength, Americans historically displayed a negligible desire to erect artificial barriers along its borders. The military constructed fortifications at times, but these were concentrated on protecting key harbors rather than securing lengthy frontiers. Even this limited effort declined in the twentieth century with the perceived obsolescence of coastal defenses as military and naval technology evolved.

In recent decades a diverse set of political, military, economic, and social challenges (e.g., ballistic missiles, illegal immigration, narcotics, and terrorism) has elevated perceptions of vulnerability. This concern has led to a wide range of efforts from basic fencing to ballistic missile defense. Whether through solid physical structures or virtual walls employing detection sensors, proponents have touted barriers' potential to control population and material flows along the approximately two-thousand-mile border with Mexico. Yet much of the public remains ambivalent, dubious, or even hostile to such an effort. Criticism focuses on the idea of a barrier more than questions of feasibility, although even measures such as the Secure Fence Act of 2006 will continue to leave most of the border without walls.

By contrast, feasibility (cost and technical difficulty) concerns undergird opposition to developing ballistic missile defense. Advocates stress that these hurdles can be overcome with sufficient resources, and they note significant progress to date in obtaining the capability to defeat missiles fired by a rogue state. Even if effective, opponents counter that excessive concentration on this avenue of attack will leave insufficient resources for alternative means by which an enemy could readily turn. With the threats and vulnerabilities to U.S. soil real and likely long-standing, the debate on the value of strategic defenses appears set to continue indefinitely.

While technical examinations and contemporary political analyses represent important tools for assessing barriers' potential, advocates and critics often attempt to bolster their arguments by selectively wielding or distorting history of past strategic defenses. Most problematic is the tendency of journalists, analysts, and politicians to attribute to past strategic defenses blame for broader policy failures and thus reason to oppose contemporary efforts or proposals. An extreme example observes that despite building Hadrian's Wall, the Romans still abandoned Britain.<sup>4</sup> Attributing causality to an event almost three hundred years after the barrier's construction is an absurd standard by which to judge barrier effectiveness. Similarly, proponents of barriers tend to assert extreme claims for their potential contribution to security. The resulting dynamic is for critics and proponents to talk past each other, adding highly subjective versions of the past to bolster their arguments. Even historians, usually more circumspect, have been

prone to apply sweeping characterizations on this topic. For example, critic Julia Lovell declares that “perhaps because frontier walls originally cost so much time and money to build, those subsequently left responsible for their upkeep often found it painful to denounce them as a strategically useless waste.”<sup>5</sup> By contrast, Martin Van Creveld observes that “history shows that walls, provided people are prepared to do what is necessary to defend them and prevent other people from crossing them, by using lethal force if necessary, work. If not for technical reasons—there never has been, nor can be, such a thing as an impregnable wall—then for psychological ones; and if not forever and perfectly, then for long periods and to a very large extent.”<sup>6</sup>

Scholars of international relations and security studies have not significantly advanced understanding of strategic defenses through historic investigation. While academics have engaged in theoretical and technical examinations of the missile defense dimension, most scholarly attention over the last thirty years has been directed at the tangentially related offense–defense theory, which posits that the greater the military advantage for the offense, the more likely war is to occur, all else being equal. By contrast, the greater the edge for defense, the more stable the international system. Offense–defense theory has been a source of considerable debate between ardent proponents and strident critics over substantive, methodological, and definitional issues, including at the most basic level whether “offensive” and “defensive” weapons exist.<sup>7</sup> As unmovable structures, walls represent the most defensive of systems. Yet such an understanding is overly simplistic given an ability to use other weapons in conjunction with barriers to achieve a more potent offensive capability. Moreover, walls placed on disputed or foreign soil may be tactically defensive but strategically offensive. Their application, like all weapons, is context dependent. This reality explains why nations might view a given strategic defense in fundamentally different ways. For example, at the 1932 World Disarmament Conference, the French argued that fortifications were defensive while the Germans contended they were offensive.<sup>8</sup> Such experience highlights the dilemma of trying to classify walls as purely defensive and the need to distinguish between a physical structure and a strategic–military orientation.

