

# GAS, GAS, GAS!

## The Debate Over Chemical Warfare Between the World Wars

Christopher A. Warren

The taboo against the use of chemical weapons in warfare has existed since the end of the First World War. With a few notable exceptions, these weapons of mass destruction have never been used extensively between belligerent nations since 1918. Even Adolf Hitler, the leader of Nazi Germany who had no compunction in using chemicals to perform mass murder on civilians, initially refused to engage in chemical warfare against the Allies.<sup>1</sup> Revulsion over the use of chemical weapons was so allegedly widespread that even Gen. John Pershing, commander of the American Expeditionary Force in the First World War and the man responsible for establishing the first gas warfare unit in the American military, gave voice to what has become the conventional wisdom regarding chemical warfare when he stated in a 1922 report that “chemical warfare should be abolished among nations, as abhorrent to civilization. It is a cruel, unfair and improper use of science. It is fraught with the gravest danger to noncombatants and demoralizes the better instincts of humanity.”<sup>2</sup> Yet despite the perceived distaste for poison gas, the United States did not successfully ratify a treaty to ban the use of chemical weapons in warfare until 1975.



Attendees at the Washington Naval Conference, 1921–22, with Gen. John J. Pershing (second from right).

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<sup>1</sup> Most historians agree that chemical weapons were not employed in the Second World War for four main reasons: 1) mutual deterrence—both sides warned that any use of chemical weapons would result in strong retaliatory use of chemical weapons; 2) a general public abhorrence at the thought of using gas; 3) the influence of the 1925 Geneva Protocol; and, 4) the lack of training by various militaries in the tactical use of chemical weapons. However, there is some indication that Hitler may have considered using chemical weapons in the later stages of the war, especially against Soviet troops, whom he considered subhuman. See Jonathan B. Tucker, *War of Nerves: Chemical Warfare from World War I to Al-Qaeda*, (New York: Anchor Books, 2007), 66–82. Franklin Roosevelt was vehemently opposed to chemical warfare, stating that that use of chemical weapons was “inhuman and contrary to what modern civilization should stand for.” See *New York Times*, “President Assails War Gases in Veto.” *New York Times*, Aug. 5, 1937.

<sup>2</sup> Quoted in Richard M. Price, *The Chemical Weapons Taboo* (Ithaca: Cornell University Press, 1997), 82.

From 1919 to 1939 chemical warfare and chemical weapons were a hot topic in political circles and international diplomacy as well as popular culture in the western world. Particularly in the United States, Great Britain, France, and Germany, the threat of chemical weapons became a prominent subject of international relations. Between 1921 and 1932 three international conferences discussed the legitimate use and control of chemical weapons in warfare.

It is commonly believed that these disarmament conferences and the push to ban offensive chemical weapons were the inevitable result of widespread repugnance against gas warfare caused by the experiences of soldiers in the First World War.<sup>3</sup> As one security expert stated, “The western abhorrence of chemical weapons results from our own experience in World War I.”<sup>4</sup> Yet the interest in chemical weapons during the interwar period was not a one-way street. Some prominent chemists, politicians, journalists, military commanders, and even World War I veterans advocated for gas warfare. Various arguments, such as the relative humaneness of chemical weapons versus conventional weapons, the minor number of deaths that occurred due to gas in World War I, the inevitability of their use in future wars, and the inability to enforce prohibition against their creation, buoyed vocal opposition to signing any treaties that forbid chemical warfare. The interwar period, then, was marked by clear divisions on the issues of chemical weapons and an inability to achieve international agreement.

This essay explores the reasons for the lack of consensus on chemical weapons in the interwar period. The major powers could not agree on the proper use of chemical weapons and their role in future warfare. The contentious environment existed for two reasons. First, despite the experience of gas use during the Great War, participants could not agree on the actual level of danger from chemical weapons or the future hazard of chemical warfare. Second, because of the lack of a credible enforcement mechanism to monitor abolition of chemical weapons, the major powers hesitated to relinquish control of their stockpiles and production capabilities for fear of falling behind militarily. Chemical weapons research and production, at least on a small scale, could easily be hidden in legitimate commercial-industrial facilities and rapidly expanded in a crisis. Any agreement

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<sup>3</sup> Andrew Webster, “Piecing Together the Interwar Disarmament Puzzle: Trends and Possibilities,” *International Journal* 59, no. 1 (Winter 2003/2004): 193–94; Tucker, *War of Nerves*, 21.

<sup>4</sup> Statement by Brad Roberts in Senate Committee on Foreign Relations, *Chemical Warfare: Arms Control and Nonproliferation: Joint Hearing before the Committee on Foreign Relations and the Subcommittee on Energy, Nuclear Proliferation and Government Processes*, 98th Cong., 2nd sess., June 28, 1984, 60–61.

to prohibit the use of chemical weapons relied on trust among nations, and trust was not in abundance in the aftermath of the “war to end all wars.”

