

CHAPTER ONE

Trial by Gas

2ND BATTLE OF YPRES

THE COMEDIAN CONTINGENT

The ultimate success of the Canadian Corps as one of the finest fighting formations on the Western Front was the product of a difficult and bloody evolution. When Great Britain declared war on 4 August 1914, resulting in war for Canada as one of its dominions, there was no Canadian Corps ready to fight; in fact, there was almost no army at all.¹ If Great Britain were to be defended, the task would fall to the volunteers.

The myth of the militia has been a strong one in Canadian history, dating back to the supposed defence of Canada by a few British regulars and resilient Canadian militia on several occasions in the early and mid-nineteenth century. Strengthened by the growth of their volunteer movement, and reinforced by the Canadians who served in the Boer War, by 1914 the image of citizen-soldiers ready and willing to put down the plough and pick up the gun to defend king and country was powerful indeed. It was only augmented by the minister of militia, Sam Hughes, who described regular force officers as “bar-room loafers” and argued that most ordinary Canadians could do just as good a job, if not better.²

Legendary for his fierce convictions and pugilistic manner, Sam Hughes on 6 August 1914 chose to disregard the pre-planned mobilization orders of 1911 and took it upon himself to send out 226 letters to colonels throughout the

country ordering them to recruit volunteers for overseas battalions.³ As a result of this patriotic call, young men, keen for adventure and travel, scrambled to join the colours and head off to France to “teach the Hun a lesson or two.” Few expected the war to last past Christmas, but the volunteers expected to see action long before then.

After arriving in England, the eager Canadians found they were not to be sent to France, but rather would first be trained in the art of war. This decision would save them from the intense slaughter of the early days of the Western Front – described by one historian as “an automated corpse factory” – where there were over 1.6 million casualties before Christmas 1914. Camped, instead, on England’s Salisbury Plain, where it rained for 89 of the 124 days they trained there, the Canadians marched, shot, and dug trenches in ankle-deep mud, unable to find anything dry, and stewing because war was raging on without them. In time, reflecting its reputed poor officers and lack of discipline, other troops, and some Canadians, were calling the fledgling Canadian Expeditionary Force (CEF) the “Comedian Contingent.”⁴

On 14 February 1915 the Canadians finally got their long-awaited wish as they boarded ships and set sail for France. Upon arriving after a stormy channel crossing, the 1st Canadian Division, under command of the British general Edmund Alderson, who had previously commanded Canadian units in the Boer War, was attached to III Corps in General Sir Horace Smith-Dorrien’s Second Army. The men were anxious to get into the fighting, but if the carnage on the Western Front in 1914 had illustrated anything, it was that inexperienced troops thrown into battle would suffer needless casualties if they had not first been taught basic survival tips by trench veterans. Accordingly, they were sent in with experienced British troops, who were to show them the skills required to survive at the front.⁵

The Canadians were given a relatively gentle introduction to the Western Front, but for men who had been farmers, bankers, and clerks less than a year before it was a harrowing experience. The intense terror caused by snipers, Jack Johnsons, and whizz bangs (high explosives and shrapnel shells), along with the necessity of learning how to make grenades and other trench warfare tools, left Private R.L. Christopherson of the 5th Battalion remembering that he was “never so scared in [his] life.”⁶ It was soon evident that any time spent in the trenches would result in “wastage,” as the High Command clinically described it. But wastage to trench soldiers meant having their friends and companions killed and wounded by stray shells and sniper bullets as they held the trenches with no chance to retaliate.

Although this first experience in the trenches was a shock to many Canadians who thought war would be more glamorous, it nevertheless gave them confidence that they too could play a role in the struggle. On 3 March, the Canadian Division relieved the 7th British Division and took over a section of the front.

As the Canadians moved into the front line, their British commander, General Alderson, told them: “My old regiment, the Royal West Kent, has been here since the beginning of the war and it has never lost a trench. The Army says, ‘the West Kents never budge.’ I now belong to you and you belong to me: and before long the Army will say, ‘The Canadians never budge,’ Lads, it can be left there, and there I leave it.”⁷⁷ These were encouraging if as yet unearned words for the 1st Division, who would soon be entering a recently quiet area of the front: the Ypres salient in southwest Belgium.