Regardless of the merit of offense–defense theory, a need exists for better understanding the general strengths and weaknesses of employing strategic defenses. Most existing studies of strategic defenses are done as individual works, which prevents comparative insights. Moreover, these works tend to focus on the physical elements of the structure (e.g., system design, materials used, and building specifications) or their history in battle. A sound understanding of why such a course of action was adopted is critical to appreciating the barrier’s role and accurately assessing its impact, especially the influence on subsequent

internal perceptions and policymaking. The few efforts that have sought lessons learned regarding strategic defenses either employed abbreviated barrier sketches or possessed a broader lens related to border dynamics.<sup>9</sup>

All of these works are helpful but fail to exploit the potential of past barrier experiences for generating useful insights to current and future considerations of these structures. If a conference was held for history's greatest wall builders—such as Themistocles, Pericles, Meng Tian, Hadrian, Anthemius, Vauban, Yu Zijun, André Maginot, and Carl Gustav Mannerheim—and their successors who directed security policy under the protection of such strategic defenses, what findings would the group report? The wall builders could be expected to stress the benefits of such structures, but would a clear divide exist between them and their successors? What would have surprised them given previous efforts to construct such a barrier? Could they have done it better, and, if so, how? Alas, no such meeting can take place. Instead, an in-depth exploration of some of their works is both doable and potentially rewarding regarding the pressures and tendencies that result from strategic defenses.

Before addressing the best investigatory approach and case selection, a brief discussion of terminology and basic concepts is needed. As evident from just the few preceding pages, myriad terms exist to characterize man-made security obstacles including barriers, defenses, fences, fortifications, lines, walls, and strategic defenses. In a recent encyclopedic work on fortifications, Guy Le Hallé includes hundreds of defense elements from “abatis” to “zigzag.”<sup>10</sup> Historian John Keegan notes that basic fortifications fall into three categories depending on their purpose: refuge—temporary shelter from attack; stronghold—individual positions for sustained, active defense; and strategic defense—continuous or mutually supporting works denying the enemy avenues of attack across a front.<sup>11</sup> This study will focus on the third and most ambitious type—strategic defenses, some of which cover hundreds or even thousands of miles. Barriers, lines, walls, and fences all represent different ways to describe strategic defenses, albeit some with slight variation in meaning. For example, wall is usually applied when a continuous curtain exists (e.g., Hadrian's Wall and the Great Wall of China) while lines tend to represent discontinuous but mutually supporting fortification works (e.g., Maginot Line). When a particular term has been attached historically to an effort, I employ it; otherwise, the terms along with strategic defense should be viewed as synonymous in their basic meaning.

Finally, since the early twentieth century, the invention of aircraft and then missiles transformed the sky into an avenue of attack concerning defenders. The Germans in 1940 erected the first meaningful air barrier, the so-called Kammhuber Line with radars, searchlights, flak guns, and ground-controlled fighters guarding the northwest approach against British night-time bombing sorties.<sup>12</sup> Although different types of systems are employed to guard against ground and

air threats, the strategic dynamics are analogous, and thus they can be treated as a common problem.

Regardless of the terminology, using man-made barriers to help seal off or at least safeguard a front may be done for a variety of purposes. States may want to dissuade others from challenging it by demonstrating the polity's greatness through symbolism. Alternatively, leaders may hope to deter attacks by undermining enemy expectations of success, at least at acceptable cost or risk. This type of deterrence, known as deterrence by denial, contrasts with the more common retaliatory-based method known as deterrence by punishment. A lack of confidence in dissuasion and deterrence may prompt a desire for the actual ability to block enemy aggression. Additionally, decision makers have often sought enhanced frontier control to impede low-level attacks, manage human traffic, regulate commerce, or collect taxes. These control goals drive most of the efforts under way or being considered today.<sup>13</sup> Alternatively, strategic defenses along one front may function as a force multiplier to enable concentration of military resources in other areas. Such a system could also serve as a base from which to project power. Leaders usually envision strategic defenses performing more than one of these objectives. An aim of this study is to examine leaders' relative ability to satisfy these varied objectives and under what conditions and constraints.

Strategic defenses are not the only option available to states when facing a threatening adversary. Although the actual courses of action are context specific and infinite in variety, they can essentially be grouped into three basic categories: accommodation, offense, and defense. Accommodation strategies consist of attempts to "demotivate" enemy hostility through political, economic, and informational measures. Offense-based approaches involve projecting military force into territory controlled by the adversary or its allies to eliminate or diminish the danger. Defense-based efforts cover the application of military force along the frontier or within the state. Man-made obstacles can greatly enhance such an approach. Adopting a forward-based defense represents a gray area between offense and defense but is an approach that involves the power projection without fortifications. This typology excludes the always available option of doing nothing and the relatively recently and selectively available approach of emphasizing countervalue threats to coerce the desired behavior. Indecisive leaders often choose to take no action, but such a "choice" represents a temporary delay that environmental pressures will likely make untenable in time. Although nuclear powers can employ countervalue threats without first defeating the adversary's military, this strategy has limited applicability given its lack of credibility against challenges not involving existential danger. This limitation plus the option's lack of existence for most of history has prompted its exclusion from further discussion.