Judgment against the use of chemical weapons, at least in the United States, was far from unanimous. Opinion ran the gamut from those who believed chemical weapons would act as a deterrent thus making future warfare less likely, to those who deemed chemical warfare unnecessarily gruesome, immoral, and dishonorable. The controversy over chemical weapons took place in an environment sensationalized by military leaders, politicians, chemical industry advocates, and the popular media. More than the actual experience of chemical attacks in World War I, it was the sensationalized threat of gas warfare on noncombatants that ultimately created the momentum against the use of chemical weapons.

### **Chemical Warfare Before the Great War**

The use of chemical or poisoned weapons has a long history in warfare. According to recent archaeological investigations, poison gas consisting of sulfur crystals and a “tarlike substance” known as bitumen was pumped by Persian invaders into a tunnel underneath the defenders of the Roman city of Dura-Europos in modern-day Syria nearly 2,000 years ago. Research indicates that at least 20 Roman soldiers died from this primitive form of chemical warfare. Ancient history is filled with other examples of the use of chemical weapons, from the Roman Army poisoning wells of besieged cities, the Byzantine use of “Greek fire,” and the Chinese use of limestone powder as a primitive riot-controlling tear gas, to the fifth-century B.C. Brahmanic Laws of Manu outlawing the use of poison-tipped arrows.<sup>5</sup>

Although the revulsion against chemical warfare is as ancient as the use of the weapons themselves, other than a 1675 Franco-German treaty banning poisoned bullets in battle,<sup>6</sup> it was not until the last half of the 19th century that international diplomacy attempted to regulate the production and use of chemical weapons. The 1874 Brussels International Declaration concerning the Laws and Customs of War forbid the (a) “Employment of poison or poisoned weapons,” and (b)

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<sup>5</sup> Ishaan Tharoor, “Why Chemical Warfare is Ancient History,” *Time*, Feb. 13, 2009, <http://www.time.com/time/world/article/0,8599,1879350,00.html> (accessed Mar. 30, 2010). Greek fire was an incendiary weapon dating to the seventh century. Described as a liquid that was spewed from cylinders and igniting upon contact, it was reportedly inextinguishable and immune to water. While its composition has been lost to the ages, many have speculated it contained petroleum, sulfur, naphtha, quicklime, and saltpeter. The Brahmanic Laws of Manu are a code of Hindu principles first articulated in the fifth century B.C. forbidding the use of arrows tipped with fire or poison.

<sup>6</sup> Tucker, *War of Nerves*, 10.

“The employment of arms, projectiles or material calculated to cause unnecessary suffering.”<sup>7</sup> Though never ratified, this declaration and diplomatic discussion provided the groundwork for the 1899 First International Peace Conference in The Hague.<sup>8</sup> During this conference, 27 countries signed an agreement prohibiting the “use of projectiles, the only object of which is the diffusion of asphyxiating or deleterious gases.”<sup>9</sup> However this conference, along with the 1907 Second International Peace Conference in The Hague, had little effect on warfare in the first quarter of the 20th century.<sup>10</sup> Despite the 1899 and 1907 Hague agreements, chemical warfare would take a prominent role in the First World War.

On April 22, 1915, near the town of Ypres, Belgium, the modern era of chemical warfare began when the German military opened about 6,000 cylinders of liquid chlorine along a four-mile front against French and French-Algerian soldiers.<sup>11</sup> This initial attack of 168 metric tons of toxic gas killed approximately 5,000 Allied soldiers with 10,000 wounded.<sup>12</sup> The attack was so effective that after months of stalemate trench warfare a four-mile-wide hole was opened in the Allied line in just 36 hours. So surprised were the Germans by the overwhelming effectiveness of this new weapon they were unable to fully exploit the massive opportunity chemical weapons had created.<sup>13</sup> The German high command had initiated this treaty-breaking chemical warfare, and eventually the Allies would respond in kind. According to some estimates, by the end of the war one-third of all artillery munitions contained gas.<sup>14</sup>

Although incredibly effective in the early stages of use, chemical weapon defenses, mainly in the form of continually improved gas masks, advanced rapidly throughout

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<sup>7</sup> “Project of an International Declaration concerning the Laws and Customs of War,” Aug. 27, 1874, *International Committee of the Red Cross*, <http://www.icrc.org/IHL.nsf/FULL/135?OpenDocument> (accessed Apr. 11, 2010).

<sup>8</sup> Stockholm International Peace Research Institute, *The Problem of Chemical and Biological Warfare* (New York: Humanities Press, 1971), 17.

<sup>9</sup> “Final Act of the International Peace Conference,” July 29, 1899, International Committee of the Red Cross, <http://www.icrc.org/ihl.nsf/FULL/145?OpenDocument> (accessed Apr. 8, 2010).

<sup>10</sup> “Convention (IV) Respecting the Laws and Customs of War on Land and its Annex: Regulations Concerning the Laws and Customs of War on Land,” Oct. 18, 1907, International Committee of the Red Cross, <http://icr.org/ihl.nsf/INTRO/195?OpenDocument> (accessed Apr. 2, 2010).

<sup>11</sup> Robert Harris and Jeremy Paxman, *A Higher Form of Killing: The Secret Story of Chemical and Biological Warfare* (New York: Hill and Wang, 1971), 1.