The town of Ypres – familiarly known as Wipers – had been reduced to little more than rubble, its famous medieval Cloth Tower battered yet still overlooking the ruins. The whole salient protruded into the German lines like a rounded tumour, eight miles wide and six miles deep. It was costly acreage to hold, but the sanctity of the ground as a result of the harsh fighting already carried out over it required that it not to be relinquished lightly. The Canadians had been rotated in and out of the line several times since they had first come to France, and it was into this salient that they entered on 14 April, relieving the French 11th Division and taking over a sector of 4,500 yards. The 2nd and 3rd Brigades were in the line (left to right) on the northeast edge, flanked on the left by the 45th Algerian Division and on the right by the 28th British Division. Behind them was Gravenstafel Ridge, but the whole area was surrounded on three sides by the Germans, who had their five-to-one advantage in artillery accurately



Near the Ypres salient, 1916.

registered from superior observation points on Passchendaele Ridge, a few miles to the east. As John Creelman, former lawyer and financier turned Canadian artillery officer, noted in his diary, "Shells came from everywhere except straight behind us."⁸

Upon entering the line, the Canadians were shocked at the state of the trenches they took over from the French. Apprenticed to the British, and having spent so much of their time digging "perfect" trenches at Salisbury, the Canadians were angered to find that the trenches they moved into "weren't really trenches at all." As Private F.C. Bagshaw of the 5th Battalion remembered disgustedly, they were simply muddy "holes in the ground," with parapets easily penetrated by bullets and surrounded by unburied and rotting bodies.⁹ In this graveyard, the Canadian infantrymen desperately attempted to put their trenches into good order, all the while evading enemy snipers and trying to forget about the tormenting lice and the stench that assaulted their nostrils.

THE CONDUCT OF WAR

Like love, war has sometimes been described as an act with no rules, where all is fair, but the reality of history has generally been different. A common culture, common weapons, common tactics, and even the intermarriage of ruling families gave fighting in Western Europe a shared code throughout the centuries, with rules of conduct understood and respected by both sides. As a result, war was viewed as a dangerous but clearly structured event.

Some weapons – the bow and crossbow in earlier times – were considered unfair if, for example, they could kill from a distance. These projectile weapons, which advanced warfare from a trained art to simply murder from afar, shocked the accepted codes of the warrior. Indeed, the use of the crossbow against fellow Christians was outlawed by the Roman Catholic Church's Lateran Council of 1139; luckily for God, it was still allowed against heathens. Clearly the crossbow was proscribed not because it was immoral, but because it was considered too dangerous to the warrior elites of the period, who had no effective way to combat its killing power. Later, gunpowder and hand-held guns were similarly viewed as unfair by nobles who, wielding swords and lances, fought encased in bullet-pierceable armour. These modern weapons were great equalizers. They reduced warfare to pulling a string or trigger, and a man's strength or prowess on the battlefield, previously marks of a great fighter, was reduced. Firearms and their users were regarded as cowardly or debased by the same elite class that was in most danger from their evolution. Subsequently, gun-toting soldiers were subjected to contempt from their own side and much worse if caught by the enemy.¹⁰

Laws of war, therefore, were constraints against certain weapons and certain actions by the ruling elite. The most dangerous weapons were not always the

ones that were banned: the initial hand guns were much inferior in killing power to the long bow. Eventually though, most outlawed weapons, from the crossbow to the long bow, from firearms to the submarine, were accepted when their valuable contributions to warfare were acknowledged. Rules of war are necessary on the whole, but once one side gains a decisive advantage, those rules are generally bent or discarded in favour of victory.

The traditional view of warfare as heroic and gallant saw brave warriors going off to vanquish the enemy. This idea, which had been a virtual constant in the history of warfare, was strengthened with each generation of myth-making and subsequent literature and art that depicted cavalry charges and heroic last stands. British, French, German, and even Canadian youth had been brought up with tales of glorious warriors and their deeds – accounts that invariably contained images of good and evil, fair play, and gentlemanly conduct. The Great War was thus first perceived to be a quick adventure, over by Christmas, where young men would come of age and inherit their destinies.¹¹

In the summer of 1914, the High Commands (with the possible exception of Lord Horatio Kitchener, British Secretary of State for War) not only expected a quick victory by Christmas but also a war of rapid movement. But with the “riddle of the trenches”¹² confounding the generals and serving up horrendous casualties on both sides, there was a desperate need to break the deadlock – a need to break the self-imposed subterranean sieges of the trenches.

When it was introduced into the First World War, chemical warfare was not a new invention, but its scope, killing power, and tactical uses were all radically different from anything conceived in the past. Throughout history, chemical warfare had often been used to help end sieges and to injure an enemy out of reach of conventional weapons. The Spartans burned wood soaked in pitch and sulphur to hinder the Athenians, “stink pots” were often catapulted into medieval fortresses in attempts to smoke out the enemy, and the mysterious “Greek fire” was used to defend Constantinople with devastating effect.¹³ Yet chemical warfare was used only infrequently in modern conflicts due to the failure to develop an efficient delivery system.