For policymakers, a fundamental distinction separates a defense-based strategy from the other two approaches. Strategies employing offense or accommodation potentially offer ways to eliminate the threat through military and political actions, respectively. By contrast, defense can at best temporarily prevent harm. The enemy's hostile attitude and military capability remain intact with the former possibly exacerbated. "Buying time," however, might provide considerable benefit in the short or medium term, if other options are impractical. Moreover, leaders may attempt to create opportunity with strategic defenses by reducing vulnerability, thus bolstering the potential for either an offensive or accommodation in a combined approach. Complementary efforts are delicate to implement, but the logic for such courses of action appears to exist given the weaknesses often evident with pure approaches.

With these basic policy avenues available, policymakers have been deciding to erect strategic defenses since at least circa 1990 BCE when the Egyptian pharaohs of the Twelfth Dynasty tried to secure the Nubian frontier across the Nile River.<sup>14</sup> Hundreds of such barriers have been built over the subsequent four thousand years. A few defenses retain great fame or infamy, such as the Great Wall of China, Hadrian's Wall, and the Maginot Line, but most are obscure, including the Great Wall of Gorgan (Iran), the Zasechnaya Cherta or Great Abatis Line (Russia), the Great Wall of the Dutch Republic, Offa's Dyke (Britain), the Glomma River Line (Norway), and the Metaxas Line (Greece). Although a quantitative study of all such strategic defenses might reveal some interesting correlations, the enormous variance among the type, composition, context, and purpose of systems creates severe coding problems. More importantly, such a quantitative approach is less apt to provide insights into their effects, especially on perceptions. Rather, the comparative case method with a limited number of in-depth explorations should better enable assessing the value of strategic defenses in three fundamental and interrelated dimensions.

First, how does the barrier affect adversary perceptions of the building state's intent and capability, and how does it shape its subsequent behavior? Second, how does the strategic defense system alter the military balance, both in the immediate and longer term? A very broad conception of "military balance" must be employed for barriers given the objectives pursued range from border control to conventional military defense. Lastly, how does the existence of a strategic defense influence the subsequent outlook, policy debate, and behavior within the originating state? This final dimension is traditionally neglected or underappreciated, but it may be the most critical element for effectively employing barriers. Answering these questions cannot be done exclusively through exploring the postconstruction experience. One must understand the context that shaped the range of options available as well as their relative appeal and the reasoning that ultimately led to employment of a strategic defense system.

The case selection criterion attempts to identify the experiences most germane for answering the key questions raised above. First, I excluded wartime efforts, which constitute most strategic defenses through history. Wartime is defined here as ongoing conventional military hostilities; thus it excludes periodic terrorism or other low-level violence among ardent adversaries. Such conflict barriers tend to be hastily and shabbily built, given the limited time and resources available. More importantly, officials erect these structures with only the simple, albeit demanding goal of blocking or at least slowing down or weakening an advancing enemy through attrition. Typifying such efforts were the dozens of strategic defenses established by the German military during its retreat during World War II. On the Italian peninsula alone, the Germans established more than forty lines, albeit only two (the Gustav and Gothic lines) with relatively robust works.<sup>15</sup> Although usually doomed, some wartime efforts have been notable successes, such as British general Wellington's Lines of Torres Vedras blocking the French assault on Lisbon in 1810–11. These works fail or succeed, but such questions of operational effectiveness are too narrow for our purpose.

Among nonwartime efforts, attention should be on strategic defenses pursued as a matter of choice rather than necessity. Weak states facing a strong adversary have no other viable recourse save capitulation. For example, although Finland's pre-World War II Mannerheim Line obtained great renown as a barrier, Helsinki had no real alternative to building defenses against Stalin and the vastly larger Soviet Union. The primary question for such barriers is their operational effectiveness, especially because the building state lacks the resources to erect robust fortifications. As Keegan observes, the existence of a major strategic defense "is always a mark of the wealth and advanced political development of the people who build them."<sup>16</sup> Such states with significant military, economic, and political resources can pursue the range of policy options discussed here. Moreover, the focus should be on contexts that allowed real options and legitimate debate. These cases are inherently interesting for understanding the relative value of strategic defenses, whether pursued in isolation or combination with another approach. They also belong to a class analogous to the environment faced by Israel and the United States today, the two states most directly engaged in debates about strategic defenses.

