FREDERIC JOSEPH BROWN

Chemical Warfare

A Study in Restraints

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A STUDY IN RESTRAINTS

by Frederic J. Brown

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To F.J.B. and K.R.B.

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INTRODUCTION

Since nuclear weapons have been made available to nation states, deterrence of their employment has become a subject for intensive study and speculation. Yet among the wealth of fine works that have dealt with deterrence, there is little detailed investigation of the nature of restraints as revealed in the most recent global conflict, the Second World War. The nonemployment of toxic agents in World War II provides a contemporary example of a mass casualty-producing weapon that, despite initial use in a prior conflict and interwar expectations of employment, was not used in a war which otherwise was largely unrestricted.

The purpose of this study is to develop an understanding of the nature of restraints that prevent employment of a weapon in war through a detailed examination of American chemical warfare policy. The analytical approach is an evaluation of the range of inhibitions and stimulants influencing American decision-makers before and during World War II. While it would be presumptuous to assert that this approach has revealed any fundamental laws of restraint, I do believe that this study will provide an understanding of restraints sufficient to permit their tentative application to present prospects of nuclear deterrence.

Understanding the forces which influence American chemical warfare policy requires far more than a knowledge of wartime decision-making tailored to a mechanistic model of rational action. As a weapon possessing diverse characteristics, chemical warfare was applicable across a broad range of military programs—from strategic counter-city attack or limited tactical employment to suppression of civil disturbances. Views on chemical warfare varied according to the military use postulated

by the observer—whose opinions, often emotional and irrational, were influenced by stereotypes and individual and group perceptions, as well as by personal intelligence and ambition. The resulting interplay of multiple perspectives produced a dialogue of Babel—voluminous discussion but little communication. Influenced by skillful propagandists, civilians—elite decision-makers as well as the general public—saw the specter of annihilation by strategic attack and searched in vain for formulae to reduce the threat. The professional military were participants but not contributors to this dialogue. Unable to accept the implications of gas warfare on the ethos of their profession, they limited their view of gas almost entirely to tactical employment. But, having been restricted to a subordinate role in decision-making after the military excesses of World War I, they gestured from a secondary stage to an unhearing audience. By the time the military moved again to the center of attention in World War II, chemical warfare had become hopelessly bogged down in a quagmire of conflicting objectives, inconsistent policies, and inadequate programs.

The organization of this study into three parts reflects the importance of the experiences of toxic agent employment during the First World War and the subsequent pattern of restraints as they evolved during the interwar years. Part I examines the use of toxic agents in World War I as it influenced subsequent national policy decisions. Part II focuses on the evolution of political, military, economic, and psychological restraints to American employment of toxic agents from 1919 to 1939. Part III discusses World War II during two critical periods: 1939 to early 1942, when the environment of the war was being established essentially without the influence of the United States; and during

1945, when the United States did not face a credible threat of retaliation to deter its use of toxic agents.

Obviously, one reason why the United States did not employ toxic agents was because the other belligerents did not initiate their use. Therefore, Part III discusses restraints on the use of toxic agents by the United Kingdom, Germany, and Japan. A complete analysis of World War II toxic agent decision-making requires mention of the Soviet Union. There is, however, no verified source material available to permit even random speculation about its capabilities and intentions. Suffice it to say that each of the other belligerents believed the Soviet Union to have a credible retaliatory capability.

The frustration of research was not limited to the Soviet Union. In the case of both Germany and Japan, many of the original toxic-agent policy documents have been deliberately or inadvertently destroyed in the holocaust of defeat. I have made extensive use of detailed studies conducted by the American Occupation Forces immediately after the war, and wherever possible, have verified them by supplementary research material. Discussion of British toxic agent policy is equally dependent upon secondary sources, except where documents have been reproduced or extensively cited in the Official History of the War Series. In none of these cases, however, do I see the shortage of source material as undermining the validity of the analysis, particularly with regard to the United States.

With the exception of White House and Joint Chiefs of Staff documents, I have had direct access to all United States toxic-agent policy documents. The only serious lacuna exists in the minutes of the Joint Chiefs of Staff, which are not available for unofficial research. This is not a serious weakness, however, for the sense of JCS

deliberations is evident in available Operations Division, War Department General Staff studies prepared for JCS discussion or for implementation of JCS decisions. The Department of State Potsdam Papers contain adequate documentation on presidential attitudes during 1945.

