

---

Spring 1994

# Military Culture and Inadvertent Escalation in World War II

Jeffrey W. Legro

*University of Richmond*, [jlegro@richmond.edu](mailto:jlegro@richmond.edu)

Follow this and additional works at: <http://scholarship.richmond.edu/polisci-faculty-publications>



Part of the [International Relations Commons](#)

---

## Recommended Citation

Legro, Jeffrey W. "Military Culture and Inadvertent Escalation in World War II." *International Security* 18, no. 4 (Spring, 1994): 108-42.

This Article is brought to you for free and open access by the Political Science at UR Scholarship Repository. It has been accepted for inclusion in Political Science Faculty Publications by an authorized administrator of UR Scholarship Repository. For more information, please contact [scholarshiprepository@richmond.edu](mailto:scholarshiprepository@richmond.edu).

# Military Culture and Inadvertent Escalation in World War II

Jeffrey W. Legro

**H**ow can the use of “unthinkable” means of warfare be avoided? How can states successfully observe mutually desired limitations on “taboo” forms of combat?<sup>1</sup> These questions are important because of concern that nuclear, chemical, and biological weapons and terrorism will spread and be used. The growing number of states—e.g., Israel, Iraq, Libya, North Korea, Ukraine—that have such means of inflicting harm increases the likelihood that any future conflict will involve a desire for restrictions. Countries may pursue restraint because popular opinion vilifies certain weapons;<sup>2</sup> because leaders calculate that escalation would damage their domestic and international political support;<sup>3</sup> or because states fear retaliatory attacks. Unfortunately, even when nations agree that limitations are desirable, restraint does not always endure. A key source of this disparity can be found in accidents and inadvertent escalation. In contemporary affairs among major powers, the apparent absence of grounds for intentional aggression, against a backdrop of change and instability, makes the unintended expansion of conflict a central concern.<sup>4</sup> States may not seek a spiral of hostility but still can stumble into escalation. Why?

---

Jeffrey W. Legro is Assistant Professor of Political Science at the University of Minnesota.

---

I am grateful to Robert Jervis, Ido Oren, Arthur Stein, Richard Rosecrance, and two anonymous reviewers for their comments on the ideas presented here.

---

1. The term “unthinkable” comes from Herman Kahn’s study on nuclear warfare, *Thinking About the Unthinkable* (New York: Horizon Press 1962). Here the terms “unthinkable” or “taboo” indicate the stigma attached by public opinion and the international community to the use of certain instruments of warfare. It does not mean that states, and especially their military organizations, do not think about, and plan for, their use in war.

2. Often there seems to be little logic to such a stigma. For example, in World War II it became acceptable to the allies to roast Japanese soldiers alive in caves with flame throwers, while the use of gas for the same task was considered by some to be illegitimate. There is a large literature on the “just” use of force from a moral or legal perspective. See e.g., Michael Walzer, *Just and Unjust Wars: A Moral Argument with Historical Illustrations* (New York: Basic Books, 1977); Geoffrey Best, *Humanity in Warfare* (New York: Columbia University Press, 1980); William V. O’Brien, *The Conduct of a Just and Limited War* (New York: Praeger, 1981).

3. In the 1990–91 Gulf War bomber and missile attacks against targets in Iraq, the U.S.-led coalition made concerted efforts to avoid civilian casualties which might show up on television and promote opposition to the war.

4. Accidents and inadvertence have received considerable attention recently. See Scott D. Sagan, *The Limits of Safety: Organizations, Accidents, and Nuclear Weapons* (Princeton: Princeton University

---

*International Security*, Vol. 18, No. 4 (Spring 1994), pp. 108–142

© 1994 by the President and Fellows of Harvard College and the Massachusetts Institute of Technology.

An intriguing set of cases from the Second World War offers new insights and leverage on the problem of taboo warfare and inadvertence.<sup>5</sup> In the interwar years, three means of warfare were especially singled out and denigrated as inhumane and illegitimate: submarine attacks against merchant ships, the aerial bombing of non-military targets, and the use of poison gas. At the outset of World War II, countries explicitly recognized and desired a distinct limit or “firebreak” between restraint and escalation in each of the three means of warfare, despite the fact that all were considered militarily significant. Shortly after fighting broke out, however, submarine warfare escalated beyond restrictions. Strategic bombing, restrained at first, was later employed extensively. In contrast chemical weapons, despite expectations and preparations, were never used. Accidents and inadvertence, while not always the main factor, were involved in each of these cases.<sup>6</sup> How were these incidents allowed to occur? Why did some unintended events lead to escalation, while others were brushed aside allowing restraint to endure?

I argue that the main existing theories of inadvertence—Clausewitz’s notion of friction, the security dilemma, and organization theory<sup>7</sup>—provide poor predictions for the events of World War II.<sup>8</sup> I develop and test an alternative approach, *organizational culture*, that provides a better explanation. Military cultures—beliefs and norms about the optimal means to fight wars—are important because they have a pervasive impact on the preferences and actions of both armies and states. While traditional organizational theory

---

Press, 1993); Barry Posen, *Inadvertent Escalation: Conventional War and Nuclear Risks* (Ithaca: Cornell University Press, 1992); Bruce G. Blair, *The Logic of Accidental Nuclear War* (Washington, D.C.: Brookings, 1993).

5. Much of the literature is limited by its focus on the bipolar U.S.-Soviet nuclear competition. The emerging multi-polar nuclear world, however, makes the historical experience of countries other than the two superpowers increasingly relevant, especially if, as I argue, restraint is influenced by national traits. The narrow concern with nuclear warfare precludes historical analysis of *variations* in use in this form of combat because of the welcome absence of instances of inadvertent nuclear escalation. One study that takes a historical comparative perspective on escalation is Richard Smoke, *War: Controlling Escalation* (Cambridge: Harvard University Press, 1977).

6. My broader study *Cooperation Under Fire* (Ithaca: Cornell University Press, forthcoming) examines the overall pattern of cooperation and conflict implicit in the restraint and escalation of World War II. This article focuses on the accidental and inadvertent elements of escalation rather than the intentional decisions of states to violate limitations.

7. These three are highlighted by Posen, *Inadvertent Escalation*, pp. 12–23.

8. A fourth image might be based on a realist “strategic rationality.” However, the focus of this essay is inadvertence where states do not desire escalation. From the perspective of a unitary state, a strategic rationale for accidental escalation makes little sense. Nonetheless, strategic rationality is discussed at different points below in order to better delineate the organizational culture approach.

emphasizes the importance of formal structure in causing uniform military behavior, a cultural approach contends that differences in belief can lead to dissimilar actions.<sup>9</sup> Military organizational cultures not only influence what types of accidents might occur, but more importantly, what the implications of those incidents will be for escalation. Where specific means of warfare are compatible with the dominant war-fighting culture of a country's key military services, that nation is likely to take actions that contribute to escalation. In such situations, the military will emphasize the antagonistic role the other side played, encourage propagandistic use of the incident, and highlight the advantages in escalation. Yet when a type of warfare is antithetical to one side's military culture, that state will support restraint even in the face of provocative enemy incidents. It will suppress information that might encourage escalation, accept accidents as such regardless of evidence, make efforts to communicate good will to the opposing side, and reject any internal proposals to seize propaganda advantages. In short, organizational culture leads to dynamics in use and restraint that are not predicted by the randomness of friction, the security dilemma, or traditional organization theory.

This argument has implications for both theory and policy. Much of the work in the security studies literature has emphasized the international determinants of the use of force such as the military balance, the struggle for security, or the prevailing norms or laws of war.<sup>10</sup> This emphasis, however, has tended to ignore important domestic determinants of escalation. The historical cases below indicate the powerful influence of organizational dy-

---

9. Whereas a cultural approach predicts that militaries can either foster or inhibit escalation, work in the traditional school such as Graham T. Allison, *Essence of Decision: Explaining the Cuban Missile Crisis* (Boston: Little, Brown and Company, 1971); Barry Posen, *The Sources of Military Doctrine: France, Britain, and Germany between the World Wars* (Ithaca: Cornell University Press, 1984); Posen, *Inadvertent Escalation*; and Richard Betts, *Soldiers, Statesmen, and Cold War Crises* (Cambridge: Harvard University Press, 1977), anticipates that all militaries will favor offense and tend to provoke escalation in war. Stephen Peter Rosen, *Winning the Next War: Innovation and the Modern Military* (Ithaca: Cornell University Press, 1991) challenges the monolithic view of organizations in his study of innovation, which emphasizes the politics of promotion, measures of strategic effectiveness, and the management of innovation. I argue that culture is critical to each of these three factors.

10. Sidney Verba, "Assumptions of Rationality and Non-rationality in Models of the International System," *World Politics*, Vol. 14, No. 1 (October 1961), p. 115; Arnold Wolfers, *Discord and Collaboration* (Baltimore: Johns Hopkins University Press, 1962), pp. 13–16; Theodore Lowi, *The End of Liberalism: Ideology, Policy, and the Crisis of Public Authority* (New York: Norton, 1969), pp. 158–160; Posen, *Sources of Military Doctrine*, pp. 59–79, 228–236; Charles Lipson, "International Cooperation in Economic and Security Affairs," *World Politics*, Vol. 37, No. 1 (October 1984), pp. 1–23; Benjamin Miller, "Explaining Great Power Cooperation in Conflict Management," *World Politics*, Vol. 45, No. 1 (October 1992), pp. 17–26.

namics *within* nation-states. My contention is not that militaries always tend to foster escalation, as traditional organization theory would suggest. Rather, the point is that the armed forces, depending on their culture, can either reinforce restraint or instigate escalation. In the past, countries have made considerable efforts both to reach diplomatic agreements (e.g., the Hotline, the Incidents at Sea accords) and to develop technical procedures (e.g., permissive action links [PALS] on nuclear weapons) intended to control unwanted events. My thesis suggests that leaders concerned with avoiding undesired escalation in future conflicts must also pay attention to and manage, not only the military organizations that implement the use of force, but also the beliefs and norms that characterize those organizations. This is no small task and it may demand a new system of civil-military relations, a topic taken up in the conclusion.

I develop this argument by first exploring the logic of three traditional approaches to inadvertent escalation—friction, the security dilemma, traditional organization theory—and the new one, organizational culture. These ideas, particularly the organizational culture perspective, are then assessed in comparative cases involving inadvertence in submarine, aerial, and chemical warfare between Britain and Germany in World War II. Finally, the concluding sections draw together the empirical evidence and outline the import of the findings for theory and policy on escalation and restraint.

### *Images of Inadvertence*

It might seem contradictory to speak of explanations of accidents and inadvertent escalation—phenomena that seem inherently unpredictable—but explanations do in fact exist. There are two elements demanding explanation. The first is to account for the *origins* of accidents—those unintended and unexpected events. The second issue, central here, is how to explain the *consequences* of accidents: why some lead to the widespread crossing of a recognized limit on war, while others are ignored and restraint endures. Four approaches offer answers: Clausewitz's notion of friction, the security dilemma, traditional organization theory, and organizational culture.