<sup>12</sup> “A Brief History of Chemical Warfare,” Center for Nonproliferation Studies at the Monterey Institute of International Studies, [http://www.nti.org/h\\_learnmore/cwtutorial/chapter02\\_01.html](http://www.nti.org/h_learnmore/cwtutorial/chapter02_01.html) (accessed Apr. 8, 2010).

<sup>13</sup> Harris and Paxman, *Higher Form of Killing*, 2–3.

<sup>14</sup> L. F. Haber, *The Poisonous Cloud* (Oxford: Clarendon Press, 1986), 15–16.



An attack with flame and gas, World War I

the war. Thus, by the end of the conflict, as the use of chemical weapons increased, the number of casualties attributed to these weapons declined. By the time the armistice was declared on November 11, 1918, an estimated 124,000 metric tons of 21 different chemicals were used by both sides, delivered mainly via 66 million artillery shells. As much as one million casualties had been caused by these weapons with approximately 90,000 fatalities and many more blinded and disfigured. Of the American Expeditionary Force's (AEF) 272,000 casualties, approximately 26.8 percent were caused by chemical weapons. However, only 2 percent of these casualties were fatal.<sup>15</sup> During the interwar period, the low fatality rate of the AEF would be a prime argument for the continued use of chemical weapons in warfare.

### **Between the World Wars**

Immediately following the war, pressure increased to prohibit the use of chemical weapons. Undoubtedly the mass slaughter and extraordinary violence of trench warfare took its toll on the public. With casualty rates in excess of anything in human history due mainly to a combination of 19th-century tactics and 20th-century weaponry, pressure intensified to mitigate warfare by international treaty. Newspapers, images, and returning veterans all reminded people of the costs of war and the especially gruesome effects of chemical weapons such as severe pain, nausea, vomiting, and tissue damage to include extreme burning, swelling, blistering, and discharge from the mucous membranes.

Despite the war fatigue experienced by many after the Great War, and the call for a general military disarmament, when it came to chemical warfare the path forward was anything but straightforward. Publicly, at least in Great Britain and the United States, some groups advocated for continued development and use of chemical weapons while others argued for an international chemical warfare ban.

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<sup>15</sup> Tucker, *War of Nerves*, 20.

In general, those in favor of further developing chemical weapons held various beliefs. Among the most popular proponent arguments were that (1) treaties banning the use of weapons already employed in war were worthless because, as was proven by Germany's violation of the 1899 and 1907 Hague agreements, belligerent nations would simply ignore international accords if militarily advantageous, making future use of chemical weapons inevitable; (2) efforts to regulate chemical weapons production were unenforceable because any nation with a peaceful domestic chemical production industry could easily convert to weapons production in a short period of time; (3) due to the minor number of deaths caused by chemical weapons in the Great War and the defense against gas (mainly protective masks), these munitions were less harmful and more defensible than conventional weapons and therefore were actually more humane than bullets, bombs, artillery, and bayonets; and, (4) all new weapons, when introduced to the battlefield, only appear more dastardly because of their novelty.<sup>16</sup>

Arguing for the abolition or international regulation of chemical weapons, anti-gas activists tended to focus on the horrifying possibilities of chemical warfare in the future. Representative of the principles of the majority of opponents of chemical weapons, a distinguished group of British medical professionals called for the abolition of chemical warfare based on three main reasons:

1. It is an uncontrollable weapon, whose effects cannot be limited to combatants.
2. It is an "unclean" weapon, condemning its victims to death by long, drawn-out torture, and,
3. It opens the door to infinite possibilities of causing suffering and death, for its further development may well lead to the devising of an agent which will blot out towns, and even nations.<sup>17</sup>

The third objection, the belief that eventually a weapon capable of destroying towns and nations will be developed, fueled much of the public fear over chemical weapons. It was one of the strongest arguments that advocates for chemical weapons faced.

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<sup>16</sup> Edwin E. Slosson, "What Germany Escaped," *The Independent and the Weekly Review*, June 7, 1919.

<sup>17</sup> Norman Moore et al., "The Abolition of Gas Warfare," *The British Medical Journal* 2 (Nov. 30, 1918): 611. This article was signed by the Presidents of the Royal Colleges of Surgeons of England, Edinburgh, and Ireland; the Presidents of the Royal Colleges of Physicians of London, Glasgow, and Ireland; and two medical professors at the University of Cambridge and the University of Oxford.

### 1919 Treaty of Versailles

With the Treaty of Versailles, which officially ended World War I and established the League of Nations (forerunner of the United Nations) in 1919, the subsequent decade saw an increasing attempt to regulate warfare by international agreement. For the first time in the history of warfare there



A meeting of peace delegates at Versailles in 1919. Presidents Wilson and Poincare are at center back.

existed a truly international organization wherein sovereign nations could agree on rules that all states should abide by. Various armament reductions imposed on the Central powers were agreed to by all sides, and German chemical capabilities were specifically targeted.