A common problem in the discussion of the implications of any weapons system is the presentation of technical characteristics of the weapon. Determined to avoid the pitfalls of overconcentration on technical characteristics, I have referred to the varied physical or physiological properties of toxic agents only when such reference seems essential to an understanding of some aspect of restraints. In fact, to make the study more readable, I have taken certain license in military and scientific terminology. Thus the following terms are used interchangeably to describe possession or employment of all agents of chemical warfare except incendiary, smoke, or flame weapons: toxic agents, chemical agents, gas, poison gas, noxious gas, gas warfare, chemical warfare, and toxic agent warfare.[1] Unless the harassing or temporarily incapacitating effect of a chemical agent is specifically mentioned, all reference to gases infers employment to produce lethal or damaging effects on man.

[1] The Joint Chiefs of Staff dictionary defines chemical warfare as: "Employment of chemical products to produce death or casualties in man, to create a military advantage, or to defend against such action." A chemical agent is defined as: "A solid, liquid or gas which through its chemical properties, produces lethal or damaging effects on man, animals, plants or material, or produces a screening or signaling smoke." This study is limited to effects on man, since this was the primary focus during the period from 1919 to 1945. Toxic is a generic term indicating injurious but not necessarily lethal effect. In American military usage, a toxic agent may be of radiological, biological, or chemical origin. In this study, the use is restricted to chemical origin. (U.S. JCS, *Dictionary of United States Military Terms for Joint Usage*, 1 Dec 64, JCS Pub 1, p. 28; U.S. Department of the Army, *Dictionary of United States Army Terms*, April 1965, A.R. 320-5, pp. 84-85, 420.)

Military organizations or abbreviations used in the study are clarified in the Glossary.

The conclusions presented in this study are those of the author writing as an individual and a student of strategic studies and are not to be represented as the views of the author as a serving member of the Armed Forces of the United States or as the views of any agency of the Government of the United States.

PART I · WORLD WAR I

Introduction

World War I occupies a crucial position in the evaluation of American chemical warfare policy. The record of employment, as it was and as it would be perceived by later decision-makers, was the precedent which influenced the actions of each of the major powers in preparing for and fighting the Second World War.

The one chapter that treats World War I (Chapter I) focuses upon evolving incentives and restraints to subsequent employment of toxic agents rather than upon the chronology of immediate use. Therefore, emphasis is placed upon perceptions of critical elite groups and the evolution of popular sentiment with respect to chemical warfare. In essence, this chapter develops the range of national and group reactions to a brutal and unexpected opening of a veritable "Pandora's Box" of war.

CHAPTER 1 · THE HERITAGE OF WAR

A. RECORD OF USE

"Ypres, April 22, 1915: Try to imagine the feelings and the condition of the [French] colonial troops as they saw the vast cloud of greenish-yellow gas spring out of the ground and slowly move down wind toward them, the vapour clinging to the earth, seeking out every hole and hollow and filling the trenches and shell holes as it came. First wonder, then fear; then, as the first fringes of the cloud enveloped them and left them choking and agonized in the fight for breath—panic. Those who could move broke and ran, trying, generally in vain, to outstrip the cloud which followed inexorably after them."[1]

The casualties of this attack were the first of approximately one million gas casualties of World War I.[2]

Ypres was a place of horror on that spring afternoon in 1915. The Allied troops facing the German attack, which had been achieved with complete strategic and tactical surprise, were totally unprepared and therefore utterly helpless. Having neither the training nor the protective equipment essential to survival in a toxic environment, they retreated in panic and disorder, and by nightfall were facing a major disaster. The line of trenches had been ruptured, communications were disrupted, and, most important, the enemy had developed a weapon for which there seemed to be no defense.

[1] Maj. S.J.M. Auld, *Gas and Flame in Modern Warfare* (New York: George H. Doran, 1918), pp. 11-12.

[2] Col. Harry L. Gilchrist, *A Comparative Study of World War Casualties From Gas and Other Weapons* (Washington: USGPO, 1928), p. 7.