#### FRICION

The most widely accepted theory on accidents is Clausewitz's thesis presented in *On War*. He posits that accidents are unpredictable. His term for this is "friction" or "the fog of war." This concept asserts that a variety of

factors can impose themselves unexpectedly between plans and actual outcomes. For example, communication and control of forces are difficult in war; amidst the chaos of combat, intelligence is often uncertain or misleading; soldiers get scared or tired and make mistakes. Clausewitz writes, "This tremendous friction which cannot, as in mechanics, be reduced to a few points, is everywhere in contact with chance, and brings about effects that cannot be measured, just because they are largely due to chance."<sup>11</sup>

His theme is that accidents are random and unavoidable under the demands of battle. Clausewitz's ideas make intuitive and empirical sense. By their very definition, accidents have multiple and often unforeseeable causes. This thesis is somewhat blunt and only gives the most general notion of why and how they might come about. Nonetheless, the logic of Clausewitz's ideas suggests that unintended escalation is particularly likely when the employment of force is complex, when the battle is intense, and when information (on what one should do, or what the enemy is doing) is uncertain.<sup>12</sup>

The mishaps of the 1980 U.S. raid to free the hostages held in Iran exemplify the complexity, intensity, and "fog" problems that can beset military operations. The rescue effort was a high-stakes, high-risk multi-service mission in unfamiliar enemy territory. Although the weather forecast was for clear skies, the helicopters ran into giant dust clouds. At the "uninhabited" meeting spot in the middle of the Iranian desert, the rescue team encountered a bus-load of Iranian travellers. Three helicopters suffered problems that grounded them and resulted in the collapse of the overall operation. One helicopter was forced down by a crew member's simple mistake of leaving a flak jacket or duffel bag over an engine cooling unit.<sup>13</sup> No one could have foreseen these particular difficulties, but as Clausewitz warns, given the complexity and pressures of the operation, some undesired incidents were unavoidable.

---

11. Carl von Clausewitz, *On War*, ed. and transl. by Michael Howard and Peter Paret (Princeton: Princeton University Press, 1984), p. 120; also see pp. 113–122.

12. Modern day accident theorists echo Clausewitz's thesis by positing that unwanted incidents will be more likely in areas of warfare where there is technical and organizational complexity. Charles Perrow, *Normal Accidents: Living with High Risk Technology* (New York: Basic Books, 1984), pp. 3–4, 330–335. Perrow's argument is that complex organizations that deal with high-risk technologies will inevitably incur accidents. An application of this thesis in the military realm is Chris C. Demchak, *Military Organizations, Complex Machines: Modernization in the U.S. Armed Services* (Ithaca: Cornell University Press, 1991). For a test of this thesis vis-à-vis the nuclear weapons accidents of the United States, see Sagan, *The Limits of Safety*.

13. Paul B. Ryan, *The Iranian Rescue Mission: Why It Failed* (Annapolis, Md.: Naval Institute Press, 1985), esp. chapters 4 and 5.

#### THE SECURITY DILEMMA

What Robert Jervis and others have called the “security dilemma” links the structure and technology that characterize a conflict situation to the possibility of inadvertence.<sup>14</sup> This dilemma is produced by the anarchic nature of international relations that causes distrust among states: one state’s defensive efforts can make others less secure. The resulting insecurity leads to action and reaction, producing spirals of hostility and escalation, ending in an arms race or the actual use of force.

It is easy to grasp how the insecurity and uncertainty characteristic of ongoing armed conflict would produce fear on each side that the other might abrogate a pledge of non-use in order to gain an advantage. The security dilemma is magnified and escalation made likely when defensive capabilities cannot be distinguished from offensive ones and offense has the advantage. This structural circumstance seems particularly likely to lead to first use in two ways. First, when a state’s doctrines or weapons depend on surprise for effectiveness, that country has an incentive to undertake a first strike. Recognizing this incentive, an opponent is likely to be especially nervous about its vulnerabilities and will keep a tight finger on its trigger.<sup>15</sup> Leaders may face a “use-‘em-or-lose-‘em” dilemma, in which they perceive that their own security is endangered if they do not act first; this invites preemptive escalation. Thus, according to security dilemma logic, in war inadvertent escalation is likely when first-strike or use-‘em-or-lose-‘em incentives are present.

One example of the dangers of this dilemma comes from the fable of King Arthur at the battle of Camlan; a negotiation between two suspicious armies erupted into unpremeditated slaughter when one soldier drew his sword to kill a snake and others, thinking that a battle had begun, followed suit to defend themselves.<sup>16</sup> Similarly in 1890, during a U.S. Army search of a Sioux village, both soldiers and inhabitants had a tense grip on their rifles. When one rifle accidentally went off, a storm of unintended and unanticipated gunfire was unleashed; this became known as the Battle of Wounded Knee.<sup>17</sup>

---

14. Robert Jervis, “Cooperation Under the Security Dilemma,” *World Politics*, Vol. 30, No. 2 (January 1978), pp. 167–214. This dilemma is also captured by the notion of the “reciprocal fear of surprise attack” in Thomas C. Schelling, *The Strategy of Conflict* (Cambridge: Harvard University Press, 1980), pp. 207–208.

15. Jervis, “Cooperation Under the Security Dilemma,” pp. 187–205.

16. This comes from Herman Kahn, *On Thermonuclear War*, 2nd ed. (Princeton: Princeton University Press, 1961), p. 525, cited in Stephen Van Evera, “Causes of War,” Ph.D. diss. (University of California at Berkeley, 1984), pp. 40–41, where other examples of inadvertence can be found.

17. Sagan, *The Limits of Safety*, p. 263, describes this and other examples of accidental escalation.

The security dilemma notion captures how insecurity in certain situations can lead to unintended outcomes.

ORGANIZATIONS: TRADITIONAL APPROACH

A third perspective on accidents and escalation derives from organization theory applied to professional military bureaucracies. There are two variants: one that is quite common in the literature I will call “traditional,” while a second relies on a cultural perspective. The traditional view of militaries is that, like all organizations, they seek to maximize autonomy and size and to reduce uncertainty.<sup>18</sup> In the armed forces, these tendencies are expected to produce certain common characteristics, such as that militaries will prefer offensive strategies and that they will resist civilian intervention in operational planning and implementation.<sup>19</sup> The underlying premise of the traditional perspective is that similarly structured organizations with similar functions should have similar interests and behavior.<sup>20</sup>

In a general sense, the traditional perspective expects escalation because restraint contradicts the very nature of autonomy-seeking, offense-oriented, war-winning military organizations. Research has indicated that soldiers do not necessarily desire war, but that after the war is under way, professional warriors do seek operational autonomy and are inclined to use all means at their disposal. Gradualism and restraint can cost lives and are inconsistent with such hallowed military principles as concentration of force and the goal of total victory.<sup>21</sup> From a traditional organizational perspective, there is little reason to expect any dampening of escalation based on organizational influ-

---

18. Allison, *Essence of Decision*, pp. 67–100.

19. Building on Allison’s work, this is the interpretation given by Posen, *Sources of Military Doctrine*, pp. 41–59; Jack Snyder, *The Ideology of the Offensive: Military Decision-Making and the Disasters of 1914* (Ithaca: Cornell University Press, 1984), pp. 24–25; Stephen Van Evera, “Why Cooperation Failed in 1914,” in Kenneth Oye, ed., *Cooperation Under Anarchy* (Princeton: Princeton University Press, 1986), p. 97; Van Evera, “Causes of War,” esp. chapter 7; Leon Sigal, *Fighting to a Finish: The Politics of War Termination in the United States and Japan, 1945* (Ithaca: Cornell University Press, 1988), pp. 19–25. Snyder and Van Evera, while emphasizing the structural tendencies toward similarities among organizations (e.g., militaries are offense-oriented), seem to allow for the possibility of a defensive policy, depending on organizational essence. The latter view is more compatible with the notion of organizational culture developed below. On organizational essence see Morton H. Halperin, *Bureaucratic Politics and Foreign Policy* (Washington, D.C.: Brookings, 1974), p. 28.

20. Posen, *The Sources of Military Doctrine*, p. 37 states this most explicitly: “[Organization theory] predicts similar behavior of units in the context of similar structures.”

21. Betts, *Soldiers, Statesmen, and Cold War Crises*.



ence.<sup>22</sup> This perspective, however, would anticipate that accidents and inadvertent escalation are particularly likely in ways that are compatible with the standard operating procedures of the armed forces—i.e., where military organizations have developed routines for use of a particular means of warfare.<sup>23</sup> The proposition that follows from traditional logic is that inadvertent escalation is more likely in any means of warfare where military organizations have developed routines for use of that means.<sup>24</sup>

#### ORGANIZATIONS: CULTURAL APPROACH

An organizational culture view of inadvertent escalation predicts a different dynamic. In the last decade, culture has emerged as a central concept in organizational research, primarily in the field of business management.<sup>25</sup> The reason for this development was dissatisfaction with existing structural and functional organizational studies such as those found in the traditional approach discussed above. More specifically, analysts were puzzled why Japanese firms performed so differently (i.e., better) when their formal structures were so similar to those of Western companies. Many have contended that the answer is organizational culture: the pattern of assumptions, ideas, and beliefs that prescribe how a group should adapt to its external environment and manage its internal structure.<sup>26</sup>

---

22. Attesting to this expectation are the discussion and examples on organization theory given in Posen, *Inadvertent Escalation*, pp. 16–19.

23. For example, during the Cuban Missile Crisis, a routine U-2 mission went ahead as usual, but the aircraft strayed off-course over the Soviet Union, contributing to tensions that nearly led to a violent U.S.-Soviet clash. This and other examples are given in Allison, *Essence of Decision*, p. 141.

24. Van Evera, “Causes of War,” chapter 7, presents a detailed case on how the organizational dynamics of militaries favor escalation.

25. For an overview of the early evolution of the concept of organizational culture, see William G. Ouchi and Alan L. Wilkins, “Organizational Culture,” *Annual Review of Sociology*, Vol. 11 (1985), pp. 457–483; more recently see Peter J. Frost, et al., eds., *Reframing Organizational Culture* (Newbury Park, Calif.: Sage Publications, 1991). In security studies, the concept of culture has been applied in different ways. See e.g., Ken Booth, *Strategy and Ethnocentrism* (New York: Holmes and Meier Publishers, Inc., 1979); Jack L. Snyder, *The Soviet Strategic Culture*, R-2154-AF (Santa Monica, Calif.: The RAND Corporation, 1977); Colin Gray, *Nuclear Strategy and National Style* (Lanham, Md.: Hamilton Press 1986); Carl H. Builder, *The Masks of War Analysis* (Baltimore: Johns Hopkins University Press, 1989). Three notable recent studies are Elizabeth Kier, *Culture, Politics, and Military Doctrine: France and Britain Between the Wars* (manuscript, January 1993); Thomas U. Berger, “America’s Reluctant Allies: The Genesis of the Political Military Cultures of Japan and West Germany,” Ph.D. diss. (MIT, 1992); Alastair I. Johnston, “An Inquiry into Strategic Culture: Chinese Strategic Thought, The Para Bellum Paradigm, and Grand Strategic Choice in Ming China,” Ph.D. diss. (University of Michigan, 1993).

26. The definition given here is loosely based on Edward Schein, *Organizational Culture and Leadership* (San Francisco: Jossey-Bass Publishers, 1985), p. 9. Large organizations are rarely

Organizational culture deserves attention because it has an autonomous influence on the preferences of military services and ultimately on those of states. Cultures are not simply reducible to the desires of individuals who guide organizations, nor to the environmental circumstances in which they exist. Organizational cultures are more than the individuals that run the organizations, in two senses. First, culture is a collectively held phenomenon. It is not generally the reflection of a single leader nor is it some simple mathematical aggregation of many individual beliefs. Second, instead of individuals changing cultures, the reverse is usually the case: people are socialized by the beliefs that dominate the organizations of which they are part.<sup>27</sup> Those who heed the prevailing norms are rewarded and promoted. Those who do not are given little authority or are fired.<sup>28</sup>

Cultures are also not mere weathervanes to environmental forces or to “strategic rationality.”<sup>29</sup> The number of large companies that have failed to adapt to market changes are legion.<sup>30</sup> Organizational beliefs often determine which external circumstances get attention and how costs and benefits are weighed. Cultures act as a heuristic for organizational development, much the same way a theoretical paradigm can shape intellectual thought. They provide a limiting lens for interpreting and selecting what is important amidst uncertainty.<sup>31</sup> Environmental data and facts which contradict culture will be

---

characterized by one culture, but have several. Often, however, especially when the organization is hierarchically ordered, a dominant culture provides the main creed.