The Treaty reiterated the ban on chemical weapons from the 1899 and 1907 Hague agreements and contained a provision specifically punishing German chemical warfare capabilities, ruling that “the use of asphyxiating, poisonous or other gases and all analogous liquids, materials or devices being prohibited, their manufacture and importation are strictly forbidden in Germany.”<sup>18</sup> This was done largely to combat the large size and sophistication of the German chemical industry, which was described by Victor Lefebure as striving for “world domination in the organic chemical industry.”<sup>19</sup> With the signing of the Treaty, many of the Allied powers began periods of general disarmament.

Starting in 1919, the United States, with much of the public advocating a return to international isolationism, began a period of military disarmament as well. This included pressure to disband the Chemical Warfare Service (CWS). The CWS was formed during the war on June 28, 1918, with the primary mission of

<sup>18</sup> “Treaty of Versailles,” June 28, 1919, <http://www.firstworldwar.com/source/versailles159-213.htm> (accessed Apr. 12, 2010).

<sup>19</sup> Victor Lefebure, *The Riddle of the Rhine: Chemical Strategy in Peace and War* (New York: The Chemical Foundation, 1923), 187. Lefebure was an officer in the British Chemical Warfare Special Brigade in WWI. This brigade carried out offensive operations with chemical weapons. As a company commander, he carried out on the night of October 5–6, 1916, one of the most successful cylinder gas attacks of the war on the French front. By the end of the war, Lefebure was the British Chemical Warfare liaison officer with the French, headquartered in Paris. After the war, he continued his career as a civilian chemist, became a Fellow of the Chemical Society, and lectured and wrote about chemical warfare and weapons.

conducting offensive and defensive chemical operations.<sup>20</sup> In 1919, Brig. Gen. Amos Fries, appointed during the war by General Pershing to organize the 1st U.S. Gas Regiment, lobbied the government and military to keep the CWS a permanent part of the military. Fries gave speeches and wrote articles advocating the use of chemical weapons and sensationalizing the danger to the United States of disbanding the CWS. He also used the domestic chemical industry and the American Chemical Society to advocate on behalf of the CWS. Fries succeeded in his task when the CWS was made a branch of the U.S. Army by the National Defense Act of 1920.<sup>21</sup>

The efforts of Fries and his supporters in the chemical industry may have been largely successful, but ironically the constant barrage of speeches, articles, and lobbying produced an unintended consequence. Fries successfully advocated for a robust American chemical warfare capability, but at the same time his efforts, along with a substantial public relations campaign by the chemical industry, created a heightened fear of chemical weapons and generated pressure to regulate the use of gas in future warfare. Sensationalizing the threat of chemical weapons in order to justify the usefulness of the CWS and further study of chemical weapons also caused a greater demand for regulation of chemical warfare.<sup>22</sup> Fries and the chemical industry had succeeded in retaining the CWS, but had sown the seeds for the eventual international prohibition against chemical warfare.

The League of Nations established obligations of member countries concerning disarmament. One of the purposes of the League was to advocate for a reduction in military armaments for all members. Due to the perceived worldwide revulsion over the effects of chemical weapons in World War I, gas warfare became a popular topic early in League negotiations. In 1920, during the fifth session of the First League of Nations Assembly, a proposal was presented by the British representative to the Council of the League to study the “problem of the use of poisonous gas in warfare.”<sup>23</sup>

After considerable investigation, the Permanent Advisory Commission for Military, Naval and Air Questions reported five months later that although the use of gas in war was “fundamentally cruel,” it was no crueler than conventional warfare techniques providing

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<sup>20</sup> U.S. Army Chemical, Biological, Radiological, and Nuclear School, “History of the Chemical Corps,” <http://www.wood.army.mil/cbrns/images/History.doc> (accessed Apr. 13, 2010).

<sup>21</sup> Tucker, *War of Nerves*, 20–21.

<sup>22</sup> Price, *The Chemical Weapons Taboo*, 73.

<sup>23</sup> Stockholm Institute, *Chemical and Biological Warfare*, 43.

it was only employed against combatants. The committee did state that the use of chemical weapons against civilians was “barbarous and inexcusable.” One member of the committee stated that any prohibition on chemical warfare research and stockpiling in peacetime would be detrimental to those who abided by the regulation because it would put them at a disadvantage against the inevitable use of chemical weapons by other nations. Despite the study, the findings of the committee were rejected by the Council of the League who categorically denounced gas warfare. After further debate and investigation by the Permanent Advisory Commission, little consensus was found on the problem of chemical weapons, and the topic was tabled for the time being.<sup>24</sup>



Gen. Amos Fries became chief of the U.S. Chemical Warfare Service in 1920.

Controversy over chemical weapons continued over the next two years. Advocates and adversaries of gas warfare squared off in print, writing editorials and articles defending their positions. While the propaganda battle waged on in the popular media, many of the major world powers called a meeting to discuss the potential reduction of each nation’s army and navy. When it became known that possible restrictions on chemical weapons would be discussed at the upcoming conference, many commentators began urging the American delegation to ignore calls for chemical warfare restrictions.