Yet the Germans did not capitalize on their technological advantage. The Allies reinforced and eventually sealed the breach. The lengthy battle precipitated by the first gas attack, the Second Battle of Ypres, ground on until the last week of May, 1915. The Germans were unable to exploit the Ypres salient after more than a month of fighting and a cost of over 100,000 Allied and German casualties.[3]

Considering the nature of the breakthrough, the Germans could have secured a decisive success in Flanders. It is apparent, however, that they were not prepared to exploit, on other than a limited tactical scale, any success that the use of gas might bring. The attack, which had to be postponed several times due to unfavorable wind conditions, was not launched until late afternoon. Inadequate reserves prevented the Germans from capitalizing on the breach in the Allied lines. Although the gas employed, chlorine released from cylinders, could be neutralized through reasonably simple protective means, the German troops had not been furnished with defensive equipment.

In short, the Germans demonstrated an astonishing lack of thoroughness in initiating the use of gas. Having accepted gas as sufficiently promising to justify experimentation on the battlefield, they used it on a scale adequate to alert the Allies to the reality of toxic weapons, but inadequate to ensure success. Their error was threefold. The General Staff apparently had not evaluated either the importance of surprise, or the certainty that the Allies could in time develop defensive measures, or the possibility that the Allies could retali-

[3] C. Falls, *The Great War 1914-1918* (New York: Capricorn, 1959), pp. 108-12. For an extensive account of the first gas attack at Ypres, see Dr. Rudolf Hanslian, *The German Gas Attack at Ypres*, MS, trans. U.S. Army (Berlin: Verlag Gasschutz und Lufschutz G.m.b.h., 1934).

ate in kind. They were to pay dearly for these errors later in the war. As they had done in the employment of the submarine, the Germans had provoked an unrestricted land war that would, on balance, accrue to their disadvantage.

Although the results of the Second Battle of Ypres were indecisive at best and at least represented a significant opportunity lost for the Germans, the implications of April 22, 1915, were major. The experience of Ypres demonstrated in most acute form both the impact of science and technology on the battlefield and the unlimited nature of Word War I. Each, by the horror it aroused, was to contribute to military and civilian rejection of the use of poison gas after World War I.

The very nature of chemical warfare inhibited its acceptance by the German military in 1915. The chlorine gas employed at Ypres was a product of the civilian laboratory, developed through the initiative of the brilliant German chemist, Fritz Haber, manufactured by a complex industrial process, and employed on the battlefield by specialists under the supervision of a civilian chemist.[4] It was not a weapon in which the army could claim a proprietary interest. On the contrary, it was a weapon promoted by civilians and the reservists to rescue the German military professionals, who were handicapped by a shortage of conventional artillery units and ammunition and by an inability to devise any more satisfactory means of overcoming the protracted position warfare that Germany had to avoid.[5]

[4] Sir E. Thorpe, "Chemical Warfare and the Washington Conference," *Journal of the Society of Chemical Industry*, in *Chemical Warfare*, 8:8 (August 15, 1922), 14-15.

[5] Brig. Gen. H. Hartley, "A General Comparison of British and German Methods of Gas Warfare," *Journal of the Royal United Services Institution*, XLVI (December 1920), 493; Rudolf Hanslian, ed., *Der Chemische Krieg*, I, trans. U.S. Army (3rd ed.; Berlin: Verlag Mittler, 1937); Interv, CMLHO with Maj Gen William N. Porter, USA (Ret.), 24

Thus from the first, the German military themselves regarded gas with suspicion and distrust. A characteristic problem in the use of gas—assimilation by the military—was in evidence at Ypres as it would be in subsequent battles.

The decision to initiate gas warfare enabled Germany to make maximum use of one of her most significant advantages over the Allied powers—a highly developed chemical industry. Ypres represented a logical extreme in the employment of the chemical industry: the use of chemicals as an end product rather than as a by-product of conventional armaments. After Ypres, the military establishment had little alternative to acceptance of scientific expertise. The war had now become a "chemical war" and the German army had not benefited from its initial advantage.