27. One theorist has noted that one “does not live for months or years in a particular position in an organization, exposed to some streams of communication, shielded from others, without the most profound effects upon what he knows, believes, attends to, hopes, wishes, emphasizes, fears, and proposes.” Herbert A. Simon, *Administrative Behavior*, 3rd ed. (New York: Free Press, 1976), p. xvi.

28. For many years, failure to wear a white shirt and dark suit at IBM had hazardous consequences for an employee’s career. The company has no written policy on attire. But according to one former executive, there was “an unwritten dress code that’s as effective as if it were engraved in steel—or as if it had a loaded gun behind it.” See F.G. “Buck” Rodgers, *The IBM Way* (New York: Harper and Row, 1986).

29. The issue of where culture comes from and how it changes is a broad topic that is generally outside the scope of this paper. I do, however, provide some evidence below that military cultures are not simply a product of the strategic circumstances these organizations confront. For a more extensive discussion of organizational innovation see Barbara Levitt and James G. March, “Organizational Learning,” *Annual Review of Sociology*, Vol. 14 (1988), pp. 319–340.

30. Many try to change their cultures by large-scale personnel changes at the top. See Thomas C. Hayes, “Faltering Companies Seek Outsiders,” *New York Times*, January 18, 1993, pp. C1 and C4.

31. Mary Douglas and Aaron Wildavsky, *Culture and Risk* (Berkeley: University of California Press, 1982), argue that the risks people face and the ways risks are assessed are a product of an earlier cultural choice.

discounted as deviant and will be discarded. Likewise, resources are channeled to methods suited to culture, which consequently appear more feasible than those deprived of funding and attention.<sup>32</sup> Finally, cultures persist for utilitarian reasons: it can be difficult and expensive to reorient operational philosophy, especially in a large and complex organization.<sup>33</sup>

The organizational culture view posits that the pattern of assumptions, ideas, and beliefs that prescribe how a military bureaucracy should conduct battle will influence state preferences and actions on the use of that means.<sup>34</sup> Each service, repeatedly faced with tough decisions about how, where, and when to employ violence, develops a culture that sets priorities and allocates resources.<sup>35</sup> Where the traditional approach would expect all organizational activities to be equally likely to result in inadvertent escalation, the cultural variant contends that accidents and escalation are likely in those means compatible with beliefs about the “right way” to fight wars. These “paradigms” provide maps for action that either advocate or ignore specific means of warfare. Those means compatible with the dominant war-fighting culture will be developed and advocated by the military. In such areas doctrine, preparations, and intelligence will be geared towards use, not restraint. Furthermore, those accidents that do occur will be seized on as proof of intentional enemy use or of an unavoidable intensification of the war that must be met in kind or bettered. In those types of warfare that are incompatible with the dominant culture, there will be little planning and advocacy for their use.<sup>36</sup> More attention will be given to avoiding accidents; those that

---

32. This is the “competency trap” where experience with, and sunk costs in, a certain technology or means make it seem better even if alternatives are actually superior. See Levitt and March, “Organizational Learning,” p. 322.

33. David Kreps asserts that corporate culture, even if some costs are involved, has a beneficial functional role of facilitating communication and coordination. David M. Kreps, “Corporate Cultures and Economic Theory,” in James E. Alt and Kenneth A. Schepsle, eds., *Perspectives on Positive Political Economy* (New York: Cambridge University Press, 1990), pp. 90–143.

34. The degree of impact a particular organization will have on executive decisions seems to vary along at least three dimensions: 1) the extent to which it has monopoly power on issue expertise; 2) the complexity of its responsibilities; and 3) the time period available for action. Militaries are particularly influential in wartime because they generally have monopoly control over expertise on the use of force, military operations are complex and not easily understood by non-specialists, and time periods for altering pre-arranged plans are limited. For a more detailed discussion of this topic, see Legro, *Cooperation Under Fire*.

35. Organizational cultures can be discerned in a variety of sources including interviews, the memoirs of participants, doctrinal development, organizational correspondence, planning documents, and internal exercises.

36. For example, the traditional viewpoint has difficulty explaining the defensive orientation of some militaries (e.g., the French Army) in the interwar period. For an excellent analysis of this issue, see Kier, *Culture, Politics, and Military Doctrine*.

do occur will be accepted as such and managed so as to avert an escalation spiral. In short, the organizational culture perspective predicts a direct—albeit subtle—link between military beliefs and customs and the likelihood of inadvertent escalation.

### *World War II: Submarines, Bombing, and Chemical Weapons*

Each of these perspectives on inadvertent escalation tells a different story of why states unintentionally cross fire-breaks in the midst of an on-going conflict. How the four approaches account for the actions of the two main antagonists of World War II—Britain and Germany—is examined below in more detail. The cases deal with three areas of combat—submarine attacks on non-combatants, the bombing of civilians, and chemical warfare—that were taboo means of combat during the interwar period. These cases all occurred within the same conflict, and therefore differences in what was at stake cannot explain the outcomes. They include both situations where inadvertent escalation took place as well as when it did not.

These cases involve two aspects of accidents: their origins and their consequences. In the submarine warfare section, the main focus is on origins and covers three situations that had different outcomes: an accident that broke a taboo, an accident did not involve taboos, and an “accident waiting to happen” that was avoided. With regard to strategic bombing and chemical warfare, the main interest is the consequences of the accidents: why did some lead to escalation while others did not? I pay more theoretical attention to organizational culture because it is a newcomer and untested; nonetheless, evidence for competing explanations is considered, particularly when they offer a compelling contrasting prediction of the event.

#### SUBMARINE WARFARE: ACCIDENT VS. NON-EVENT

The submarine in World War II became known as the “viper of the sea” and its use against merchant and passenger ships was reviled. At the London Naval Conference of 1930, rules that had been formulated and generally approved at the 1922 Washington Naval Conference were accepted into international law. These rules prohibited submarines from sinking merchant or passenger ships without providing for the safety of the crews and passen-

gers.<sup>37</sup> This hampered the submarine somewhat because it might be vulnerable to aircraft and other ships when heeding the required search and safety provisions. Nonetheless, all the major powers supported the treaty. Despite the collapse of other negotiations and agreements, in 1936 the major powers—including Britain and Germany—reaffirmed their commitment to the rules in the London Protocol.

A close inspection of three situations of submarine warfare involving Germany and Britain suggests how organizational culture can generate accidents. The most infamous accident of World War II submarine combat was the sinking of the passenger liner *Athenia* by a German U-boat at the start of hostilities. In the second case, one British submarine sank another, and the third was a historical non-event: a British submarine adhered to the rules despite strong incentives to torpedo a German liner. The four approaches offer different predictions on these cases. Clausewitz's friction thesis would anticipate an equal likelihood of escalation, given that the situations were comparable in intensity, complexity, and uncertainty (e.g., clarity of battle instructions and ability to identify friend or foe). Similarly, traditional organization theory would also predict escalation in all cases because both navies had organizational routines torpedoing ships and were eager to join the fight. Conversely, the security dilemma image would predict no accidental escalation: the submarines faced neither use-'em-or-lose-'em nor preemption incentives. That is, they were not put at risk themselves by not attacking but instead waiting to confirm the identity of the enemy as either combatant or civilian, as directed by international law.

Organizational culture provides the best explanation in that it correctly predicts that there would be escalation in Germany where unrestricted attacks were central to naval warfare thinking, but not in Britain where the Royal Navy belittled the value and threat of anti-trade submarine warfare. Here is what happened.

**GERMANY'S SUBMARINE ACCIDENT.** When Germany started World War II by attacking Poland, strict orders had been issued to the U-boats that the war was to be conducted with meticulous restraint towards merchant and passenger ships in accordance with international agreements. Hitler hoped to

---

37. Richard Dean Burns, "Regulating Submarine Warfare, 1921–1941: A Case Study in Arms Control and Limited War," *Military Affairs*, Vol. 35 (April 1971), pp. 56–62; Janet Manson, *Diplomatic Ramifications of Unrestricted Submarine Warfare, 1939–1941* (New York: Greenwood Press, 1990), pp. 33–52.

avoid conflict with Britain and America.<sup>38</sup> In World War I, unrestricted attacks by German underwater boats had increased animosities with the former and led to hostilities with the latter, a development that significantly contributed to Germany's defeat.<sup>39</sup> Hitler hoped to avert a repetition of history and therefore required restrictions on submarine warfare.

At the start of hostilities, eighteen of Germany's twenty six ocean-going U-boats had already taken up action stations around the British Isles.<sup>40</sup> One of the submarines was Joseph Lemp's *U-30* on patrol 250 miles northwest of Ireland. On the evening of September 3, 1939, the day Britain declared war, Lemp located a potential target and identified it as enemy. The vessel was indeed British, but it was the passenger liner *Athenia*. The crew aboard the *Athenia* knew that war had been declared, but they did not worry about U-boat attacks because they believed the ship was protected by the London Protocol.<sup>41</sup> Lemp's *U-30*, however, spit out two torpedoes that burst the vessel. 1088 passengers took to lifeboats, 112 went to the bottom. The sinking of the *Athenia* contributed to the onset of unrestricted submarine warfare.<sup>42</sup>

How can this incident be explained? It is probable that the "fog of war" had something to do with it. The young captain Lemp was probably tense in the face of possible enemy contact and not thinking as clearly as he might have been. It is unlikely that he purposely blasted a passenger liner. Since accidents are inherently undesired and are more likely in times of tension and confusion, it is difficult to "falsify" Clausewitz's friction thesis. Maybe Lemp just made a mistake. But simply to blame "operator error" is to conflate human presence with causation.<sup>43</sup> We must ask if there was evidence to suggest that factors other than pure chance under complexity were at work,

---

38. F.H. Hinsley, *Hitler's Strategy* (Cambridge, U.K.: Cambridge University Press, 1951), pp. 4–9.

39. Ernest R. May, *The World War and American Isolationism, 1914–1917* (Cambridge: Harvard University Press, 1959), pp. 113–136.

40. Oberkommando des Kriegsmarine, "Chronik des Seekriegs: Heft I (1939 and 1940)," Berlin, PG 32610B, Roll 4078, National Archives, Washington, D.C. (hereafter NA).

41. Edwin P. Hoyt, *Death of the U-Boats* (New York: McGraw-Hill Co, 1988), pp. 15–16.

42. Britain claimed that the incident was intentional and implemented its own set of defensive measures, some of which were violations of the spirit if not the letter of the London Protocol. German submariners used the British measures to argue to their superiors that they must be allowed to attack merchant vessels without restrictions. Germany was largely doing so against Britain by October of 1939, while Britain did not do so against Germany until the spring of 1940.

43. When accidents happen there is a tendency to focus on human error as a cause, rather than on other underlying causes that would tend to produce incidents regardless of the individual involved. See Perrow, *Normal Accidents*, pp. 9, 23–30, 330–331, 339.

and whether certain predilections tended to push randomness and human fallibility in a particular direction.