Upon narrowing down the candidates to cases of relative powers facing ardent adversaries in a nonwar environment, the remaining criteria reflect their suitability when judged as a group. Variance within the set of cases should allow for more robust lessons learned. First, efforts from distinct historical eras should be included given the combination of consistent political security dynamics and shifting military technology and strategic competition. Second, diverse decision-making structures should exist for the example of wall builders, including both democratic and authoritarian regimes. Finally, the full range of

the strategic defense motivations should be operative, including deterrence, frontier defense, and frontier control as well as combination approaches with other strategies. In addition to satisfying these requirements, sufficient information must be available to conduct the examinations, particularly when compared to their contemporary alternatives.

These requirements led to the selection of six cases with considerable historical variance. Study subjects include choices from the ancient (Athens' Long Walls and Hadrian's Wall), early modern (Ming Dynasty's Great Wall and France's Pré Carré), and modern (France's Maginot Line and Israel's Bar-Lev Line) eras. Only the medieval period among key fortification ages is neglected, but individual strongholds rather than strategic defenses were emphasized then. With two of the six cases being French and five of the six being Western, with Israel appropriately being regarded as such, greater geographic diversity would have been desirable. Yet non-European options are less viable candidates given the lack of sufficient information to assess decision making. Thus, I have selected cases without regard to geographic diversity.

The two ancient efforts covered—Athens' Long Walls and Hadrian's Wall—constitute the most noteworthy strategic defense systems of the age. The former, constructed in mid-fifth century BCE, connected the upper city of Athens with its primary ports on the Saronic Gulf to protect against the vaunted Spartan army. This case offers potentially interesting insights into the strategic role of walls for ambitious, rising powers. By contrast, Emperor Hadrian's decision to erect a wall in the early second century CE along the Roman frontier in northern England represents an attempt by an established power to stabilize and control a troublesome front. Limited information makes exploring these cases challenging, but the same constraint affects all ancient barriers, including the most logical alternatives, the Great Walls of the Chinese Qin and Han dynasties.

The early modern era marks perhaps the golden age of strategic defenses, but a compelling rationale exists for including the Ming Dynasty's Great Wall of China and Louis XIV's Pré Carré in northeastern France. The exclusion of the aforementioned Qin and Han walls was in part due to a preference for examining the better-documented Ming decision, beginning in the early 1470s, to build a barrier across its northern frontier. Designed to block penetration by the nomadic Mongols, this case appears to offer valuable insights into questions of frontier defense and control as well as evolving competition dynamics from walling off segments of the frontier gradually. With the introduction of the *trace italienne* fortress and nearly constant war, Europe during the early modern era offers a range of candidates for study. Yet the relatively obscure late seventeenth century effort by French king Louis XIV and his great engineer, Vauban, to establish the Pré Carré, a double line of fortresses facing the Spanish Netherlands, stands out. The regime ultimately expanded fortifications until the *frontière de fer*

(iron frontier) guarded an area extending from the Alps to the English Channel. Constructed by the strongest military power in Europe at the time, this system facilitates exploring the dual offense–defense potential for such works as well as the contrasting perceptions provoked between builder and adversary.

Among the modern efforts, any study of strategic defenses must include the Maginot Line, and Israel's usually ignored Bar-Lev Line also warrants examination. As perhaps the strongest fortification system in history, the French pre–World War II Maginot Line barrier needs to be addressed given its powerful legacy with defense critics. Obstructing only part of the frontier threatened by the German army, this case facilitates consideration of combination defense approaches as well as the barrier's effects on French attitudes and political-military decision making. Although existing for only a half decade (1969–73), the Bar-Lev Line helped guard the east bank of the Suez Canal when Israel possessed the Sinai Peninsula. In particular, this case enables consideration of the elements relating to perception, such as deterrence and subjective security, as well as the difficulty of conducting combination military approaches. I excluded the case of the Berlin Wall given the important barrier's unconventional primary purpose of keeping its own citizens from escaping rather than protecting against penetration by external threats.

Although case selection was heavily influenced by a desire to include examples from distinct historical eras, other desirable differences exist among the six subjects. First, the political systems are evenly split between democratic and authoritarian regimes. Similarly, balance exists between examples of essentially continuous walls and discontinuous lines. Finally, while each barrier usually served more than one purpose, the group in toto contains multiple examples of works designed to symbolize greatness and strength; to promote deterrence, frontier defense, and frontier control; to function as force multipliers; and even to facilitate power projection.