While the Germans do not appear to have weighed the importance of the use of gas as a deliberate and wanton violation of conventional law regarding land warfare, the British realized the importance of this aspect immediately.[6] Article 23 of the Hague Convention of

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Aug 61, EHO. General Porter was the World War II Chief of the CWS. This point is also mentioned in the Reich Archives, *Der Weltkrieg 1914/18*, Vol. 8, in Hanslian, *The German Gas Attack*, 54: "The attitude of command and troops to the still untested means of combat [gas] was almost downright distrustful, if not absolutely hostile."

[6] The question of which power initiated the use of toxic agents was a subject of charge and counter-charge during the interwar period. Hanslian and Mueller-Kiel assert that the French employed gas-filled rifle grenades and hand grenades in August 1914 (Hanslian, *Der Chemische Krieg*, 23; U. Mueller-Kiel, *Die Chemische Waffe Im Weltkrieg Und Jetzt*, MS, trans. U.S. Army [Berlin: Verlag Chemie, 1932], p. 16). Mueller-Kiel further states that the Germans fired 3,000 10.5 cm combination dianisidine salt (sneeze-provoking) and high explosive shells in retaliation on October 27, 1914, and that up to 18,000 xylyl bromide shells were fired by the Germans at Bolimow on the Russian front on January 31, 1915 (*ibid.*, 62-63). Foulkes supports this latter point in referring to three or four unconfirmed reports that the Germans initiated the use of gas against the Russians between January 31

1899 bound the signatories "to abstain from the use of projectiles the sole object of which is the diffusion of asphyxiating or deleterious gases." The same article forbade the use of weapons causing "unnecessary suffering."[7]

British lack of preparedness for gas warfare in 1915 was due partially to the absence of a developed chemical industry resulting from the German monopoly of dye stuff manufacture; but it was also a result of British compliance with the Hague Convention and fear of the implications of unlimited war. The British government had considered using incapacitating noxious gases (sulphur fumes) as early as the siege of Sebastapol in the Crimean War.[8] But, although the government approved the projects, gases were not employed.

In 1913, foreign press reports of research in gases caused the British government to study the wording of the Hague Conventions. It was determined that a

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and February 5, 1915 (Maj. Gen. C. Foulkes, *"Gas!" The Story of the Special Brigade* [London: William Blackwood & Sons Ltd., 1934], pp. 29-31). In his memoirs, Ludendorff infers that the Germans employed gas against the Russians on January 31, 1915 (General E. von Ludendorff, *Ludendorff's Own Story*, Vol. 1 [New York: Harper and Bros., 1919], 144). While this pre-Ypres exchange is interesting in that it indicates overt communication of intent through gradual escalation, it cannot be verified in available archives. Based upon the above and the failure of the Germans to attempt to seize the propaganda initiative immediately after Ypres, the Germans may have been somewhat surprised by the furore after Ypres. The intriguing implications of this possibility are not within the scope of this study—to decision-makers and the general public between the wars and during World War II, gas warfare was initiated at Ypres.

[7] II Convention, Hague Conference of 1899. Signed and ratified by the 1915 participants in World War I. The same principles were embodied in the Hague Conference of 1907, IV Convention, Art. 23 (a) and (e). The Convention was signed but not ratified by Serbia and Turkey. Doubtful as to the adequacy of such a restraint in wartime, the U.S. did not sign the 1899 declaration.

[8] Sir G. D. Bart and S.G.D. Ramsay, *The Panmure Papers*, 1 (London: Hodder and Stoughton, 1908), 340-41.

double-purpose shell, that is, "one which contained a small portion of lachrymatory substance without asphyxiating or deleterious effect," was permissible by the wording of the conventions, "although contrary to its spirit." The shell was not adopted by either the Army or Navy.[9]

The subject was raised again in September 1914, when Lord Dundonald revived the Crimean project that had originally been sponsored by his ancestor. Rejected for the Army by Lord Kitchener as ill-suited for land warfare, it was considered by Churchill in the Admiralty. The subject was studied during the winter of 1914-1915 and was finally referred to Colonel Hankey, Secretary of the Committee of Imperial Defense, for further development. By March 31, 1915, experiments were being conducted with a view to the possible use of nonlethal gases in the Dardanelles campaign. But these plans were curtailed by Churchill, who realized "that it would not be expedient to introduce into the War, elements which might justify the enemy in having recourse to inhuman reprisals."[10]

Thus the British were not unmindful of the military possibilities of noxious gases when the Germans initiated their use. The employment of such gases had been

[9] Foulkes, 23. The decision was probably based on the low efficiency of the combination round. For German rejection of a similar type round in 1914, see Mueller-Kiel, 62-63.