The environment of combat that evening was not particularly suited to “friction” in the form of Lemp’s misidentification. Although Clausewitz had much more in mind than the weather, the analogy of “fog” does not fit.<sup>44</sup> The evening was clear, making misidentification unlikely. Nonetheless, Lemp claimed that he thought the *Athenia* was an auxiliary cruiser because it was zig-zagging and showing no lights, neither of which was true. Furthermore, Lemp’s U-boat closed to such a short distance that it could not easily have missed the outline of the safety boats and the lack of guns that marked the ship as a passenger liner.<sup>45</sup> Hitler’s demand for restraint was also clearly communicated to the U-boat commanders. The submarines went to sea with orders to heed the submarine rules, and this order had been repeated at the very outset of World War II.<sup>46</sup> Finally, there were no strong security dilemma incentives to escalate: the Nazi submarines were not at risk by avoiding attacks on non-combatants and would still be able to impair British trade if they decided to do so at a later time.<sup>47</sup> In Lemp’s particular case there is no evidence that he thought the *Athenia* had detected that his U-boat was in the area. Thus the source of the U-30’s action was not a perceived “us or them” dilemma as if, for example, the *Athenia* had been a cruiser that spotted the U-boat, forcing Lemp to choose to kill or be killed. Neither friction nor the security dilemma accurately capture the dynamics of the *Athenia* accident.

---

44. Clausewitz, *On War*, p. 120 writes, “One [source of friction], for example, is the weather. Fog can prevent the enemy from being seen in time, a gun from firing when it should, a report from reaching the commanding officer. Rain can prevent a battalion from arriving, make another late by keeping it not three, but eight hours on the march, ruin a cavalry charge by bogging the horses down in mud, etc.”

45. Manson, *Diplomatic Ramifications*, pp. 64–66 and note 44; Peter Padfield, *Dönitz: The Last Führer* (London: Gollanz Ltd., 1984), p. 191.

46. The orders were laid out to the commanders as they put to sea in August and Dönitz reminded his captains of that order by wire on September 3, 1939. See “Opbefehl Nr. 2 für U-Boote ‘Alarmübung Nordsee’ (U27, U30), Kiel 21.8.39,” PG32012-NID, NA; Padfield, *Dönitz*, p. 191.

47. They were more vulnerable by following the rules than by not doing so; however, restraint was central to Hitler’s grand strategy. With immediate unrestricted warfare, the U-boats could have scored a few easier kills right at the beginning before Britain could organize its convoys and defensive measures, but no significant strategic advantage was expected from such action. Germany only had some 26 ocean-going U-boats at the start of war, just one-third of which could normally be on station at a time. Dönitz argued 300 would be needed to get the job done. See “Gedanken über den Aufbau der U-Bootswaffe,” Memo by Dönitz, September 3, 1939, RM 7/891, Bundesarchiv-Militärarchiv, Freiburg, Germany (hereafter, BA-MA).

From an organizational culture perspective, however, the incident is less puzzling. The culture of the U-boat corps of which Lemp was a part is central to his subsequent "mistake."<sup>48</sup> To a degree not seen in any other country, Germany had a vibrant pro-submarine culture within its maritime forces.<sup>49</sup> Even though this culture was suppressed for a good part of the interwar period due to international treaties and internal politics, the submarine ranks served as a magnet for some of the most ambitious and talented officers in the Navy. Karl Dönitz, commander of the U-boats, sought to infuse his men with an offensive, anything-is-possible spirit. He led the revival of the World War I U-boat doctrine based on an anti-trade offensive, one that seemed at odds with the pledge to adhere to the submarine rules.<sup>50</sup>

In light of this culture, the *Athenia* incident is not surprising. Lemp was zealously implementing his training. Germany's "sea wolves" were first and foremost taught to be aggressive, and not to miss opportunities.<sup>51</sup> The notion of differentiating attacks was not ingrained in the training of the U-boat mariners, which is why they had to be given instructions on the eve of war that explained the procedures for heeding the submarine rules.<sup>52</sup> But Lemp violated the restrictions by sinking the *Athenia* in a situation where there was every reason, except organizational predisposition, to show restraint.<sup>53</sup>

---

48. In this case, as in others where the military's preferred way of war favors use and escalation, the distinctions between cultural and traditional organization theory arguments are not discernible and therefore I do not address the latter.

49. Germany also had a strong battleship culture. But the submarine had a respected tradition and valued role. This contrasts sharply with the interwar experience of countries such as the United States and Britain, which ignored the underwater boat, despite its potential value in a war with Japan.

50. Terrence Robertson, *Night Raider of the Atlantic* (New York: Dutton, 1956), p. 16; Befehlshaber der Unterseeboote, Kriegstagebuch, September 15, 1939, RM 87/3, BA-MA; Karl Dönitz, *Memoirs: Ten Years and Twenty Days*, trans. R.H. Stevens (New York: World, 1959), pp. 12–13. Padfield, *Dönitz*, pp. 158–160.

51. Padfield, *Dönitz*, p. 196.

52. See testimony of Fregattenkapitan Hessler (Dönitz's son-in-law) at Nuremberg. *Trial of the Major War Criminals Before the International Military Tribunal, Nuremberg: Vol. XIII* (New York: AMS Press, 1971), p. 528.

53. One naval staff member advocated giving submarines permission to sink darkened ships without any warning. Due to the "political situation," the possibility that another incident would generate international opposition, this could not be completely approved. The suggestion was made that the Navy leadership give its "silent approval" to attack darkened ships in areas where only British vessels operated. The one condition was that the submarines had to claim in their war diaries that any sunken merchant vessels had been mistaken for warships. This is what Lemp claimed and what Padfield, *Dönitz*, p. 193, says was official Navy policy in such situations. See "Forderungen des B.d.U. und militärische Möglichkeiten der Durchführung," September



When news of the *Athenia's* destruction reached Germany on the day that Britain declared war, Hitler and Raeder, the head of the Navy, were convinced that it could not have been caused by a German U-boat, given the aims of the Third Reich and the explicit instructions issued. Only Dönitz, the trainer of the U-boat captains and crews, thought that it might very well have been one of his captains, despite instructions, who sank the passenger liner.<sup>54</sup> The U-boats' war-fighting dogma meant that such an "accident" could be expected.

BRITAIN'S SUBMARINE ACCIDENT AND NON-EVENT. Britain's behavior in submarine warfare contrasts sharply with that of Germany. The Royal Navy had dramatically different beliefs about the utility of the submarine. In Britain, the battleship was considered the "final arbiter" of naval combat and it dominated the war-fighting culture of the British Navy.<sup>55</sup> This culture, embodied in doctrine and plans, belittled submarine warfare, particularly against commerce. The underwater boat was regarded as the tool of weaker powers, not of mighty Britain.<sup>56</sup> Sight unseen, the submarine could strike without warning at undefended merchant vessels and even at the proud warships. Not only was it a threat to the war fleet, but it also required that warships be engaged in less heady tasks, such as accompanying convoys, when they otherwise would be seeking battle. The Royal Navy did not train submariners nor develop boats to attack commerce. Submarines were meant to be used primarily for intelligence and, when they were lucky enough to get the opportunity, occasional attacks on enemy warships.<sup>57</sup>

---

22, 1939, RM 7/844, BA-MA. Dönitz and Wagner testified at Nuremberg that this memo was written by a staff officer and that the Navy never forwarded such an order.

54. Anthony Martiensen, *Hitler and His Admirals* (New York: Dutton, 1949), p. 23. The leaders did not find out what actually happened until Lemp returned from patrol at the end of the month.

55. "Final Report of the Post-War Questions Committee," March 27, 1920, ADM 1/8586, Public Records Office, Kew, UK (PRO) as cited in Stephen W. Roskill, *Naval Policy Between the Wars*, Vol. I: *The Period of Anglo-American Antagonism, 1919–1929* (London: Collins, 1968), p. 115.

56. The origin of this bias was not simply geo-strategic advantage; i.e. that Britain was an island power dependent on sea trade confronting Germany, a continental state that was less vulnerable to sea interdiction. After all, the Royal Navy's main expected opponent until the late 1930s was Japan, a country very vulnerable to an anti-commerce campaign. Nonetheless, despite the fact that the UK did not have and could not afford the battleships to take on Japan in the Pacific, the Navy did not seriously consider using cheaper submarines to blockade the island.

57. The British believed that the submarine was not a threat to battleships because U-boats would be detected with the sonar device called "ASDIC." But because of the cultural bias stressing the inferiority of submarines, ASDIC did not receive adequate critical testing and its flaws were not appreciated. David Henry, "British Submarine Development and Policy, 1918–1939," Ph.D. War Studies (King's College, University of London, 1976); on ASDIC see pp. 320–321.

The influence of culture on unintended British actions is especially apparent when contrasted with the German navy's actions. As with Germany and the *Athenia* incident, the first submarine attack by Britain was also an accident. On September 10, 1939, the *Triton* mistakenly torpedoed another English submarine, *Oxely*.<sup>58</sup> Like the *U-30*, the *Triton* was acting in accordance with its organizational culture. Each inadvertently destroyed a ship, but it was the type of vessel each had been trained to attack. British submarines had a legacy of successful anti-submarine warfare (ASW) in World War I.<sup>59</sup> In comparison, German strategy was based on an anti-merchant offensive. This difference appears to have been reflected even in the physical structure of the submarines. The acoustical detection array in German U-boats was designed for an anti-shipping role, while in British submarines it was for attacking other underwater boats.<sup>60</sup> From an organizational culture viewpoint it is not surprising that the first "accident" of the war for a British ship was the destruction of a friendly submarine, while Lemp's error was an "out of bounds" passenger liner.

The difference between Britain and Germany is just as evident in the accidents that did *not* happen. British submarines incurred no *Athenia* incident despite opportunities.<sup>61</sup> For example, when the British submarine *Salmon* sighted the German passenger liner *Bremen* 2000 yards away on December 12, 1939, a replay of the incident involving the *Athenia* (which had been only 800 yards from the U-boat) seemed likely. Yet the *Salmon* surfaced and ordered the ship to stop for the search and seizure procedures that were mandated by international law. Unexpectedly, however, a Luftwaffe plane appeared and chased the submarine off.<sup>62</sup> Ironically, the *Bremen* was being used as a troopship at the time and therefore was a legitimate target, which

---

58. The story of this incident is told in A.S. Evans, *Beneath the Waves: A History of H.M. Submarine Losses* (London: William Kinder, 1986), pp. 195–199.

59. The day before the *Oxely* was destroyed, Admiral Watson, the commander of the submarine force, requested that his boats be used more in an ASW role. "The Use of Submarines in Defence of our Trade in the Atlantic," From RA(S) to Secretary of the Admiralty, September 9, 1939, ADM 199/1920, PRO.

60. Rear Admiral G.W.G. Simpson, *Periscope View* (London: Macmillan London Ltd., 1972), p. 61.

61. The British surface fleet did clear much of the German commerce from the seas at the beginning of the conflict.

62. The captain of the *Salmon* noted, "I had no special instructions with reference to intercepting *Bremen* and considered myself bound by international law, a rigid adherence to which had been specifically stressed to submarine commanding officers at the beginning of war." See "HMS *Salmon* Patrol Report December 2–16, 1939," Memo from Commanding Officer HMS *Salmon* to Captain (S) Third Submarine Flotilla, ADM 199/288, PRO.

the *Salmon* could have easily torpedoed from the safety of the ocean depths.<sup>63</sup> The difference between Britain's and Germany's accidents is inexplicable from a traditional organizational perspective. Both navies had adopted the London Protocol as part of their organizational rules, but beliefs on how to fight a war—and the types of accidents that occurred—diverged. As a cultural approach expects, Britain's behavior reinforced its restraint, while Germany's provoked an accident that violated taboos.