Arguments for and against international limitations on chemical weapons took various forms. One critic of potential limitations argued that the key to abolishing war was to make its effects increasingly horrifying. Gas warfare being the newest and deadliest form of inflicting mass casualties, the United States with its superior offensive and defensive chemical warfare capabilities was uniquely positioned to make existing armaments obsolete by ensuring the effectiveness and lethality of its chemical weapons, or so the critic believed. Far from urging a reduction in the stockpiling and researching of gas due to its ghastly effects, this commentator argued that the very horrific nature of chemical warfare made it the strongest possible deterrent against future conflict.<sup>25</sup>

<sup>24</sup> Ibid., 43–46.

<sup>25</sup> Theodore M. Knappen, “Chemical Warfare and Disarmament: To Abolish War Make It Increasingly Terrible,” *The Independent and the Weekly Review*, Oct. 22, 1921.

Still others believed that the use of chemical weapons, although now a fact of military life, could be controlled by an effective international organization. Victor Lefebure, the aforementioned First World War British chemical officer and renowned chemist, summed up the controversy over chemical warfare when he addressed the Grotius Society in 1921.<sup>26</sup> In his speech, Lefebure outlined the duality of the problem: patriotism and national security demanded research and development of chemical weapons, while humanity and peace required abolition.<sup>27</sup>

Lefebure, a known proponent of chemical warfare, argued that if an international organization could control the development and production of chemical weapons, scientists would happily stop their deadly work, which is only conducted to ensure that other nations do not gain an unfair military advantage. Lefebure went on to argue that addressing chemical warfare in an international setting was useful. He believed an international organization could suppress research into “poison gas” through the use of penalties and international condemnation. However he did not believe the League of Nations currently possessed that capability.<sup>28</sup>

These competing theories: (1) increasing chemical warfare capabilities based on national security concerns and military effectiveness; (2) outlawing chemical weapons based on humanitarian concerns, and (3) regulating chemical warfare through international treaty, outlined armament discussions for the next 20 years. Consensus was difficult to accomplish, and various organizations pressured political and military leaders. In this volatile environment, the Conference on the Limitation of Armaments, more commonly known as the Washington Naval Conference, was held in Washington, DC, from November 1921 to February 1922.

### **1921–1922 Washington Naval Conference**

The Washington Conference, attended by five of the World War I victors (the United States, United Kingdom, France, Italy, and Japan), convened to discuss

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<sup>26</sup> The Grotius Society was a British organization founded in 1915 to “afford facilities for discussion of the Laws of War and Peace, and for interchange of opinions regarding their operation, and to make suggestions for their reform, and generally to advance the study of international law.” C. P. Ilbert, review of *Problems of the War*, by The Grotius Society, *Journal of the Society of Comparative Legislation* 16, no. 2 (1916): 381. In 1958 the Grotius Society was merged into the British Institute of International and Comparative Law. British Institute of International and Comparative Law, “The History of the Institute, Part III,” [http://www.biiicl.org/historypart\\_iii/](http://www.biiicl.org/historypart_iii/) (accessed Apr. 20, 2010).

<sup>27</sup> Victor Lefebure, “Chemical Warfare: The Possibility of Its Control,” *Transactions of the Grotius Society* 7 (1921): 154, 162.

<sup>28</sup> *Ibid.*

reductions in naval armament, rules by which submarines and “noxious gases” would be used in warfare, and to formalize protections for noncombatants. Though the economic burden of an increasing naval arms race was the main topic of conversation, the American delegation, so influenced by the debate in the popular press and government/military circles over chemical weapons, suggested examining the question of gas warfare.

Despite an increasing public awareness of the escalating dangers of chemical weapons, consensus at the Washington Conference was difficult to establish. All sides agreed that a general prohibition was unrealistic for three main reasons. First, since many conventional weapons and explosives emit noxious gasses any outright ban on chemicals would potentially cause confusion and debate among international military authorities. Second, comprehensive supervision and regulation of chemical research and development was impossible. Third, those nations who honestly obeyed a chemical weapons ban would be at a major disadvantage against unscrupulous states that ignored the treaty. In fact, opposition to the regulation of chemical warfare was so strong that most members of the Washington Conference agreed that chemical weapons were no more or less dangerous than conventional weapons.<sup>29</sup> Once again, despite the international will to ban gas warfare, abolition was stalled by national governments who saw little hope in regulating chemicals.

Objections to regulation of gas warfare stemmed mainly from the perceived difficulty in enforcement and the fear of unscrupulous nations violating any treaty. Because of this, conference members agreed that although chemical weapons were universally condemned by the civilized world, there could be no limitation on chemical warfare between warring combatants.<sup>30</sup>

Despite disagreements at the Washington Conference, members did achieve a small measure of success concerning chemical weapons. Gas was still seen as something “different” than conventional weapons, and as such, conference members agreed that something needed to be done to protect civilians and noncombatants from the indiscriminate effects of chemical warfare. As a result of this effort, conference members signed a treaty with an article aimed at protecting noncombatants from gas. This provision states,

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<sup>29</sup> Price, *War of Nerves*, 76–77; Stockholm Institute, *Chemical and Biological Warfare*, 47.

<sup>30</sup> Price, *War of Nerves*, 77.