Diversifying technologies and the Industrial Revolution in the nineteenth century promised to forever change how warfare would be waged. Lacking both industry and trained manpower, Russia called a series of conferences in order to curtail the use of new weapons – weapons it could not hope to create or develop in the same quantities. The resultant Hague Conventions, in 1899 and 1907, attempted to codify some of the laws of war and abolish weapons that caused “unnecessary suffering.” These laws gave some predictability to war by controlling and limiting the war-fighting capabilities of armies and nations. Although the major powers were not about to ban weapons that would reduce their status and their ability to protect and police their country and colonies, the Hague Conventions were attempts at cooperation. During the proceedings,

nations that were unable to come to a consensus on banning weapons like the explosive shell or the submarine, agreed that projectile gas shells should be forbidden in war.

The United States remained the only major world power that abstained from signing the accord. Navy Captain Alfred T. Mahan, head of the U.S. delegation, voted against the proposed ban on asphyxiating gas shells and told the delegates that his country opposed stifling “the inventive genius of its citizens in providing the weapons of war.”¹⁴ Equally important, he asked what the difference was between a defenceless ship and crew being torpedoed in the dead of night and a soldier suffocating to death by a chemical agent. Another participant recorded that poisonous gases were thought to kill in a more agonizing way than conventional weapons and that “war is destruction, and the more destructive it can be made with the least suffering the sooner will be ended that barbarous method of protecting national rights.”¹⁵

The outlawing of gas remained an awkward issue but was made more palatable because no nation had yet to embark on a chemical weapons production program. Although the letter of the law was initially followed, the spirit was not. Prior to the Great War, the French Army had experimented with tear-gas grenades, and in one celebrated case police had used them to catch a gang of famous bank robbers. If this form of gas had been useful in clearing out an entrenched gang of thieves, it was of little use in war involving millions over hundreds of miles.¹⁶

Although participants at the conferences in the Hague had discussed powders, explosives, and field guns as weapons that could be limited or banned, it was only poison gas, a weapon of military insignificance, that was ultimately labelled as an immoral and diabolical agent. Sceptics could point out that gunpowder and firearms were also derived from chemicals, but the idea of death from the air, where there was no chance of retaliation or survival, went against the accepted norms of warfare. Poison gas was also associated with poison, which for centuries had been the weapon of the treacherous and weak; it was a dodgy agent to be used against the unsuspecting and innocent.¹⁷ These characteristics were transferred to phantom future chemical agents.

Very early in the war, the development of machine guns, new powders and shells, and improved rifles and artillery guns had altered forever the reality of warfare. It became suicidal to attack over open ground. Yet for a time generals were trapped in their prewar paradigms, which strongly advocated the “cult of the offensive” in overcoming the fixed defences of the enemy.¹⁸ The technology of war had progressed faster than the outdated European battlefield tactics of the nineteenth century. Those generals who did not heed these military evolutions blundered through the initial stages of the First World War, leaving hundreds of thousands of young men rotting in the fields of Europe.

The slaughter of close-order attacking troops in the first months of the war

forced soldiers to dig into the ground to escape the destructive firepower. The result was a battlefield that assumed an eerie, empty feeling: tens of thousands of men were within a mile of each other, but not one person was ever seen above ground.¹⁹ To leave the trenches invited almost instant death. As soldiers settled into their imposed defensive lines, they strengthened their positions with sand bags, barbed wire, and interlocking angles of fire. The outcome of any advance against fixed defences was a foregone conclusion; the only unknown was how many men would be able to crawl back into the trenches after their lines were mowed down.

Once the dreadful uniqueness of the Great War stalemate became clear, the Germans had to find a way to end the two-front (western and eastern) crisis in which they found themselves. All the years at staff college, practising encirclements and moving battalions and divisions, meant little on the static fronts. In 1915 alone, the German casualties were over 2,500,000, driving Erich von Falkenhayn, Chief of the General Staff, to remark to the German chancellor Theobald von Bethmann-Hollweg: "This is no longer the kind of war with which we are familiar. In a very real sense it has become a struggle for survival for all the belligerents."²⁰ Within this context, the first use of chlorine gas by the Germans was an experiment to break the stalemate of the trenches in the titanic conflict.