#### STRATEGIC BOMBING: VIOLATIONS IGNORED OR RECIPROCATED

From 20,000 feet off the ground, the familiar surroundings of life—buildings, homes, cars—appear unnaturally small. Perhaps this perspective eased the task of the young aviators of World War II who were ordered to flatten the homes and habitations of enemy civilians hundreds of miles behind the front lines. Although this practice became commonplace during World War II (and in many conflicts since), in the 1920s and 1930s it was considered barbaric and potentially avoidable. Statesmen made considerable efforts both to reduce air armaments and to find ways to regulate air attacks by agreeing on rules and restrictions.<sup>64</sup> The main distinction they hoped to enforce was that between civilians and combatants. No official treaties were concluded, but Britain and Germany were able to reach accord at the beginning of the war to avoid bombing undefended civilians and cities.<sup>65</sup> That pact retained legitimacy for the first nine months of conflict, but as we will see, it did not survive the war.

In the strategic bombing cases, organizational culture played the pivotal part, not necessarily by causing accidents as in the submarine cases above, but instead by affecting the responses of states to the incidents—i.e., either to use accidents as justification for escalation or, by ignoring them, to reaffirm restraint. Consider, for example, the difference in the responses of Germany and of Britain to the other side's transgression of a major limitation in the air war. In one case, Britain's bombing of the German homeland brought no

---

63. Nigel John Gilbert, "British Submarine Operations in WWII," *United States Naval Institute Proceedings*, Vol. 89 (March 1963), p. 73.

64. These were serious efforts. Britain even considered giving up her most effective means of sea warfare, the sea blockade, in exchange for restrictions on air warfare. See especially C.I.D. Limitation of Arms Sub-Committee, 2nd Meeting, July 18, 1938, in "Humanization of Air Warfare," AIR 9/202, PRO.

65. Those participating directly in the war effort were generally seen as legitimate targets of air power. J.M. Spaight, *Air Power and War Rights*, 3rd ed. (London: Longmans, Green, 1947), pp. 43, 259.

comparable response; Germany virtually ignored the event. Yet when Germany accidentally transgressed a second limitation on the bombing of capital cities later in the war, Britain responded immediately. How can these different outcomes be understood?

Organizational culture predicts correctly that Britain and Germany had different ways of warfare that accorded different importance to a strategic offensive aimed at civilians. That contrast had a considerable impact on decision making and events. The other perspectives are less precise in their predictions. The friction hypothesis would anticipate escalation from both participants, particularly in light of the technical complexities of navigation and precision bombing in the early war period. Likewise, traditional organization theory would also expect both to escalate since both the RAF and Luftwaffe had organizational capabilities and plans for strategic bombing. The security dilemma argument expects similar behavior from the opponents, but in the opposite direction, toward restraint: there was not a strong surprise-attack or preemptive incentive to initiate strategic bombing since no single attack could cause a devastating amount of damage, and there were few penalties involved in continuing restraint to ascertain if the enemy had actually—even if accidentally—violated restrictions. Yet while Germany showed restraint, Britain escalated.

GERMANY'S RESPONSE TO BRITAIN'S FIRST ATTACKS. On the night of May 11–12, 1940, RAF bombers undertook, possibly accidentally, the first strategic raid of the war in an attack on Mönchen-Gladbach in Germany. Another RAF assault on Aachen and Mönchen-Gladbach took place on May 14–15.<sup>66</sup> The official go-ahead for the RAF strategic offensive was given on May 15. What is of interest here is the German response: there was none. The Germans undertook no immediate retaliation, in kind or otherwise, against Britain, neither for the earlier, possibly accidental, raids, nor in response to the approved offensive after May 15. The British history of the Luftwaffe points out that in the entire 1940 Western campaign through the fall of France,

---

66. Because the Cabinet was debating on a daily basis whether to undertake these raids, H.W. Koch, "The Strategic Air Offensive Against Germany: The Early Phase, May–September 1940," *The Historical Journal*, Vol. 34, No. 1 (1991), p. 127, has speculated that Bomber Command acted on its own authority. The evidence, however, is not conclusive. The fact that little irritation was expressed at the Cabinet meeting on May 15 when the Secretary of State for Air mentioned the May 14–15 raids suggests that, at least by that date, some sort of limited operation was approved. See W.M. (40) 123, Conclusions, Minute 2, May 15, 1940, CAB 65/13, PRO; Martin Middlebrook and Chris Everitt, *The Bomber Command War Diaries: An Operational Reference Book 1939–1945*, p. 42.

German bombers were not used strategically, except during one four-day period in June when they attacked the French aircraft industry in Paris and fuel dumps in Marseilles.<sup>67</sup> The Nazis were, of course, aware of the RAF's attacks as was noted in reports by the security service of the SS.<sup>68</sup> Hitler himself allegedly dismissed the raids at one point as inadvertent. He assumed that the attacks on German territory were the result of someone losing his head due to the pressure of the Battle of France, or that the RAF had acted on its own. He saw no need to retaliate in kind.<sup>69</sup> Despite the fact that it had been made clear that its restraint was contingent on reciprocity, Germany simply ignored the British actions. Why did reciprocal escalation not occur immediately?

A pivotal factor in this restraint was the organizational culture of the Luftwaffe. Unlike the RAF, Luftwaffe faith in strategic bombing—particularly in a civilian-targeted morale bombing campaign—never took hold. Germany's strategic culture, of which the Luftwaffe was a part, was land-oriented and heavily influenced by a traditional army outlook. Like the RAF, the Luftwaffe was an independent service in the sense that it was organizationally separate from the Army and Navy and not subordinate to their orders. Nonetheless, cultures often run deeper than formal structures and the Luftwaffe was constrained by Germany's continental orientation to combat. The German Air Force did not prepare equipment or plans to wage the type of large-scale air assault required for bombing and particularly for an unrestricted campaign. Instead, doctrine was oriented more towards supporting the land battle.<sup>70</sup> Even the German heavy bombers best suited for

---

67. British Air Ministry, *The Rise and Fall of the German Air Force, 1933–1945* (New York: St. Martin's Press, 1983 ed.), p. 72. There is, however, a debate on whether the prior German attacks on Warsaw and Rotterdam were against "defended" cities and thus permissible or were instead simply illegitimate terror raids. E.g., see Olaf Groehler, "The Strategic Air War and its Impact on the German Civilian Population," pp. 282–283; cf. Horst Boog, "The Luftwaffe and Indiscriminate Bombing up to 1942," p. 386, in Horst Boog, ed., *The Conduct of the Air War in the Second World War: An International Comparison* (New York: Berg Publishers Ltd., 1992).

68. See Koch, "The Strategic Air Offensive Against Germany," p. 127.

69. As reported by General Warlimont to Walter Ansel, *Hitler Confronts England* (Durham, N.C.: Duke University Press, 1960), p. 113.

70. Williamson Murray, *The Luftwaffe* (Baltimore: Nautical and Aviation Publishing Co. of America, 1985), esp. pp. 1–23, argues that Germany did have a strategic bomber emphasis. My view is that while a strategic mission-oriented sub-culture certainly remained a part of the Luftwaffe, it did not take root and dominate the organization as in Britain. German planning and operations consistently listed the hierarchy of Luftwaffe's aims as: 1) the destruction of enemy airpower; then 2) support of the Army and Navy; and finally 3) tasks which might be considered strategic bombing. See "Instructions of the Commander of the Air Force for the Conduct of Operations in the Initial Period of War," November 18, 1935, as reprinted in Karl-Heinz Völker, *Dokumente*

strategic bombing were required to have dive-bombing capabilities, a specification that hindered their strategic bombing effectiveness.<sup>71</sup> Thus when Britain's bombs fell on the Ruhr in the spring of 1940, Germany ignored them. The Luftwaffe was absorbed fulfilling its established role of helping the ground forces advance in assault on France. Even when France was defeated and the Luftwaffe was no longer occupied with its part in that victory, German restraint in strategic bombing endured.<sup>72</sup>

BRITAIN'S RESPONSE TO GERMANY'S ACCIDENTAL RAID ON LONDON. Compare the German reaction to escalation with the British response to an accidental German raid that appeared to breach the restraint still in effect on bombing capital cities. On the night of August 24, 1940, twelve German bombers overshot their intended targets consisting of aircraft factories and oil refineries located at Rochester and Thameshaven, twenty miles east of London. Instead they dropped their loads on London, setting off a chain of reprisals that ended any hope for restraint in strategic bombing in the Second World War.<sup>73</sup>

Britain did not ignore the event as Germany had done in Britain's bombing, but instead seized on it as an act that required response in kind. The next day Churchill called for retaliation and some 100 bombers were dispatched against Berlin. Webster and Frankland's *Strategic Air Offensive* explains that escalation was motivated by the prime minister's desire that "the Germans get as good as they were giving."<sup>74</sup> Perhaps in the heat of battle (with its

---

*und Dokumentarfotos zur Geschichte der Deutschen Luftwaffe* (Stuttgart: Deutsche Verlags Anstalt, 1968), esp. p. 478; "Aufmarsch- und Kampfanweisungen der Luftwaffe: Weisungen für den Einsatz gegen Osten," May 1939, RL 2 II/ 21, BA-MA; Führer War Directive No. 16, "Preparations for a Landing Operation Against England," July 16, 1940.

71. Richard J. Overy, "From 'Urbomber' to 'Amerikabomber': The Luftwaffe and Strategic Bombing," *Journal of Strategic Studies*, Vol. 1, No. 2 (September 1978), pp. 168–169; Edward L. Homze, *Arming the Luftwaffe: The Reich Air Ministry and the German Aircraft Industry, 1919–1939* (Lincoln: University of Nebraska Press, 1976), pp. 63–68.

72. Strategic rationality partially accounts for this decision: Hitler sought a peace with Britain so that he could turn his forces toward the East. But this does not explain why, even after it became clear in July of 1940 that Britain would not yield and Germany would have to fight, the Luftwaffe's assignment was first to defeat the RAF, then to assist the army and navy in an invasion. Terror bombing was to be used only in retaliation.

73. Koch, "The Strategic Air Offensive Against Germany," p. 137; Boog, "The Luftwaffe and Indiscriminate Bombing to 1942," p. 389. The Führer was enraged that his orders had been disregarded, even if it was an accident. As punishment, the bomber crews responsible were sent to the infantry. This punishment contrasts sharply with the minimal rebuke that Lemp received for violating the submarine rules by torpedoing the *Athenia*. Cajus Bekker, *The Luftwaffe War Diaries* (New York: Doubleday, 1968), p. 172.

74. Charles Webster and Noble Frankland, *The Strategic Air Offensive, 1939–1945* (London: Her Majesty's Stationery Office [HMSO], 1961), p. 152.

attendant “fog”), Churchill simply did not understand that the German action was inadvertent. There is evidence to suggest, however, that Churchill was aware that this was an accident and was looking for an excuse to start city bombing. Britain may have known from intercepted messages that Hitler had forbidden the Luftwaffe to bomb London.<sup>75</sup> Yet even without such intelligence, there was good reason to suspect an accident. The unintended foray involved twelve planes which caused light damage and only four fatalities, hardly the type of decisive operation to be expected from a purposeful breach of this important limitation.<sup>76</sup> Churchill himself had earlier downplayed the gravity of the German raids, noting that very few people were affected by any one attack.<sup>77</sup> Moreover, in July, well before the German assault, Churchill had already shown an interest in bombing Berlin. At that time he expressed interest in being able to respond to German attacks on London. But he also gave a planning date of September 1, suggesting that his intentions were not necessarily dependent on German actions.<sup>78</sup>

Why did Britain decide to escalate, breaking the last taboo against strategic bombing? This is a question of considerable historical controversy and not one easily answered with the evidence available. While there are many arguments about what motivated Churchill (not the least of which was his personal predilection to seize the initiative), what is clear is that his outlook and options were influenced by RAF culture.<sup>79</sup> From the end of World War

---

75. David Irving, *Churchill's War: The Struggle for Power* (Australia: Veritas Publishing Co. 1987), p. 365, especially note 30. This information is based on an interview with R.V. Jones that is not corroborated. However, it is not unthinkable that such knowledge was gleaned from intercepts of the signals traffic of the Luftwaffe. See F.H. Hinsley, *British Intelligence in the Second World War, Volume I: Its Influence on Strategy and Operations* (New York: Cambridge University Press, 1979), pp. 179–182.