The use in war of asphyxiating, poisonous or other gases, and all analogous liquids, materials or devices, having been justly condemned by the general opinion of the civilized world and a prohibition of such use having been declared in treaties of which a majority of the civilized Powers are parties. The Signatory Powers, to the end that this prohibition shall be universally accepted as a part of international law binding alike the conscience and practice of nations, declare their assent to such prohibition, agree to be bound thereby as between themselves and invite all other civilized nations to adhere to.<sup>31</sup>

Although not specifically worded, this provision was designed to prohibit the use of chemical weapons against “cities and other large bodies of noncombatants in the same manner as high explosives may be limited.”<sup>32</sup> Unfortunately the Washington treaty never went into effect. While it was signed by the United States, among others, and ratified by the U.S. Senate, France contested antisubmarine provisions contained in the treaty and refused to ratify it. Although ineffective, the Washington Conference created necessary momentum that carried over into the 1925 League of Nations Conference in Geneva, Switzerland.

The Washington Conference exhibited the dichotomy existing between competing chemical warfare theories. Morally, the revulsion over the indiscriminate nature of gas, a threat to soldier and civilian alike, was the cornerstone of anti-chemical weapon sentiment. Militarily, the use of chemical weapons was still deemed as legitimate as any other form of armament. And practically, the international community saw little hope in successfully regulating and enforcing any type of ban on chemical weapons research and production. Far from the linear path of initial chemical weapon use to moral repugnance to international prohibition, the debate over gas warfare was contentious, difficult, and a constant battle.

This battle over chemical warfare often involved larger political issues. Pacifist organizations, particularly prominent following the First World War, often pointed to the perceived barbarity of chemical weapons as evidence to support their political agenda. Chemical weapon advocates questioned the factual basis of the pacifists’ claims. One U.S. naval officer, Capt. J. M. Scammell of the Naval War College, writing in the *North American Review* argued that the real danger to democracy and world peace was not chemical weapons, but pacifism. He

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<sup>31</sup> “Treaty relating to the Use of Submarines and Noxious Gases in Warfare,” Article 5, Feb. 6, 1922, *International Committee of the Red Cross*, <http://www.icrc.org/ihl.nsf/FULL/270?OpenDocument> (accessed Apr. 22, 2010).

<sup>32</sup> Price, *War of Nerves*, 77.

claimed that pacifists base their arguments on emotion, preying on the passions of the uninformed public. According to Scammell, pacifists do not make verifiable arguments because facts do not support their judgments.<sup>33</sup>

Contrary to the arguments of the pacifists, Captain Scammell asserted that chemical weapons held the potential of making war less likely. Gas masks gave almost complete protection from gas, he reasoned, therefore chemical weapons would primarily be used to decrease the morale of soldiers who were forced to continually wear uncomfortable protective gear, and not as an effective injury-inducing weapon. This damage to morale, he argued, would make an army less likely to resist and fight, thus decreasing bloodshed on both sides. Scammell closed his article by restating the by now commonplace pro-chemical arguments of greater relative humaneness, difficulty of regulation, and improbability of treaty adherence.<sup>34</sup>

Yet at the same time Scammell and other commentators were downplaying the danger and effectiveness of chemical weapons in combat, other military leaders were warning of the potential threat of gas weapons, especially when coupled with aircraft, on cities and unprotected civilians. Gen. P.R.C. Groves, the British Air Force Director of Air Operations during the First World War, warned that “the gas bomb is probably by far the most effective weapon for use from aircraft.” He stated that experts in chemical warfare agreed there was no foreseeable defense for cities from such attacks. Agreeing with Groves’s analysis, Brig. Gen. Billy Mitchell, commander of all American air combat units during World War I, testified before the House of Representatives Committee of Appropriations that the combination of chemical weapons and aircraft could effectively “kill every inhabitant” of New York City. Concurring with Groves and Mitchell, Gen. Donal Bradner, the Chief of Research of the Chemical Warfare Service of the U.S. Army, testified at a congressional hearing that one aircraft, carrying two tons of gas could kill everything in an area “100 feet wide and seven miles long.”<sup>35</sup>

Many military leaders and chemical warfare advocates believed that such testimony would galvanize politicians and the American public towards more robust research and development of chemical weapons. The theoretical ability of gas to destroy large population centers and thousands of civilians, they hoped, would translate into greater stockpiling and promotion of chemical weapons as a defense against other nations. Proponents believed that the United States, with its superior chemical

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<sup>33</sup> J. M. Scammell, “Chemical Warfare in the Future,” *North American Review* 216, no. 803 (Oct. 1922): 476.

<sup>34</sup> *Ibid.*, 478–80.

<sup>35</sup> P. J. Noel Baker, *Disarmament* (Port Washington: Kennikat Press, 1926), 277–78.

manufacturing industry, would dominate future warfare through the use of chemical weapons.