THE ROAD TO YPRES

The Germans were the first to use chemical shells in the Great War. This occurred against the British, not at the 2nd Battle of Ypres, but on 27 October 1914 in the Neuve-Chapelle area. The German decision to undertake experimentation with gas shells was due to dwindling powder and shell reserves and to complaints from the front that defenders could not be dislodged from their positions with high explosives (HE) or shrapnel shells. The first 3,000 Ni tear-gas shells ("Ni" stood for *Niespulver*, or sneezing powder) fired had no effect, nor were they even noticed by the British – a quality one does not want in one's weapon. Showing his derision toward this new type of warfare, General Erich von Falkenhayn's son was said to have won a case of champagne by remaining in a cloud of the substance for five minutes without displaying any signs of discomfort. The next use of chemical weapons came on 31 January 1915, when the Germans fired their T-shell, a mixture of liquid lachrymator combined with two-thirds HE, from 150 mm howitzers.²¹ But once again the shells had little effect: the intense cold prevented the vaporization of the gas.

The failure of the T-shell provoked Dr. Fritz Jacob Haber, the future Nobel prize-winning scientist who efficiently ran the German gas program, to change the focus of gas warfare from tearing to lethal agents with the implementation of chlorine.²² An ideal weapon, chlorine was a deadly lung irritant, easily compressed into a liquid inside shells for efficient transport, and then readily

vaporized into gas when released. Just as important, it was available in large quantities because Germany had the most powerful chemical industry in the world.

All war gases employed in the Great War were closely related to chlorine or its derivatives and were initially products of the dyestuff industry that grew up in Germany during the nineteenth century. Chlorine combined with water, and later slaked lime, was used in the bleaching process. Liquid chlorine in cylinders became a part of the chemical industry in the late 1880s, although it was largely ignored in the United States and Britain until a few years before the war. By 1913, German chemical companies dominated the world market, producing approximately 140,000 tons of dyes out of a world total of around 160,000 tons. Germany's thriving chemical industry had the ability to produce a surplus of chlorine, while Great Britain lagged far behind in any type of chlorine production that could be converted into battlefield use. The German chemical industry provided both the materials and the chemists for wartime gas usage.²³

OPERATION "DISINFECTION"

The Ypres sector had already been the scene of some of the bloodiest fighting in the war and would continue to have that dubious distinction until the Armistice. As early as December 1914, General Falkenhayn (who had replaced Moltke the younger after the failure of the Schlieffen Plan) had announced his desire to cut off the Ypres salient. An attack would serve two purposes for the Germans: testing the new chlorine gas as a weapon and, more important, shielding the transfer of troops from the Western to the Eastern Front for an attack against the Russians in Galicia.²⁴

Initially, Falkenhayn had a difficult time finding a commander willing to use gas. Crown Prince Rupprecht of Bavaria, commander of the Sixth Army, and Colonel-General Karl von Einem, commander of the Third Army, believed that the use of gas was immoral, an unchivalrous and cruel method of driving the enemy from their lines. Others argued that gas should not be used because, except for a spell in spring, the prevailing winds blew toward the German lines over a greater part of the front and thus would give the Allies an inherent advantage in gas warfare. Moreover, the use of gas would introduce a completely new type of warfare. Yet both Falkenhayn and Haber, in his new position as "chemico-technical advisor," believed that their troops would be protected from swift retaliation because Germany's chemical industry was so far ahead of those of the Allies. Also, Falkenhayn hoped that this new weapon, although legally questionable under the Hague Convention, would shorten the war and therefore save lives. Of his front-line commanders, only the Duke of Württemberg, commanding the Fourth Army, and facing Ypres, agreed to the use of gas in his sector. The operation would be cryptically code-named "Disinfection."²⁵

Sir Algernon West, one of W.E. Gladstone's secretaries, once remarked that "a secret is no secret when it is known to more than three persons." Gas was not a secret. Those in command at Ypres just did not know what to do about it. Although both the French and British had been amply warned by intelligence reports and prisoners that the Germans were planning to employ gas at Ypres, they choose to ignore the fact. Why was nothing done?²⁶

No one on the Allied side had any idea of what the appearance or effect of gas would be. The initial failure of the generals to heed the early warnings of an imminent gas attack can partially be explained by the fact that they had no point of reference. The Allied commanders had no concept of what a gas cloud was or how it would be used against their men on the battlefield. Nor, for that matter, did they know what type of gas would be employed. Major Victor Odlum, second-in-command of the 7th Canadian Battalion, was discussing the situation with his commanding officer, Lieutenant-Colonel William Hart-McHarg (who would be dead within days), and later recounted that neither had "the faintest idea" of what gas was. "We couldn't visualize an attack with gas, we could not guess where the gas would come from or how we could recognize it when it did come, and we did not know what were the necessary precautions."²⁷