76. Harvey B. Tress, *British Strategic Bombing Policy Through 1940: Politics, Attitudes, and the Formation of a Lasting Pattern* (Lewiston, N.Y.: Edwin Mellen Press, 1988), p. 68.

77. Martin Gilbert, *Winston S. Churchill, Vol. VI: Finest Hour, 1939–1941* (London: Heinemann, 1983), pp. 602–603.

78. Minute to Secretary of State for Air and CAS from Prime Minister, July 20, 1940, AIR 19/458, PRO; Minute from Director Home Office and CAS, July 21, 1940, AIR 19/458, PRO. Churchill also noted the desirability of waiting, in case of the need to target Berlin, for longer nights and the arrival of the new Stirling bombers. Gilbert, *Winston S. Churchill, Vol. VI*, p. 673. Churchill invited Portal, the head of Bomber Command, to his country home to discuss the idea on July 20 and August 17. See Irving, *Churchill's War*, pp. 371, 403.

79. George Quester, *Deterrence Before Hiroshima: The Airpower Background of Modern Strategy* (New York: Wiley and Sons, Inc., 1966), pp. 117–118, suggests a strategic rationale for escalation. At the time, Fighter Command was under pressure due to Luftwaffe attacks. Churchill recognized that command of the air was the key to Britain's defense: if Fighter Command failed, Britain was lost. Thus to buy Fighter Command breathing room, it is argued, Churchill purposely attacked Berlin in order to draw the Luftwaffe's attacks on the British capital and away from

I, Britain's Air Force had promoted and institutionalized a philosophy of strategic bombing, whose central tenets were that the best way either to prevent or to win a war would be to threaten or launch a massive assault on the enemy's sources of power. This included both depriving the enemy of the physical means to fight and breaking its morale to continue the battle. Hugh Trenchard, the Chief of the Air Staff (CAS), had no doubt about which was more important: "The moral effect of bombing stands undoubtedly to the material effect in a proportion of 20 to 1."<sup>80</sup> This philosophy, effectively cultivated in the organization, was well-suited to unrestricted warfare.<sup>81</sup>

The RAF's preferences made themselves felt in a number of ways. Air Force officials had been directly lobbying for escalation since the invasion of France, arguing that the battle had to be taken to the German homeland. RAF Intelligence boldly asserted that large "moral effects" were resulting from its bombing operations, a conclusion that seems to have been driven more by wishful thinking than objective evidence. Influenced by these arguments, the Chiefs of Staff (COS) concluded on May 25, 1940, that Germany might be beaten by economic pressure, the bombing of economic and psychological targets, and the instigation of popular revolt in German-occupied territories. By late June, Churchill had picked up on this thinking, arguing that airpower would cause Hitler "possibly decisive difficulties" in Germany and other areas he had to feed and defend.<sup>82</sup> On July 8 he asserted: "There is one thing that will bring him back and bring him down and that is an absolutely devastating, exterminating attack by very heavy bombers from

---

the RAF. This thesis seems plausible with hindsight because it reflects what actually resulted. Yet direct evidence to support it is sparse. In addition, as Frederick M. Sallagar, *The Road to Total War* (New York: Van Nostrand Reinhold Co., 1969), pp. 181–182, has noted, the decision was made at a time, August 24, when Fighter Command was not in terrible shape as it would be two weeks later.

80. Webster and Frankland, *The Strategic Air Offensive*, pp. 46, 55; Neville Jones, *The Beginnings of Strategic Air Power: A History of the British Bomber Force, 1923–1939* (London: Frank Cass, 1987), p. 34.

81. One way the culture spread was through the selection of personnel. Trenchard was known to have kept on only those officers who agreed with him. Robin Higham, *The Military Intellectuals in Britain: 1918–1939* (New Brunswick, N.J.: Rutgers University Press, 1966), p. 200. Perhaps more important, institutions were founded that would propagate the bomber offensive philosophy, including an air force staff college, a cadet college, technical training schools and other facilities.

82. Webster and Frankland, *The Strategic Air Offensive*, pp. 145–146; Gilbert, *Winston S. Churchill*, Vol. VI, p. 603. On the general issue of RAF bias in intelligence see Harold L. Wilensky, *Organizational Intelligence: Knowledge and Policy in Government and Industry* (New York: Basic Books, 1967), pp. 24–28.



this country upon the Nazi homeland. We must be able to overwhelm them by this means, without which I do not see a way through."<sup>83</sup>

The organizational culture view suggests that Churchill's views and choices were a consequence, not a cause, of organizational planning. His opinion of the utility of bombing had evolved from a pre-war history of opposition to, and lack of faith in, the independent strategic air offensive aimed at morale.<sup>84</sup> In May when he became prime minister, Churchill was particularly exposed to the organizational lobbying on the few air plans available. Perhaps more important, the situation and RAF culture constrained the options available to Churchill: Britain was most prepared to strike out at Germany through strategic bombing.<sup>85</sup> Given the RAF's military advice, the interpretation of events, and the limited capabilities available (strategic area bombing), Churchill's choice of strategic bombing is largely explained by a cultural perspective. Without the RAF's bomber culture, Churchill might well have shared Hitler's disposition against unrestricted air operations. The difference in the compatibility of each side's air force culture with strategic bombing explains why Britain and Germany had opposite responses to incidents that violated restrictions on the use of aerial force.

#### CHEMICAL WARFARE: BARKING DOGS SILENCED

Like submarine warfare and strategic bombing, chemical warfare (CW) was a forbidden tool of conflict during the interwar years. The limitation of CW

---

83. Gilbert, *Winston S. Churchill, Vol. VI*, pp. 655–656. At about the same time (July 17), Portal, the Commander-in-Chief (CINC) of Bomber Command, personally advocated unleashing the bomber offensive. RAF Narrative, *The RAF in the Bombing Offensive Against Germany: Volume II, Restricted Bombing September 1939 to May 1941* (Air History Branch, Air Ministry), AIR 41/40, p. 117, AIR 41/40, PRO.

84. At the end of World War I, Churchill doubted that victory could be had by terrorizing civilians. Webster and Frankland, *The Strategic Air Offensive*, p. 47. In the 1930s, Churchill advocated air defenses as a means of mitigating air attacks. He did not believe the "bomber would always get through." See Winston S. Churchill, *The Gathering Storm* (Boston: Houghton Mifflin Co., 1948), pp. 147–152; Tress, *British Strategic Bombing*, pp. 69–70. In September 1939, citing the results of the Spanish Civil War, Churchill doubted that "the essential elements of war" would be changed by the air arm. On May 7, 1940, Churchill had opposed unrestricted bombing because of Britain's perceived inferiority to Germany in air power. See W.M. (40) 114, Conclusions, Minute 1, May 7, 1940, CAB 65/13, PRO. After September 1940, Churchill varied between doubt and support for the air offensive. See Maxwell Philip Schoenfeld, *The War Ministry of Winston Churchill* (Ames, Iowa: Iowa State University Press, 1972), pp. 92–101.

85. But Britain's air power resources could also have been used to attack Germany's invasion effort or help with the battle at sea. See Tress, *British Strategic Bombing Policy*, pp. 215–220. On the uses of air power in the Battle of the Atlantic, see Williamson Murray, "The Influence of Pre-War Anglo-American Doctrine on the Air Campaigns of the Second World War," in Boog, ed., *The Conduct of the Air War*, pp. 245–246.

was discussed at many of the negotiations of that era. But only one treaty—the Geneva Protocol of 1925 prohibiting first use of chemical weapons—was signed. At the beginning of World War II, Britain and Germany exchanged pledges reaffirming their no-first-use commitments. Despite these agreements, nations expected CW use and went to considerable efforts preparing for such combat. CW was widely recognized by all participants in World War II to have significant military utility.<sup>86</sup> However, throughout the war, even though a range of CW accidents occurred, they never led to escalation.

The friction, traditional organization, and security dilemma perspectives all would predict a spiral of use from restricted weapons even if by accident. Intense conflict, complex operations, and great uncertainty characterized many of the situations where CW incidents occurred. These sources of friction helped cause accidents, but did not cause escalation. All of the military organizations involved also had plans, troops, and weapons for CW use but, contrary to traditional organization theory, their routines did not generate escalation. According to the security dilemma argument, both sides should have felt insecure due to the surprise-attack advantage of CW, should have been poised to strike back to minimize disadvantage, and should have been leery of any type of trust in enemy restraint. It was widely acknowledged that gas was most effectively used in a surprise attack.<sup>87</sup> For example, General Ochsner, the head of German CW in World War II, argued that where attacker and defender are equally well prepared, the attacker has the advantage because of ability to complete preparations, achieve surprise, and choose

---

86. This is evident in the analysis and calculations of individual countries and outside experts. For example, in Britain a 1939 review of gas requirements concluded that “with added and improved weapons chemical troops will be used in a future war more than they were in the last.” See “Gases for Use in the Field and the Quantity of Each Required,” prepared by the Director of Military Training and Director of Staff Studies by request of the Intra-service Committee on Anglo-French Chemical Warfare Conversations, July 7, 1939, War Office 193/740, PRO. From December 1939 tests, the British concluded that, “we have at our disposal a potential weapon of great value.” See “Chemical Warfare—High Spray Trials,” from MO1 to DDMO, January 30, 1940, WO 193/726, PRO. Military intellectuals such as B.H. Liddell Hart and J.F.C. Fuller were also proponents of CW.

87. Gas was not, however, a use-it-or-lose-it weapon, nor was CW just an “offensive” weapon. It could be used for both offense and defense. Generally it was seen as benefiting those interested in inhibiting fast moving operations after it had been introduced to the battlefield. But initial use could facilitate an offensive by opening wide gaps in enemy lines, as was the case with Germany’s first use of CW in World War I. British planners in World War II argued that CW might be effective in breaking through enemy lines if the offensive towards Germany were stalled in Italy or France. See Joint Planning Staff Memorandum, “Military Considerations Affecting the Initiation of Chemical and Other Special Forms of Warfare,” July 27, 1944, PREM 3/89, PRO.

the time, place and scale of attack. The defender would be hard pressed to keep defenses ready and would have to fight under the most unfavorable conditions.<sup>88</sup> Inadvertent escalation would seem likely in these circumstances. However, the history of incidents involving chemical warfare in World War II—that is, its non-use—challenges this notion. The organizational culture approach argues that both Germany and Britain had “ways of war” that worked to suppress inadvertent escalation. Indeed, that is what we find.

BRITAIN AND THE ABSENCE OF CW INADVERTENCE. Of the armed forces of Britain affiliated with chemical warfare, none found it a desirable weapon, and organizational routines for its use were not accorded the attention and funding other areas received. Given their prevailing orthodoxy of war-fighting, this is not surprising. In the Army, chemical warfare development was relatively ignored for three reasons. First, the legacy of gas use in World War I had alienated mainstream officers to this form of warfare. They did not like the interference of civilian chemists, the special privileges accorded to the companies that were tasked to wage CW, and the way that gas complicated the traditional battlefield. Second, the Army’s conservative approach to innovation worked against the acceptance of chemical weapons. The Army was but a loose collection of traditional regiments, like sports or social clubs, that soldiers relished as a refuge from social and technological change. Within this system, the technical or mechanical officer was looked down upon. Gas was a technical weapon. The Director of Artillery was left in charge of chemical warfare, yet artillerymen seemed more concerned with their horses than with their technical equipment. Finally, the Army had few resources and no central war scenario. This inhibited development of weapons like CW that were affected by the specific geographical and climatological conditions of the area in which they would be used.<sup>89</sup>

---

88. Lt. General Herman Ochsner, *History of German Chemical Warfare in World War II, Part I: The Military Aspect*, P-004a (Historical Office of the Chief of the [U.S.] Chemical Corps, 1949), p. 4, NA.