In reality, the tactic of instilling fear to lobby for increased chemical warfare capabilities was unsuccessful. In this ever-building climate of fear, the League of Nations queried various experts on the dangers of chemical weapons. Already building consensus against chemical warfare, the League questioned these experts in an attempt to increase awareness of the dangers of chemical weapons.<sup>36</sup> The resulting report of 1923 stated that (1) “Poisonous gases marked the appearance of a terrible weapon”; (2) “chemical weapons gave an immense superiority to any power with hostile intentions”; and (3) “the possibilities of camouflaging chemical preparedness were very great.”<sup>37</sup>



Gen. John Pershing, commander of the American Expeditionary Force in the World War I, and attendee at the Washington Conference, stated that “chemical warfare should be abolished among nations, as abhorrent to civilization.”

This report, along with the prior work of the 1921–22 Washington Naval Conference, provided the necessary momentum for the 1925 League of Nations Conference for the Supervision of the International Trade in Arms and Ammunition and in Implements of War. From this conference emerged the Protocol on the Prohibition of the Use of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare, commonly known as the Geneva Protocol.

### 1925 Geneva Protocol

While chemical weapons were of secondary importance to the 1925 conference, the Geneva Protocol was the only successful treaty to emerge from the negotiations. As opposed to prior debates in the League of Nations, a consensus, fragile though it was, emerged concerning chemical weapons. Initially delegates attempted to outlaw the exportation of chemical weapons, but many of the member states believed this provision would be ineffective in preventing the use of chemical weapons and would place those without domestic production capability at a significant disadvantage.<sup>38</sup> Although continued production and stockpiling was not addressed,<sup>39</sup> the real goal was to prevent the use of chemical weapons in warfare, and eventually an agreement was reached.

<sup>36</sup> Stockholm Institute, *Chemical and Biological Warfare*, 19.

<sup>37</sup> *Ibid.*

<sup>38</sup> *Ibid.*

<sup>39</sup> Tucker, *War of Nerves*, 21.

Using language from the unsuccessful 1921–22 Washington Naval Conference and referring to previously agreed provisions of the 1899 Hague Declaration and the 1919 Treaty of Versailles, member states finally agreed to prohibit the use of chemical weapons in war. The Geneva Protocol states,

Whereas the use in war of asphyxiating, poisonous or other gases, and of all analogous liquids materials of devices, has been justly condemned by the general opinion of the civilized world; and

Whereas the prohibition of such use has been declared in Treaties to which the majority of Powers of the world are Parties; and

To the end that this prohibition shall be universally accepted as a part of International Law, binding alike the conscience and the practice of nations;

Declare:

That the High Contracting Parties, so far as they are not already Parties to Treaties prohibiting such use, accept this prohibition, agree to extend this prohibition to the use of bacteriological methods of warfare and agree to be bound as between themselves according to the terms of this declaration.<sup>40</sup>

With this agreement, many believed the Geneva Protocol was the beginning of the end of chemical weapons. However, immediately following the conference chemical warfare advocates began a concerted campaign to keep the United States Senate from ratifying the treaty.

Led by the aforementioned Gen. Amos Fries, who in 1920 became the chief of the U.S. Chemical Warfare Service, the domestic chemical industry, various veterans groups, and the American Chemical Society, chemical warfare advocates lobbied Congress in opposition to the Geneva Protocol. Most surprising about the opposition to the Geneva Protocol was the involvement of veterans organizations. Many individuals who had actually experienced chemical warfare opposed the treaty. The American Legion, for instance, officially opposed ratification of the protocol. In one article, the American Legion legislative committee claimed “it was the experience of hundreds of thousands engaged in the last war that gas was one of the most humane weapons of warfare and also the most effective in bringing any war to an end.”<sup>41</sup>

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<sup>40</sup> “Protocol on the Prohibition of the Use of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare,” June 17, 1925, *International Committee of the Red Cross*, <http://www.icrc.org/ihl.nsf/FULL/280?OpenDocument> (accessed Apr. 22, 2010); David Hunter Miller, *The Geneva Protocol* (New York: The Macmillian Company, 1925).

<sup>41</sup> “Ban on Poison Gas Opposed by Legion,” *New York Times*, Oct. 11, 1926.

And yet the debate raged on. The mood for disarmament in general grew through much of the 1920s. Some peace advocates called for a general armament holiday, to include chemical weapons, in order to alleviate the economic costs of a large military for the United States and Europe.<sup>42</sup> The period 1925–26 proved to be the pivotal time for the opposition to the Geneva Protocol. Various speeches and articles appeared in the popular press urging against ratification of the treaty. The majority of the pro-chemical warfare propaganda emphasized the humaneness of chemical weapons, the ability of gas to shorten wars by their increased use in battle, the detriment to national security and preparedness a ban would produce, and the uselessness of any treaty attempting to regulate a known weapon.<sup>43</sup> In the end, opposition to the treaty was successful. Even with the backing of the White House, the Geneva Protocol remained marooned in the Senate Foreign Relations Committee and never came up for a vote before the full Senate.<sup>44</sup>

Through much of the 1930s, the controversy over chemical weapons continued. Proponents and opponents continued their campaigns through the media. Advocates used many arguments, claiming a ban on chemical weapons did not represent the conviction of the public, stating that much of the terror associated with gas was sensationalized and overblown, arguing that any attempt at abolition would be unenforceable and provide advantage to nefarious regimes that clandestinely develop weapons, and the oft-used “humaneness” claim. Some activists even claimed that gas was being singled out only because it was the newest form of warfare and the public feared the novel and unknown.<sup>45</sup> Despite the efforts of those endorsing chemical weapons, the political momentum for worldwide armament reduction resulted in one final pre–World War II effort by the League of Nations to address modern warfare—the 1932 Conference for the Reduction and Limitation of Armaments. While chemical weapons were discussed, no agreements were reached, and the overall conference ended in failure due to various issues between the United Kingdom, France, the United States, Germany, Japan, and the Soviet Union.<sup>46</sup>

<sup>42</sup> “Disarm of Perish,” *The Independent*, Oct. 2, 1926.