Brigadier Arthur Currie, commander of the 2nd Brigade, recorded in his diary on 15 April that an attack was "expected at night to be preceded by the sending [over] of poisonous gases to our lines." Currie, uncertain of how the gas was to be delivered, ordered the artillery to fire on the German lines in hopes of ascertaining some information. Major Andrew McNaughton, whose career, like Currie's, was to rise meteorically during the war, was given ninety rounds of ammunition to fire on the German line. He described the experience as "one of the best days I had in the war." Unbeknownst to Currie or McNaughton, they had actually stumbled upon one of the ways to locate gas cylinders. Unfortunately, the shots did not crack any of the buried canisters, and thus the German "secret" was not revealed. At the same time, senior British commanders in the area – following the lead of the French, whose command had declared, "All this gas business need not be taken seriously" – ordered their soldiers to be more worried about the German conventional military build-up than some real or imagined gas cloud. If gas were to be used, at least one British General Headquarters report indicated "that the Germans were notoriously preparing something of this kind, but it was believed to be intended for use in trenches captured by us and not for offensive purposes." Perhaps for this reason, the infantry were not told anything. They remained defenceless, not even privy to the fact that some new weapon would be used against them.²⁸

By 10 March, 6,000 gas cylinders had been placed along the front of the German XV Corps, on the southeastern side of the Ypres salient, and manned by 1,600 gas soldiers from Pionier Regiments 35 and 36, units made up of regular combat engineers and men with backgrounds in chemistry and commanded

by Colonel Otto Peterson. For five weeks the Germans waited for a favourable wind, which not only caused an agonizing delay in the attack but also left the German infantry suspicious of this new weapon. More detrimental still were the stray shells that occasionally burst the steel canisters (code named “F” Batteries) and caused a growing number of gas casualties among German troops. Eventually, on 5 April, many of the gas canisters were moved north, across from the French Territorial Divisions, where the wind was more accommodating. The German offensive was to be a limited operation, carried out by two corps on a four-mile front, with their objective the Pilckem Ridge, in the northern sector of the salient.²⁹

It was a beautiful day on 22 April, and many Canadians were relaxing and sunning themselves as they lay in the trenches or in reserve. The systematic shelling of Ypres and the reserve lines behind them stopped in the early part of the day. Major J. Jeffery of the 13th Battalion remembered that an “ominous quiet” settled over the region, but on the whole most Canadians were simply glad to have the shelling reduced, for their “tour” in the front lines was almost up. Shortly after four o’clock in the afternoon, as the day was coming to a close, the Germans opened up with a furious artillery bombardment on the Allied lines, Ypres, and roads in the rear. In reserve at Vlamertinghe (a few miles to the west of Ypres), George Bell of the 1st Battalion was watching a soccer game when he heard the “thunder of the artillery increasing in intensity.” He recalled stopping for a few minutes to watch shells bursting in the distance: “Our 2nd Brigade must be giving Fritzies an extra dose of iron rations,’ I said. ‘Those aren’t our shells,’ says the man next to me. ‘They’re coming our way.’” And along with the shells came an ominous green-grey cloud four miles wide and half a mile deep.³⁰

The German gas units, derisively described by their own infantry as “Stinkpioniere,” had released 160 tons of chlorine gas from 5,730 canisters. The sight was perplexing to the Canadians, General Alderson describing it as “two clouds of yellowish-green smoke . . . which appeared to merge into each other.” Indeed, few recognized what was happening, an official British report concluding that “nobody appears to have realised the great danger that was threatening, it being considered that the enemy’s attempt would certainly fail and that whatever gas reached our line could be easily fanned away [like smoke]. No-one felt in the slightest degree uneasy, and the terrible effects of the gas came to us as a great surprise.” The densest parts of the gas cloud passed through the 45th Algerian (Colonial) Division and the 87th French Territorial Division, both to the left of the Canadian sector.³¹

As the green-yellow tendrils moved toward the French, perplexed Canadians in the front line viewing the cloud thought that a new type of gun powder had been employed. “At first a faint, sour pungency, that dried our mouths and set us coughing,” was how Canadian George Gibson, who was resting with a medical

officer in the rear, remembered his puzzled reaction to the first vapours of gas. One by one the French guns fell silent only to be replaced by screaming and choking Algerians running into and past the Canadian lines, struggling for breath and grunting “asphyxiate, asphyxiate.” As the cloud passed over and obscured position after position, insidiously seeping into the very crevices where the soldiers were protecting themselves from conventional fire, the French defenders were smothered; the Canadians had only minutes to react before the outer edge of the cloud reached them.³²

The victims of the gas attack writhed on the ground. Their bodies turned a strange grass-green as they struggled to suck oxygen into their corrupted lungs. The chlorine attacked the bronchial tubes, which caused the membranes to swell into a spongy mass and ever-increasing amounts of fluid to enter from the bloodstream. The swiftly congested lungs failed to take in oxygen, and the victims suffocated as they drowned in their own fluids. Major Andrew McNaughton remembered the Algerians streaming past him, “their eyeballs showing white, and coughing their lungs out – they literally were coughing their lungs out; glue was coming out of their mouths. It was a very disturbing, very

SUPPLEMENT TO THE ILLUSTRATED LONDON NEWS.