89. See L.F. Haber, *The Poisonous Cloud: Chemical Warfare in the First World War* (Oxford: Clarendon Press, 1986), pp. 269, 273; J.B.S. Haldane, *Callinicus: A Defense of Chemical Warfare* (New York: Dutton, 1925), pp. 34 and 37; Brian Bond, *British Military Policy Between the Two World Wars* (Oxford: Clarendon Press, 1980), pp. 35–71, 132; Shelford Bidwell and Dominick Graham, *Firepower: British Army Weapons and Theories of War 1904–1945* (London: George Allen and Unwin, 1982); chapter 9, and p. 180; and M.M. Postan, D. Hay, and J.D. Scott, *Design and Development of Weapons* (London: HMSO, 1964) pp. 238–240, 253. It was recognized that the effect of CW depended on local weather and geographic conditions. See CID, “Chemical Warfare Policy,” November 1924, p. 15, WO 188/144, PRO.

RAF thinking was more compatible with gas use yet CW development was in the hands of the Army and it received little attention or advocacy in the Air Ministry. The RAF recognized a potential role for CW, but when it appeared that CW development would reduce funding for more preferred tools, such as bombing with high explosives and incendiaries, the RAF was willing to forgo the option.<sup>90</sup> The individuals that did advocate CW were censured by higher authorities.<sup>91</sup> In wartime, and specifically in the decisions of 1944, the COS, led by the RAF, did not want their high-explosive and incendiary bombing loads cut in favor of gas. The former, they argued, were well-trying and known to be effective. Although the bomber offensive was not working as intended, the blinders of RAF culture inhibited Britain from seeing this.<sup>92</sup>

This cultural aversion to CW was reflected in the British military's strong interest in avoiding its use. This is a dynamic unanticipated by traditional organizational theory, which expects that militaries in war tend to foster escalation.<sup>93</sup> Yet in several instances, incidents that could have led to CW escalation were ignored or purposefully suppressed. The first was in late 1940 when the War Office received reports from the Middle East that Italy was preparing to use gas in Ethiopia. The Commander-in-Chief of Middle East Forces suggested that a threat of retaliation in kind be made to deter it. The War Office quashed the suggestion, fearing that giving attention to cases of possible use without actually retaliating (there was doubt Britain could or would) might indicate to Germany that the UK feared a gas war, and thus encourage the Nazis to use it. It was decided that should the Italians employ

---

90. Also see CID, "The Manufacture of Toxic Gas for Use in War," Memorandum by the War Office and Air Staff, July 26, 1938, CAB 4/28, PRO. Paul Harris, "British Preparations for Offensive Chemical Warfare, 1935-1939," *Royal United Services Institute Journal*, Vol. 125, No. 2 (June 1980), p. 61. For a similar assessment during the war, see CAS to the COS, "Chemical Warfare," November 14, 1941, WO 193/711, PRO.

91. In 1942, Hugh Dowding, CINC of Fighter Command, wrote in a draft of an article that "mustard gas should be used in an air attack on Germany." But this view was not approved by the COS and he had to delete it. This was noted in a letter from Dowding to Basil Liddell-Hart. See B.H. Reid, "Gas Warfare: The Perils of Prediction," in David Carlton and Carlo Schaerf, eds., *Reassessing Arms Control* (London: Macmillan, 1984), p. 153.

92. See F.H. Hinsley, *British Intelligence in the Second World War, Vol. III, Part I* (New York: Cambridge University Press, 1988); pp. 298-307; Wilensky, *Organizational Intelligence*, pp. 24-28.

93. This is particularly true in forms of warfare that already have well-developed routines and that are non-innovative. CW fit both of these categories. Britain had prepared to use it and had already done so extensively in World War I; thus its use was not innovative. In fact, of the three means of warfare, strategic bombing was the most radical change from conflict in World War I.

gas, the whole matter would be swept under the rug: "Publicity should not (repeat not) be given to the fact."<sup>94</sup>

The same phenomenon happened in 1942 with respect to reports from the Far East that left little doubt that Japan was using gas in China. The Army thought that it was best to ignore this use since any British retaliation might lead to unrestricted Japanese CW in India, an area that was considered vulnerable to gas attacks.<sup>95</sup> This was a strategic calculation, but one that was defined by a culture hostile to CW use. For even when strategic circumstances changed, when India was not at risk in 1944, the COS still refused to accept the evidence that the Japanese had used gas.<sup>96</sup>

In another example, when the Soviets became worried in the winter of 1942 that the Germans were readying to unleash a gas war, Stalin asked Churchill for help. This was given in the form of a pledge: If the Germans used CW against the Russians, the Allies would use CW against the Nazis. This idea threw the British military into frenzy. The COS felt the promise might lead to immediate chemical warfare. Many were especially upset because the United Kingdom had no means to verify whether Soviet claims of German use were actually true.<sup>97</sup>

A final incident occurred during the German bombing of Bari Harbor in Italy in December 1943. One of the Luftwaffe bombs hit a U.S. supply ship, the *S.S. John Harvey*, that was carrying 2,000 100-lb. mustard bombs to be used in case CW escalated. The gas was released into the harbor where many sailors ended up in the water during the raid. Clouds of the toxic agent drifted over the town. Some 1,000 civilians, as well as soldiers, were killed at Bari, many from the contaminated water and air. In contrast to Britain's reaction to the accidental bombing of London, the Allies did not propagandize the event or use it as an excuse for retaliation, but instead covered it up. Medical reports of wounds were allowed to describe chemical weapon injuries only in general terms, and strict censorship was instituted at all military bases. When it was clear that the accident could not be kept secret, the Combined Chiefs of Staff prepared a statement which reiterated that "Allied policy is not (repeat not) to use gas unless or until the enemy does

---

94. Telegram from the War Office to the CINC Middle East, December 16, 1940, WO 193/721, PRO; "Chemical Warfare: Use of Gas by Italians and Policy for Retaliation," WO 193/725, PRO.

95. "Japanese Gas Warfare in China," July 14, 1942, WO 193/723, PRO.

96. Ismay (for COS) to PM, June 28, 1944, PREM 3/89, PRO.

97. 11th Meeting of the Defence Committee, April 17, 1942, WO 193/711, PRO.

so first but that we are fully prepared to retaliate and do not deny the accident, which was a calculated risk."<sup>98</sup>

GERMANY AND THE LACK OF INADVERTENT CW. German military culture was no more favorable to gas than was Britain's and the effect of unintended incidents on escalation was the same: restraint endured. Dating back to Moltke, German military thought focused on fast, decisive maneuver and encirclement as a means of victory. In World War I, a skeptical military was convinced to try gas based on the argument that it would break the stalemate of trench warfare.<sup>99</sup> It did not. In fact it turned out to be a poor fit with Germany's desired operations in World War I because it inhibited mobility and impeded the aggressiveness of soldiers. In addition it led to civilian interference in military affairs, particularly by officially sanctioned chemists.<sup>100</sup>

German doctrine on the eve of World War II was decidedly offensive: fast-moving and long-range armored and motorized units would spearhead the attack, break through the enemy's front, penetrate quickly and deeply into the rear, counter enemy efforts to block encirclement or escape, and sever communications, supply, and command lines. Infantry divisions would then move in for annihilation battle from the front. Chemical weapons, which were cumbersome, could play only a limited role in such a strategy. CW equipment and munitions would jam supply lines, and chemical casualties were difficult to handle: they did not die easily and needed intensive care. This was particularly true since the use of gas in offensive operations would have demanded centralized control which clashed with the decentralized German *auftragstaktik* system.<sup>101</sup>

For reasons that differ from Britain's—Germany's later defensive stance, the threat to its survival, and the mercurial nature of Hitler, who ignored many norms of state behavior—it may seem surprising that the Reich did

---

98. Robert Harris and Jeremy Paxman, *A Higher Form of Killing: The Secret Story of Chemical and Biological Warfare* (New York: Hill and Wang, 1982), pp. 119–123.

99. Robert M. Citino, *The Evolution of Blitzkrieg Tactics: Germany Defends Itself Against Poland, 1918–1933* (Westport, Conn.: Greenwood Press, 1987), p. 81; Matthew Cooper, *The German Army 1933–1945* (New York: Stein and Day, 1978) pp. 139–140; Frederic J. Brown, *Chemical Warfare: A Study in Restraints* (Princeton, N.J.: Princeton University Press, 1968), p. 5.

100. Haber, *The Poisonous Cloud*, p. 269, 273. Some of the reasons for the poor fit between culture and CW in Germany, as in Britain, are related to factors that traditional organizational theorists would stress (for example, a bias towards offense and autonomy), but the outcome—restraint—does not fit the predictions of the traditional school.

101. Ochsner, *The History of German CW*, p. 5; Stockholm International Peace Research Institute [SIPRI], *The Problem of Chemical and Biological Warfare, Volume I: The Rise of CB Weapons* (New York: Humanities Press, 1971), p. 307.

not reflexively lapse into CW use. Coupled with security dilemma considerations, such as surprise-use advantages, it is even more curious why there was no accidental escalation. Yet from a military culture perspective, the lack of escalation is not a puzzle.

During Germany's invasion of Poland, mustard gas was used in the Polish defense of the Jaslo bridge, resulting in several German casualties and deaths. Instead of responding in kind, however, the Third Reich's military assumed that the Polish Supreme Command had not ordered the use of gas. They were right, but the choice seemed more a product of hopeful expectation than shrewd analysis.<sup>102</sup> The benign assumption that the Germans made in this situation, that the gas use was not intentional, contrasts sharply with what Britain concluded about the Luftwaffe raid on London, or Lemp's judgment on the status of the *Athenia*. When the German Foreign Ministry wanted to use the incident for propaganda, General Halder was quick to squelch the idea. It appears that he, like his British counterparts, was afraid it might lead to the initiation of CW.<sup>103</sup>

A second incident in July 1941 testifies to the unusual efforts some states went to in hopes of avoiding escalation in certain areas. The Soviet Union claimed that Germany was getting ready to use chemical weapons. This accusation was based on the capture of a German manual on the offensive use of gas. In response, Germany was quick to announce through its official news agency that the manual was merely a training guide, allowed by the Geneva Protocol, and not an imminent plan.<sup>104</sup> That same summer, German military leaders had received five reports from the field that the Soviets had used chemical weapons. One involved a bomber, two were artillery attacks and two were armored vehicle assaults. The Germans decided that not enough "objective" evidence existed that the attacks had occurred. But since twelve German soldiers had mustard gas wounds, it was conceded that perhaps a single gas bomb had been dropped. Otherwise, however, the incident was ignored.<sup>105</sup>

---

102. Ochsner states that this finding was "a great relief to us." Ochsner, *The History of German CW*, p. 16.

103. "Pressepropaganda Gelbkreuzgasverwendung durch die polnischen Truppen," September 23, 1939, RW 5/v.346, BA-MA.

104. But, "if the Soviets use the discovery of German instructions about gas as an excuse to begin gas warfare, Germany will answer appropriately." "Abschrift. Auszug aus der Times vom 26 July 1941," RW 5/v. 346, BA-MA.