[10] Memo, Mr. Masterson-Smith [Private Secretary to Mr. Churchill] for Lord Dundonald, 31 Mar 15, in W. Churchill, *The World Crises*, Vol. I, *1915* (London: Scribner, 1923), 72. Churchill's fears of the effects of retaliatory action must have been conditioned by his realization of Britain's vulnerability to air attack. In a Memo to the Cabinet of January 1, 1915, he noted the German airship capability (20 airships, each capable of delivering a one-ton bomb) and stated that "the Air Department of the Admiralty must make it plain that *they are powerless to prevent such an attack* . . ." (italics mine). Writing after the war, Churchill stressed that British development was deterred by the knowledge that "the use of noxious or poisonous fumes was explicitly prohibited by International Law" (*ibid.*, 72).

seriously studied and then rejected out of respect for the Hague Conventions, out of fear of the implications of unlimited war, and out of an appreciation of the weakness of the British chemical industry. The British decision to retaliate was of equal or greater importance than the German decision to initiate. The Germans initiated in the hope of finding a palliative to a tactical military weapons problem. The English retaliated with the full realization that the land war had become unlimited.

The British appreciated these implications of Ypres, even if the Germans did not. There was no question of the necessity for providing protective devices to the Allied Armies. Crude gauze bandages were immediately dispatched to the front and a crash program was instituted to develop a protective mask.[11] The decision to retaliate was made on May 18, 1915. General Thuillier, a British gas warfare expert, indicates that some of the factors considered beforehand were the ethical question posed by the Hague Conventions, the capability of British chemical science and industry to respond to the challenge, and the morale problem among the troops if the Allies did not respond in kind.[12] The first Eng-

[11] The program to develop protective equipment was stimulated by widespread criticism of the government's failure to provide for such a contingency (see D. Lloyd-George, *War Memoirs*, Vol. I, *1914-1915* [Boston: Little, Brown, 1933], p. 175). The British had made the potentially disastrous error of overlooking German capabilities to initiate gas war due to an assumption that the Germans did not intend to employ gas.

[12] Maj. Gen. Sir Henry F. Thuillier, *Gas in the Next War* (London: Geoffrey Bles, 1939), p. 22. The decision was delayed by the formation of the first Coalition Cabinet. Lord Hankey infers that the decision had been made before May 14, 1915, by his diary entry of that date: "Urged Prime Minister and Grey, personally and in writing, to offer to Germans to desist from the use of asphyxiating gas, if they would. Grey agreed, but, as shell containing gas had already been sent out, the Prime Minister decided to do nothing. I fear they may retaliate with more diabolical devices" (Sir M. P. Hankey, *The Supreme Command*

lish gas attack was launched at the battle of Loos on September 25, 1915. Unpreparedness had cost the British six months, but this was to be fully compensated for in the rising scale of gas attacks in 1918.

General reaction to Ypres was exemplified by General Pershing's response to the German attack: "the impression was that the Germans had now thrown every consideration of humanity to the winds."[13] Gas was never to lose the twin stigmas acquired at Ypres. To the military it represented the encroachment of science which was corrupting the expertise and honor of their profession; to the civilian, it symbolized the ruthlessness and inhumanity of modern war.

The period from April 1915 to July 1917 saw the gradual expansion of the use of gas. However, once the Allied and German troops acquired protective equipment, albeit primitive, gas lost its critical role. By December 1916, the situation had become stabilized to the point where Sir Douglas Haig, the British Commander-in-Chief, was able to note rather smugly in his year-end dispatch: "it is satisfactory to be able to record . . . that the enemy has suffered heavy casualties from our gas attacks, while the means of protection adopted by us have proved thoroughly effective."[14] There was a continuing qualitative arms race between belligerents to find new, more deadly agents and more effective protective measures, but the characteristics of the gases employed relegated chemical warfare to a secondary sup-

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1914-1918, I [London: Allen & Unwin Ltd., 1961], 306-07). In addition to substantiation of the fear of reprisals, Hankey's entry poses the intriguing question of decision by default on the part of the Prime Minister.