The German Poison Belt: Colour-Effects of the Enemy's Diabolical Asphyxiating Gases near Ypres.

DESIGNED BY THE ILLUSTRATED LONDON NEWS. DRAWN BY THE ARTIST OF THE ILLUSTRATED LONDON NEWS.



THE ON-ROLLING CLOUD OF GAS: THE SUFFOCATING FUMES FORCING ZOUAVES AND TURCOS TO RETIRE FROM THE TRENCHES, NEAR LANGEMARCK, FROM WHICH THE ENEMY HAD FAILED TO DISLodge THEM BY RECOGNISED METHODS OF WAR.

The illustration shows the progress of the German chemical warfare during the Battle of Ypres, where the chlorine gas, and smoking, smothering, and suffocating effects of the gas, were used to dislodge the British from the trenches. The gas was used to dislodge the British from the trenches, and the British were forced to retreat. The illustration shows the progress of the German chemical warfare during the Battle of Ypres, where the chlorine gas, and smoking, smothering, and suffocating effects of the gas, were used to dislodge the British from the trenches. The gas was used to dislodge the British from the trenches, and the British were forced to retreat. The illustration shows the progress of the German chemical warfare during the Battle of Ypres, where the chlorine gas, and smoking, smothering, and suffocating effects of the gas, were used to dislodge the British from the trenches. The gas was used to dislodge the British from the trenches, and the British were forced to retreat.

“The German Poison Belt,” supplement to the *Illustrated London News*. The illustration caption reads, “The on-rolling cloud of gas: the suffocating fumes forcing the Zouaves and Turcos to retire from the trenches. Near Langemarck, from which the enemy had failed to dislodge them by recognised methods of war.”

disturbing sight.” McNaughton saw the immediate effects of the gas; British sergeant E.W. Cotton, while at a dressing station, witnessed the victims in the later stages of suffering: “their colour was black, green and blue, tongues hanging out and eyes staring – one or two were dead and the others beyond human aid, some were coughing up green froth from their lungs.”³³

The fate of the French was viewed with horror by their allies in the line. James Davidson Pratt, serving with the 4th Battalion of Gordon Highlanders, observed the French lines from Hill 60: “A lot of the fellows ... had sort of started to scoot away from the gas; in fact doing the very thing they shouldn’t have because the gas was drifting with them and the result was that you found them dead and lying all over the place.”³⁴ With a mile-long gap in the Allied line from the routed French colonial divisions, 50,000 British and Canadian troops in the southern salient risked being flanked and cut off.

Although the German gas specialists were issued crude gas masks of cotton pads dipped in a solution of sodium thiosulphate and potassium bicarbonate, no protection was offered to the German infantry. As the infantry tentatively advanced, sometimes with their officers pushing them onward with sword or pistol, over the ravaged land and through the greenish-coloured French dying and dead, they were understandably afraid of catching up with their own cloud. But within ten minutes the Germans were on top of Pilckem Ridge, a position they had unsuccessfully attacked for months before the release of gas. The surprise was complete, with very few casualties to attackers, an abnormality in a war that churned up men more quickly than they could be sent over the top. Immediately digging into the hill, the German infantry waited for the expectant counter-attack. But there was no one left. “Its surprise was very great,” recalled General Falkenhayn. “Unfortunately we were not in a position to exploit it to the full.”³⁵

The effects of the rout left the inexperienced Canadian Division as the closest formation and the only hope for the Allies. One Canadian colonel expressed the fear felt by imperial and dominion staff officers that the Germans might get through: “Nothing lay between them and Calais but the Canadian Division, and whether the Canadians could hang on long enough in face of this new terror of poison gas until new troops arrived, no one could even venture to guess. We felt that they would do all that men could do under the circumstances, but without means of combatting the poison it was doubtful what any troops could do. Supposing the Germans just kept on discharging gas?”³⁶ While the feelings of panic in the headquarters of the rear are understandable, the commonly noted assumption that, because of the routed two divisions, the Germans could have driven on to the channel ports is incorrect. Not only were their strategic objectives limited, but, given the two previous failed gas experiments, Falkenhayn did not predict the tactical success of the gas. Many historians have claimed that this oversight wasted a valuable strategic experiment; although true, that observation is made with a healthy dose of hindsight.