105. See Armeeeoberkommando 11 an Oberkommando des Heeres, July 1, 1941, RW 5/v. 346, BA-MA, for a list and description of the injured soldiers. For the analysis of the incidents see

Another provocative accident occurred during the Allied invasion of Italy at Anzio in 1943. A German shell struck an Allied weapons depot containing chemical munitions. The explosion released a cloud of gas that drifted towards the German lines. The Allied commander was quick to notify his German counterpart that this release of gas was strictly inadvertent. The German officer accepted the explanation despite his disadvantage had the Allied officer been lying.<sup>106</sup>

Even at the end of the war, when the Germans faced imminent political extinction and the Allies feared desperate escalation, there was no last resort to CW in the confusing, threatening, frenzied disintegration of the Third Reich. In fact, Germany became particularly cautious about unauthorized use. Supplies were ordered moved, not destroyed, so as to avoid any event that might give the enemy a pretext for CW use.<sup>107</sup> Chemical stocks and factories were given top priority in the allocation of scarce transport space. Despite precautions, on April 18, 1945, an accident at a chemical depot in central Germany led to the contamination of the surrounding twenty kilometers. The Wehrmacht anticipated that the enemy might point to such an incident as an excuse for initiating deliberate use of CW and it recommended halting the risky transfer of chemical stocks and giving the Allies the location of the sites. Hitler vetoed this order.<sup>108</sup> Nonetheless, there was no escalation.

#### ORGANIZATIONAL CULTURE AND INADVERTENCE

Variations in inadvertent escalation in World War II are explained better by organizational culture than other prominent images of escalation. The significant influence of culture is summarized in Table 1. There are two key facets of the link between organizational culture and inadvertence. The first

---

"Mitteilungen über Gaskriegsvorbereitungen im Ausland Nr. 10," August 12, 1941, RH 11 IV/v. 17, BA-MA.

106. This incident is related by Lord Ritchie-Calder, who was Director of Political Warfare in the Foreign Office during the Second World War. See Steven Rose, ed., *CBW: Chemical and Biological Warfare* (Boston: Beacon Press, 1968), p. 14.

107. Oberkommando der Wehrmacht, "Gaskriegsvorbereitungen," February 4, 1945, RW 4/v. 720, BA-MA.

108. Rolf-Dieter Mueller, "World Power Status Through the Use of Gas? German Preparations for Chemical Warfare," in Wilhelm Diest, ed., *The Wehrmacht and German Rearmament* (London: Macmillan, 1981), pp. 200–201; Stephen L. McFarland, "Preparing for What Never Came: Chemical and Biological Warfare in World War II," *Defense Analysis*, Vol. 2, No. 2 (1986), p. 114; F.H. Hinsley, *British Intelligence in the Second World War: Its Influence on Strategy and Operations*, Vol. III, Part II (New York: Cambridge University Press, 1988), pp. 577 and 929–930. Brown, *Chemical Warfare*, p. 237, suggests that Hitler may have ordered gas attacks at the end of the war but officers and officials did not carry out his command.



**Table 1. A Summary of the Cases. Does Theory Predict Inadvertence?**

	Friction	Security Dilemma	Traditional Organization Theory	Organizational Culture	Actual Outcome
<b>SUBMARINE WARFARE</b>					
U.K. <i>Oxely</i> accident	?	?	Yes	Yes	Yes
U.K. <i>Bremen</i> non-accident	No	No	Yes	No	No
Germany	No	No	Yes	Yes	Yes
<b>STRATEGIC BOMBING</b>					
U.K.	Yes	No	Yes	Yes	Yes
Germany	Yes	No	Yes	No	No
<b>CHEMICAL WARFARE</b>					
U.K.	Yes	Yes	Yes	No	No
Germany	Yes	Yes	Yes	No	No

connects organizational predilections to the types of accidents that are likely. Clausewitz tells us that accidents are unpredictable and unavoidable in the complexity of war. The incidents reviewed above do seem to have multiple causes and do not fit neatly under any one theory except the vastly generalized and residual one of friction. Nonetheless, some accidents may fit more of a pattern than would be suggested by a random-walk thesis. Some degree of regularity matches organizations to accidents, as Graham Allison suggested in *Essence of Decision*.<sup>109</sup> But the thrust of Allison’s argument—and that of others who have employed traditional organization-theory logic—assumes that, in gross terms, similar organizations act in similar ways. According to this logic we should expect militaries with the same structures and functions to incur the same types of incidents. But this emphasis on structure neglects the importance of beliefs and norms. As was demonstrated by the differences between the accidents of German and British submarines, similar structures and functions did not produce the same type of results. The submarine forces of both navies were prepared to target and destroy enemy ships. But the British Navy saw only a role for hitting warships, whereas the German

109. E.g., Allison, *Essence of Decision*, pp. 139–140. Where friction was comparable—for example in the British and German submarine situations—an accident occurred in one, but not in the other. And even where friction is expected to be most decisive—where warfare is complex, fighting intense, and information uncertain—accidents did not cause escalation. This was apparent in the restraint that endured in CW during the fierce battles on the continent in the latter stages of WWII.

Navy considered anti-trade attacks as a central form of warfare. A focus on this divergence in the hierarchy of beliefs in military organizations more accurately accounts for what occurred. The role of culture is more important—and the influence of the armed forces more varied in that they can also inhibit accidents, than is recognized by friction, the security dilemma, or a traditional organization viewpoint.

The second, and more important, tie between organizational culture and accidents concerns the impact of the unintended incidents that do occur. Avoiding accidents altogether may be an impossible task. But as we have seen, some accidents lead to escalation, while others do not. Contrary to the expectations of the traditional organizational school, militaries do not always push events towards escalation, even after hostilities have begun. Depending on culture, military organizations may act as inhibitors or as advocates of escalation. The armed forces play a central role in war through the development of capabilities, planning, information processing, operational response, and judging military utility, and their cultures thereby have a decisive impact on national choices. Where specific means of warfare are compatible with one side's organizational culture, accidental use of a taboo means of warfare by the enemy often leads to escalation. Militaries and states in such situations are likely to emphasize the antagonistic role the other side played, encourage propagandistic use of the incident, and stress the military advantage in their own escalation. Such tendencies increase the likelihood of inadvertent escalation, as was evident in German submarine warfare and Britain's bombing of Berlin.

In contrast, when a type of warfare is antithetical to organizational culture, restraint endures in the face of provocative enemy incidents. Information encouraging escalation is suppressed, enemy actions are taken on faith to be accidents, efforts are made to communicate good will to the opposing side, and internal proposals to seize propaganda advantages are rejected. These dynamics were evident in German strategic bombing, and British and German decisions related to chemical warfare. As we have seen, escalation windows are inevitably thrown open in the midst of conflict by the unintended and often unpredictable incidents that occur in "unthinkable" restricted means of warfare. But whether states jump through those windows seems to be importantly affected by military culture.

### Contemporary Inadvertence

Some of the taboos of the inter-war period remain intact to varying degrees today. Chemical and biological warfare continue to be stigmatized, and so too is strategic bombing, as seen in the allied efforts to avoid civilian casualties in the Gulf War. The most striking distinction between the period examined above and the modern age is the immensely destructive force of nuclear weapons.<sup>110</sup> Some believe that any serious armed clash between major power antagonists would be likely to result in nuclear use. Some assume that an accidental event involving a nuclear weapon, particularly in the midst of war, would lead to a widespread exchange.<sup>111</sup> What the organizational culture approach suggests, however, is that this need not be the case. Depending on organizational predilection, some incidents are likely to lead to escalation while others will not. Thus for national leaders, the ability to control escalation involves understanding and managing bureaucratic culture. This is a different sort of enterprise than those suggested in other recent studies. It is not about the technical specifications and procedures of command and control systems.<sup>112</sup> Nor is it about the formal structural traits of organizations themselves.<sup>113</sup> Furthermore, the primary focus is not on the *explicit* nature of civil-military relations and the problem of getting soldiers to adhere to the orders and aims of the higher military or civilian leadership, although that is certainly a concern.<sup>114</sup>

Rather, the policy task is first, to understand the norms and beliefs of military services on war-fighting that permeate the plans, capabilities, and

---

110. It is unlikely that these powerful tools of violence have neutralized the dynamics of the images of inadvertence discussed here. Friction, the security dilemma, and organizational dynamics have all figured prominently in research on the nuclear age; e.g., Barry Posen uses all three in his study *Inadvertent Escalation*.

111. This is the predominant thrust of traditional organization theory, "friction," and "normal accident" theorists, along with most who study nuclear accidents. See Bracken, "Accidental Nuclear War," in Graham T. Allison, Albert Carnesale, and Joseph S. Nye, Jr., eds., *Hawks, Doves, and Owls: An Agenda for Avoiding Nuclear War* (New York: W.W. Norton, 1985), pp. 37–49; and Sagan, *The Limits of Safety*, pp. 250–51, 259–264. For an argument that rejects this thinking, see John Mueller, *Retreat from Doomsday: The Obsolescence of Major War* (New York: Basic Books, 1989), pp. 237–238.

112. E.g., Blair, *The Logic of Accidental Nuclear War*.

113. Although they acknowledge the role of culture, this is the focus of the "high reliability" theorists discussed in Sagan, *The Limits of Safety*, pp. 14–28.

114. On control of U.S. nuclear weapons, this issue is covered thoroughly by Peter Douglas Feaver, *Guarding the Guardians: Civilian Control of Nuclear Weapons in the United States* (Ithaca: Cornell University Press, 1992).

skills available to keep the peace. Secondly, it is to shape that culture, if necessary, so that it is compatible with national objectives. These tasks are far from simple. Professional military cultures form in a society set apart from the broader nation they serve, and such organizations have no domestic competitors to ensure that the consumer (i.e., national interest) is well-served. Even in the United States, where there is a tradition of civilian oversight and “independent” bodies to contribute to military thinking, outsiders (especially those who spend four years in Washington and then move on) sometimes have problems gaining obedience to explicit directives, let alone the ability to affect organizational culture.<sup>115</sup> Nonetheless, there is a need for alternative parties—probably civilian experts authorized by the highest levels of government—to review operational plans.<sup>116</sup> This is not about who has the final say in using force: that is clearly the political leadership. Instead, the issue is how choice is subtly, but powerfully, circumscribed by the pre-existing organizational mind-set, with its attendant capabilities, skills, and intelligence, that dominates operational thinking. Thus, the central task is to explicate and assess the assumptions and beliefs that shape the way that militaries think about practical war-fighting in terms both of their own efficacy and of political objectives.

The aim of such an effort would not be to de-professionalize or to politicize America’s competent armed forces.<sup>117</sup> Nor is it to blame soldiers for doing an inadequate job. Militaries cannot be considered the cause of war, nor should they be pictured as an unwavering source of escalation. The armed forces can act as a friend of restraint as well as a foe (and either role might serve a national purpose). Nonetheless, the pervasive influence of military culture on inadvertence suggests the need to improve understanding of the beliefs and norms that characterize these organizations. It is certainly in the national interest, and to the benefit of international security, that war-fighting cultures be compatible with higher level political strategy and goals.

---

115. A range of anecdotes and analysis on this topic are found in Janne E. Nolan, *Guardians of the Arsenal: The Politics of Nuclear Strategy* (New York: Basic Books, 1989), pp. 5–6, 31–32, 248–285; and Feaver, *Guarding the Guardians*, pp. 227–229, 232–234, 242–244.

116. Posen, *Inadvertent Escalation*, p. 217, offers some good proposals along these lines.

117. The dangers of doing so have been articulated in the classic work by Samuel P. Huntington, *The Soldier and the State: The Theory and Politics of Civil-Military Relations* (Cambridge, Mass.: Harvard University Press, 1957).