[13] Gen. John J. Pershing, *My Experiences in the World War*, I (New York: Frederick A. Stokes, 1931), 165.

[14] J. H. Boraston, ed., *Sir Douglas Haig's Despatches (December 1915—April 1919)* (New York: E. P. Dutton, 1919), p. 55.

porting role. The gases of this period were all nonpersistent and had to be breathed into the lungs to gain their effect. The practical result of this was to place a premium upon the ability to surprise the enemy by delivering large amounts of gas to a selected location before the enemy could react and mask. Research and development was oriented to producing more effective delivery means. Once the enemy was masked, he was safe.

Under these circumstances, gas could not compete with conventional explosives. The enormous logistic burden required to surprise an enemy position with a momentarily lethal concentration of gas could be more profitably used for conventional explosives that were not affected by the weather and that could continue to destroy enemy equipment after the soldier had taken passive defense measures.[15]

This situation changed drastically on July 12, 1917, when the Germans achieved their second major technological breakthrough in chemical warfare. Again, Ypres was the target. This time the Germans achieved complete surprise by introducing mustard gas—a persistent agent that could disable by coming in contact with the skin. It was particularly dangerous because the soldier did not realize that he has been gased for several hours, by which time he had already received a disabling or lethal dose. Under particularly favorable climatic conditions, mustard gas could retain its disabling properties for several weeks.

[15] The logistic burden of gas warfare is indicated by German experience factors for gas cylinder attacks. The cylinders had to be secretly placed in the front line of trenches and the gas could only be released under wind conditions which would insure that it blew into enemy trenches. The German cylinders weighed 38 kg, of which 20 kg was gas. The Germans found that 10,000 cylinders were required per kilometer of front (Hanslian, *Der Chemische Krieg*, 126-28).

Mustard gas changed the battlefield environment of World War I. Its use in concentrated doses could make any position untenable. A gas mask was no longer sufficient protection as a soldier could be disabled by vapor or liquid contact anywhere on his body. It would contaminate weapons and rations. Casualty figures reflected the new role of chemical warfare after July 1917: the British had slightly over 20,000 gas casualties from 1915 until the initiation of the use of mustard; from July 1917 to November 1918, they had over 160,000.[16]

B. FORMATION OF RESTRAINTS

By mid-1918, gas was competing with air power and the tank as the most rapidly expanding weapon of land warfare. All belligerents were employing chemical agents to the limit of production capability. As evidenced by later plans for the extensive use of gas in 1919, chemical warfare appeared to have been assimilated within the various military establishments. But there were other forces acting during World War I to restrain the future of chemical warfare. It is to these forces that we now turn.

PROPAGANDA AND THE AMERICAN PUBLIC / If it can be said that any group profited from the employment of gas in World War I, that group must have been the propagandists of each side. One of the objectives of propaganda is "to mobilize hatred against the enemy"[17];

[16] Foulkes, chart opposite p. 332. Gilchrist discusses this extensively. He comments upon the imprecision of casualty estimates of the various belligerents but confirms the significant increase in gas casualties of all armies after mustard gas was introduced. Over 34 per cent of all AEF casualties in October 1918 resulted from gas, primarily mustard (Gilchrist, 10-22).

[17] Harold Lasswell, *Propaganda Technique in the World War* (London: Paul, Trench, Trubner & Co. Ltd., 1938), p. 195. Lasswell describes

and one effective technique for mobilizing hatred is to "represent the opposing nation as a menacing, murderous, aggressor . . . as satanic; it violates all the moral standards (mores) of the group."[18] Each of the belligerents seized upon gas as a cardinal feature of its hate propaganda.[19] The British treated gas in a manner particularly suited to combining the dual objectives of mobilizing the home population and of securing the empathy if not the direct support of the United States. They emphasized World War I as a war in which democracy had to secure international law and the obligation of treaties against a monster of autocratic militarism.[20] Gas fitted nicely into this image. Germany had wantonly and willfully violated the Hague Conventions by the commission of satanic acts of inhumanity.