Escaping the worst of the cloud, the Canadian lines were still deluged with tear and chlorine gas vapours. Those on the left could see the French streaming from their trenches, and in the Report of Operation it was indicated that by “8:45 pm there appeared to [be] no formed body [of French troops] east of the canal.” The Canadian response was to counter-attack a force that was many times larger than itself in order to buy time for the British to bring up reinforcements.³⁷

The Germans continued to blast the Canadian trenches with their artillery, and the Canadians were forced to shift their defences to keep from being enveloped by the German troops occupying the French position on their left. With disaster imminent, the 1st Canadian Brigade in reserve was quickly rushed up to the front. Victor Lewis and his company struggled to move from reserve toward the front amidst the panic-stricken French colonials and retreating residents of Ypres. They passed a British company just as a shell fell near the road. “As soon as they [the British] heard the rattle [of the shell], which we thought was vehicles going over cobblestones, they all hit the ditch. We didn’t, pure ignorance, but those Englishmen sure had a great respect for us. ‘Blimey, look at them damn fools, they took no notice of that shell.’”³⁸ Adrenalin, mixed with childhood memories of patriotism and last stands, led many Canadians to view the situation naïvely. The following song, scribbled on a piece of paper, was found on the body of Private Wilfred Bouch, who was killed in his first firefight:

Submarines beneath the sea and Zeppelins in the air
Tons of Huns with great big guns, his soldiers everywhere
Said Bill, “I’ll first take Calais then for Dover, Oh Mein Gott!”
Britain let her bulldog loose and fucked the Goddamn lot.

It’s a long way to Calais, it’s a long way to go
It’s so damn far to get to Dover, that you’ll never stand the blow.
Goodbye German Empire
Farewell Kaiser Bill
If you don’t know the way to Hell, God help you
You Goddamn soon will.³⁹

Belligerent as they were, the colonials had almost no battlecraft experience. In the words of one veteran thinking back on that day, they were being sent like “lambs to the slaughter.”⁴⁰

At a withering cost the Canadians desperately counter-attacked the Germans’ newly won positions and succeeded in forcing them to dig in cautiously from the fury of the onslaught. Although the German orders had been to hold the French lines, some of the infantry had begun to push forward when it appeared that little stood in their path. Isolated pockets of French and Canadian troops put an end to that. Colonel W.S.M. Mactier of the 13th Battalion noted that the

counter-attacks were little more than a bluff. “There appeared [to the Germans in the chaos of a night battle] to be far more men than there actually were. That’s what held them, because every conceivable man who could walk was thrown into the line somewhere.”⁴¹ The Germans, not able to gauge the number of Canadians who seemed to be holding on everywhere, failed to exploit the situation before British reinforcements were moved to stem the advance.

The cost of staving off disaster was high, as Private Bert Goose of the 3rd Canadian Field Ambulance reflected in his diary:

1,800 was put through inside 24 hours, many of my chums have been through. The wounded came at such a great pace, it was a great job to attend them all.

... Some awful wounds were attended to, gashes large enough to put your fist in, many came with bullet wounds, many poor boys will have to have their arms or legs taken off. Other poor fellows will never live to tell the tale.⁴²

Within the first day, the Canadians had launched savage counter-attacks while trying to form a new flank to protect themselves and the British from the German advance. Major J.W. Warden of the 7th Battalion noted that the Germans heavily shelled the makeshift trenches the reinforcing Canadians had huddled in, and throughout the day the German fire escalated to a frenzy.⁴³ Yet still the Canadians were dug in and refused to retreat. Although they had been lucky enough to miss the full force of the enemy’s gas, they had been victims of the first gas cloud attack; yet they had not broken and run but rather had counter-attacked and prevailed. Their initial luck was, however, about to run out.