Historians themselves are generally loath to compare experiences, with good reason. Every case is *sui generis* in terms of both the nature of the adversary and the domestic and international factors influencing decision makers, especially if separated by over two millennia. Such recognition should preserve a prudent caution about generalized findings, but it does not preclude gaining crosscutting insights from well-executed explorations. While employing experts on each structure or country would produce better individual case studies, coverage of multiple works by a single analyst enhances the potential for identifying critical commonalities and differences.

To facilitate constructive analysis, this study employs the “structured-focused” comparison technique by applying a common template of questions (structure) to standardize data collection on particular aspects (focus) of each case.<sup>17</sup> The vast disparity of information on the decision making between the

**Table 1.1** Selected Cases for Investigation

Barrier	Location	Approximate Dates of Construction	Approximate Operational History
Athens' Long Walls	Fifth century: Connect Athens to key ports on Saronic Gulf	461–457 BCE	457–404 BCE
	Fourth century: Connect Athens to main port of Piraeus	446–442, 394–390 BCE	390–301 BCE
Hadrian's Wall	Across northern England from Tyne River near North Sea to Solway Firth	122–127	127–143; early 160s–410
Ming Great Wall	Initial Segment: Above Shaanxi Province along central northern frontier	1474	1474–1644
	Full System: Along northern frontier from Bohai Sea to Jiayuguan, approaching Central Asia	Mainly 1540s–1580s	1540s–1644
Pré Carré	Initial double line of fortresses along frontier with Spanish Netherlands	1678–1680	1678 through mid-nineteenth century (with major upgrades)
	Expanded fortifications covering French frontier from English Channel to Alps	1680s	
Maginot Line	Along French frontier with Germany and Luxembourg; strongest works on northern border of Lorraine	1930–1936	1936–1940
Bar-Lev Line	Along east bank of the Suez Canal	1968–1969	1969–1973

chapters, particularly when comparing the ancient experiences with twentieth century efforts, has prompted the use of questions relating to the contextual influences affecting leaders. That is, lacking a precise understanding of what motivated officials in some cases, more accessible environmental pressures can suggest likely explanations for known policy choices. This approach is not without some risk given the potential for decision makers to act in spite of contextual pressures. Nevertheless, the potential benefit of this broad exploration warrants proceeding, albeit with caution that a degree of uncertainty exists. Thus the first section of each chapter explores leader perceptions of the key contextual factors: relevant history, threat perception, military capability, strategic culture, resources, and domestic politics as well as the decision-making process through which these influences flow. The ensuing discussion considers how these related

factors interact to affect the generation of options and their relative appeal for officials. The remainder of each case study explores the obstacle's effects and evolution, including decisions to expand, alter, or abandon the effort. The conclusion assesses the influences of each strategic defense system on the adversary, the military balance, and the building state as well as briefly discussing the counterfactual of forgoing the barrier. While not attempting to articulate a formal "theory of walls," such an exploration may yield nuanced lessons learned about strategic defenses in each of these key dimensions to enhance assessments of and maximize the potential for future such efforts.

## Notes

1. Quoted in Avner Yaniv, *Deterrence without the Bomb: The Politics of Israeli Strategy* (Lexington, MA: Lexington Books, 1987), 17.
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4. Joel Garreau, "The Walls Tumbled by Time," *Washington Post*, October 27, 2006.
5. Julia Lovell, *The Great Wall: China against the World, 1000BC–AD2000* (New York: Grove, 2006), 18.
6. Martin Van Creveld, *Defending Israel: A Strategic Plan for Peace and Security* (New York: Thomas Dunne Books, 2004), 66.
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8. George Quester, *Offense and Defense in the International System* (New Brunswick, NJ: Transaction Publishers, 2003), 122.
9. See, e.g., Paul Seguin, *Strategic Performance of Defensive Barriers* (Aberdeen, MD: U.S. Army Environmental Hygiene Agency, 1988); and John Donaldson, "Fencing the Line"; and James Tracy, ed. *City Walls: The Urban Enceinte in Global Perspective* (New York: Cambridge University Press, 2000).
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12. J. E. Kaufmann and H. W. Kaufmann, *Fortress Third Reich: German Fortifications and Defense Systems in World War II* (Cambridge, MA: Da Capo Press, 2003), 141–42.

13. Donaldson, "Fencing the Line," 173–93.
14. Keegan, *History of Warfare*, 142–43.
15. Neil Short, *German Defenses in Italy in World War II* (Oxford: Osprey, 2006), 5.
16. Keegan, *History of Warfare*, 142.
17. Alexander L. George and Andrew Bennett, *Case Studies and Theory Development in the Social Sciences* (Cambridge, MA: MIT Press, 2005), 67–72.