<sup>43</sup> W. Lee Lewis, “Poison Gas and Pacifists,” *The Independent*, Sept. 12, 1925; Edwin E. Slosson, “Chemical and Industrial Mobilization,” *Proceedings of the Academy of Political Science in the City of New York* 12, no. 1 (July 1926); “Hot Air and Gas,” *The Independent*, Sept. 4, 1926; “Stepping on the Gas,” *The Independent*, Dec. 25, 1926.

<sup>44</sup> Tucker, *War of Nerves*, 21–22. The Geneva Protocol was ratified by the U.S. Senate in 1975.

<sup>45</sup> “Gas Warfare Again,” *Chicago Daily Tribune*, Feb. 28, 1930; “Gas in Peace and War,” *Chicago Daily Tribune*, Apr. 13, 1930; “Outlawing of Chemical Warfare,” *Chicago Daily Tribune*, Mar. 25, 1931; “Chemist Holds Gas War Scare Mere Nonsense,” *Chicago Daily Tribune*, Aug. 2, 1931; “Chemicals in War,” *Chicago Daily Tribune*, Aug. 20, 1931; James E. Mills, “Chemical Warfare,” *Foreign Affairs* 10, no. 3 (Apr. 1932); “Chemical Warfare Service is Upheld,” *Washington Post*, Dec. 4, 1932.

<sup>46</sup> Stockholm, Institute, *Chemical and Biological Warfare*, 20. Irresolvable issues included collective security agreements, Germany’s refusal to honor the armament limitations of the Treaty of Versailles, and Japan’s refusal of restrictions on armaments.

After the failure of the 1932 conference, both sides of the chemical warfare issue continued their advocacy. The arguments were the same, but as the 1930s progressed the international climate began to change. Japan continued military expansion in East Asia and left the League of Nations in 1933. In the same year, Germany inaugurated Adolph Hitler as chancellor and joined Japan in leaving the League. In addition, the 1930s saw the first breaches of the Geneva Protocol when Italy used poison gas during its 1935–36 invasion of Ethiopia, and Japan employed chemical weapons in Manchuria starting in 1937.<sup>47</sup> Although both Italy and Japan were widely condemned for their actions, the looming specter of a larger war soon overshadowed these events.<sup>48</sup>

### Conclusion

Chemical warfare, in one form or another, is nearly as old as warfare itself. From the Persians and Romans in the ancient world, to the gassing of the Kurds by Saddam Hussein in 1988, chemical weapons have been employed as a force multiplier in numerous conflicts. Today, condemnation of the use of chemical, biological, and nuclear weapons in warfare is nearly universal. Yet this was not always the case. The first half of the 20th century saw the industrialized production and use of chemical weapons on a scale never before seen in warfare. Following the First World War, many advocated for an increased role for gas weapons in future conflicts. Others deemed the use of chemical weapons an abomination. The years between the World Wars proved to be the pivotal era for the debate over the legitimacy of chemical warfare.

The debate over the proper role of chemical warfare occurred in an environment sensationalized by civilian officials, military commanders, business leaders, and the media. Although some used fear and scare tactics for political or monetary gain, the argument was mainly between those who believed chemical weapons were a legitimate tool of American military defense and those who saw chemical warfare as too horrific even for world war. In the end, consensus was rarely achieved because each side could not agree on the level of danger chemical weapons possessed and the fear of falling behind in such a dangerous arms race.

Because of the inability of nations to monitor and enforce arms limitation treaties, any proposition to abolish the use of chemical weapons would have to rely on mutual trust, and faith among nations was not something politicians could rely on

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<sup>47</sup> Ibid., 21.

<sup>48</sup> “21 Welfare Leaders Assail Gas Warfare,” *New York Times*, Apr. 9, 1936.

in the post–World War I world. Over 20 years after the end of the “war to end all wars” Germany would once again use chemicals in wartime, not on the battlefield, but in the mass murder of millions of innocent men, women, and children. It was a chilling reminder of the danger of industrialized poison gas. With the creation of these merchants of death during the First World War, the international community began debating how to control such weapons of mass destruction lest proliferation spiral out of control and threaten the very existence of humanity. It is an argument that continues to this day.

*Photo credits:* General John Pershing, 111-SC-26646, Flame and Gas, 111-SC-10879, Versailles meeting, 165-WW-446-10, National Archives; Gen. Amos Fries, Washington Disarmament Conference, Library of Congress.