A typical sample of this propaganda appeared in the *New York Times* of June 22, 1915. It was introduced as a letter that had "recently arrived" in New York City from a British Major General who had formerly been "on terms of considerable intimacy with the Kaiser."

"I am sure the public cannot have as yet the slightest idea of this damnable effort on the part of the Germans to disregard all laws of humanity and civilization. . . . [Referring to a visit to gas casualties in a hospital] They are all sitting bolt upright or swaying backward and forward, gasping for breath; their faces, hands and necks a shiny gray-black color, their eyes glazed, and unable absolutely to speak or eat. It takes two days for

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the other objectives as 1) to preserve the friendship of allies, 2) to preserve the friendship and, if possible, to procure the cooperation of neutrals, 3) to demoralize the enemy.

[18] *Ibid.*, Introduction.

[19] *Ibid.*, 85; H. C. Peterson, *Propaganda For War* (Norman: U. of Oklahoma Press, 1939), p. 63.

[20] Lasswell, 197.

these men to die. . . . It is the most hopeless, helpless, sickening sight imaginable. . . ."[21]

Descriptions of the first attack at Ypres were equally vivid.

". . . we saw . . . figures running wildly and in confusion over the fields. . . . The story they [the retreating soldiers] told we could not believe; we put it down to their terror-striken imaginings—a greenish-gray cloud had swept down upon them, turning yellow as it traveled over the country blasting everything it touched, shriveling up the vegetation. No human courage could face such a peril.

Then there staggered into our midst French soldiers, blinded, coughing, chests heaving, faces an ugly purple color, lips speechless with agony, and behind them, in the gas-choked trenches, we learned that they had left hundreds of dead and dying comrades. The impossible was only too true.

It was the most fiendish, wicked thing I have ever seen."[22]

This was effective propaganda. In fact it was soon judged to be too effective, for it was not compatible

21 *New York Times*, June 22, 1915, p. 3.

22 Rev. O. S. Watkins, in *Methodist Recorder* (London), in A. A. Fries and C. J. West, *Chemical Warfare* (New York: McGraw-Hill, 1921), pp. 11-12. A further characteristic of the propaganda was magnification of effect. Reports from Ypres stated that the Allies had suffered at least 5,000 gas fatalities in the first attack. Hanslian asserts that a German army doctor in the trenches on April 23, 1915, found no dead from gas. 200 Allied casualties were admitted into German hospitals, of whom 12 died. While Hanslian admits that for many the gas dosage received would have required thirty minutes for death, he estimates that the Allies quintupled casualty figures for propaganda effect (Hanslian, *The German Gas Attack*, 44-45). With the more extensive Belgian atrocity hoax to their credit, propagandists would not have hesitated to embellish gas stories. Medical personnel contributed to the magnification (see J. Church, "As to Poison Gas," *The Military Surgeon*, in *Chemical Warfare*, 8:9 [September 15, 1922], 14-15).

with Allied use of poison gas. The Allies could and did publicize their employment of toxic agents as just and necessary acts of retaliation, but the inhumane aspect of gas warfare was deleted from the propaganda. They could ill-afford to be tarred with their own brush in American eyes. In mid-1917, when chemical warfare increased in intensity, the French and British imposed a news blackout on poison gas use. To Benedict Crowell, who was in charge of America's munitions program as Assistant Secretary of War, this policy was stimulated by the fear "that if the picture of gas warfare, as it was then developing, should be placed before the American people, it would result in an unreasonable dread of gases on the part of the American Nation and its soldiers."[23] The final stage in the wartime evolution of gas propaganda was attained in 1918 when there was no censorship of news reports on the employment of gas. In fact, chemical warfare was emphasized in order to demonstrate the superior task performed by American industry in equipping the American Expeditionary Force in France.

By the time the Armistice was declared, gas propaganda had run the policy gamut—the illegal and inhumane act of a murderous aggressor in 1915; just and humane retaliation in 1916; blackout in 1917; and a triumph of Allied industry in 1918.[24] Vivid, unreliable, and shifting in emphasis, Allied gas propaganda was nevertheless the primary source of information on

[23] Benedict Crowell, *America's Munitions 1917-1918* (Washington: USGPO, 1919), p. 410. The shifts of propaganda policy are also commented on in Peterson, 63.

[24] The propaganda of the Central Powers has not been referred to above because in 1915-1916 it differed from Allied propaganda only in the attempt to prove that gas had been initiated as a "necessity of war," and the Allies seized and held the initiative in gas warfare propaganda during 1915-1916. After U.S. entry into the war, Allied propaganda was U.S. propaganda.

gas warfare for the United States during 1915 and 1916, and thus was a primary factor in influencing American reaction to the employment of toxic agents.[25]

To the American public, gas was only one of the many horrors of war. Despite the best efforts of Allied propagandists immediately after Ypres, chemical warfare had to share the headlines with other equally serious events. The primary vehicle employed to convince the world of the beastiality and inhumaneness of the Germans was the Belgian atrocity propaganda that had begun in 1914.[26] The climax of this propaganda effort was reached in late May 1915, with the publication of the "official" English report on German atrocities, the Bryce Report. Graced with the name of an eminent but senile personage—"that distinguished liberal, that great authority on American politics, that friendly pillar through so many years"—the Bryce Report was a sensational propaganda coup for the British.[27]

Gas propaganda faced even more serious competition when the *Lusitania* was sunk by a German submarine on May 7, 1915. To Arthur Link, "the sinking of the *Lusitania* had a more jolting effect upon American opinion than any other single event of the World War.

[25] Due to the absence of public opinion sampling techniques, it is difficult to evaluate general public attitudes during the First World War. There is little expert agreement on the comparative effectiveness of Allied or Central Powers' propaganda or even on the general effectiveness of war propaganda in influencing American attitudes. For conflicting views on this, see A. Link, *Wilson: The Struggle for Neutrality* (Princeton: Princeton U. Press, 1960), pp. 36-43; W. Millis, *Road to War, America 1914-1917* (Cambridge: Harvard U. Press, 1935), pp. 63-68; C. Tansill, *America Goes to War* (Boston: Little, Brown, 1938). The problem is aggravated when one attempts to evaluate a specific attitude.

[26] For a sample, see P. Nothomb, *The Barbarians in Belgium* (London: Jarrold and Sons, 1915)—294 pages of rape, arson, pillage, dumdum bullets, and slain prisoners of war.

[27] Millis, 64. President Wilson had been a former student of Lord Bryce.

. . . It was a crime of murder on the high seas by order of the German government, a crime with no mitigating circumstances."[28]

It was not unreasonable that American attention should focus on the *Lusitania.* The sinking of the *Lusitania* climaxed a series of shipping incidents that had served to focus public attention; Ypres occurred as a "bolt from the blue." One hundred twenty-four American civilians were killed on the *Lusitania*; no Americans died at Ypres. Gas warfare could not compete with this. By the time the furore caused by the Bryce Report and the sinking of the *Lusitania* had diminished, the Allied powers were shifting the focus of their propaganda in preparation for the employment of gas.

Gas warfare propaganda did influence American attitudes during 1915-1916; however, due to the chance occurrence of other events that were more effective in stimulating hatred of the enemy, gas warfare was never singled out by the American public as a unique evil of the war in Europe. The dissenting statements made at the Senate Preparedness Hearings in 1916 contained no reference whatsoever to the development of gas warfare in Europe.[29]

THE ADMINISTRATION RESPONDS / American decision-makers reacted to gas in much the same manner as the American people. The use of gas was deplorable but it was one of many deplorable acts of war. Rather than goad the United States into nonbelligerency or even

[28] Link, 372.

[29] See particularly the statement of Mr. Oswald G. Villard in U.S. Senate, Committee on Military Affairs, *Preparedness for National Defense*, 64th Cong., 1st Sess., 1916, pp. 856-67, 876-83. A leading pacifist and President of the New York *Evening Post*, Villard expressed strong opposition to any increase in the U.S. military establishment. He discussed the internal effects of militarism on America and the dire consequences that would result if America were to enter the war.