GRIM DEFENDERS

At 4 a.m. on 24 April 1915, the Germans launched a whirlwind bombardment on the Canadian lines. Ten minutes later the German gas pioneers attached hoses to the gas canisters and released the second poisonous gas attack of the war against the apex of the 8th and 15th Battalions, which still held the original Canadian line. Major Harold Mathews of the 8th Battalion vividly remembered the fifteen-foot-high wall of greenish haze slowly but inexorably moving toward the Canadian trench: “It is impossible for me to give a real idea of the terror and horror spread among us by this filthy loathsome pestilence. It was not, I think, the fear of death or anything supernatural, but the great dread that we could not stand the fearful suffocation sufficiently to be each in our proper places and able to resist to the uttermost the attack which we felt must follow, and so hang on at all costs to the trench that we had been ordered to hold.” As Lieutenant R.L. Christopherson ominously noted, when the gas came there was “no place to run.”⁴⁴

Some of the Canadians in the trenches noticed the green tarnish to their brass buttons from two days earlier and realized that only chlorine would have that effect. Thus, with the gas rolling directly toward the Canadian line, with “invisible death creeping up on you,” as one man described it, officers ordered their men to urinate on a cloth or bandage and cover their mouths with it. As Samuel Johnson once said, there is nothing like a death sentence for concentrating the mind. Those officers and men who had taken chemistry at high school or university realized that the ammonia in the urine would crystallize and partially neutralize the chlorine. As George Bell excitedly remembered, “‘Piss on your handkerchiefs and tie them over your faces,’ yells our lieutenant. There are some who do not make this precaution. They roll about gasping for breath.” Some were just plain lucky in escaping the effects of the gas: Private Boyd, a stretcher bearer for the 8th Battalion, was drinking his rum tot when the cloud was released: “Next thing I knew I fell face downward” into the soil of the trench. When he came to, he realized he had been saved by soil filtering out most of the gas. Even so, his “chest felt stuffy and dry.” Major Lester Stevens, commanding a company in the direct path of the cloud, tied a cloth round his mouth, but “two [former] lumberjacks on each side of him, dropped” and later died in hospital. Those who stuffed urine-soaked cloths in their mouths generally survived without permanent lung damage, but those who were too embarrassed or too scared or were unable to urinate for other reasons, or who gave in to the temptation to rip the foul rags from their mouths, were rendered unconscious, maimed, or killed.⁴⁵

As the Canadians in the front line suffered from weeping eyes and wracking coughs, a tiny chemist, Lieutenant Colonel George Nasmith, was busy identifying the chlorine gas used by the Germans. Having been rejected for service in the 1st Division due to his stature (he stood only four feet, six inches), Nasmith subsequently convinced Sam Hughes to allow him to organize a mobile laboratory to test drinking water for troops in the field. In this capacity he was the first to formally diagnose the use of chlorine on 22 April.⁴⁶ Understandably nervous, he was brought before General Sir Henry Rawlinson on the afternoon of the 23rd to explain what the gas was and how it was used. The famed British scientist Dr. J.S. Haldane, who arrived at Ypres on 26 April to investigate the effects of the gas on dead and dying soldiers, seconded the diminutive colonial’s early diagnosis. While correctly identifying the gas, Nasmith also suggested a compound of hypo-sulphite to combat the chlorine, but the Canadians in the field had already come up with a partial solution born of necessity.

Behind the gas cloud, the German assault waves moved cautiously. With their overwhelming numbers and their unexpected success earlier against the French, the Germans had less fear of the defenders than of their own gas. But to their shock, those Canadians who could still stand began rapid-firing into the massed ranks of the attackers, despite the failure in many cases of their

inadequate Ross rifles. The German infantry was thus stopped by half-blinded men, vomiting blood-tinged fluid through constricting throats, desperately firing jamming rifles. The bravery and tenacity of Canadians at 2nd Ypres determined that gas was not to be the war-winning weapon envisioned from its earlier success against the French.⁴⁷

The 8th and 15th Canadian Battalions, which received the full force of the gas with no artillery support of their own, due to the poor positioning of supporting field guns, slowly fell back under the onslaught to Gravenstafel Ridge. In an account of the battle, Lieutenant A.W. Woods wrote that “The chaos of the front was immeasurable, with conflicting orders, German troops behind Canadian lines, intense artillery barrages and the gas attack which knocked out many of the commanding officers.” The gas greatly added to the fog of war. The two front-line Canadian brigadiers, Arthur Currie and Richard Turner, suffering from running noses and eyes and crushing headaches from the gas, were without accurate information while their battalions were cut off from each other by the German forces moving through and behind their lines. Although sometimes surrounded, the Canadians did not have the good sense to know that they were in a hopeless situation. Many refused to surrender and continued fighting even as they retreated. Even the German Official History noted the “tenacious determination” of the dominion troops. At the sharp end of the fighting, German officer Rudolf Binding, hating gas but accepting its practical value, was in one of the forward attacking battalions and described the stubborn defence of the Canadians: “a sleeping army lies in front of one of our brigades, they rest in good order, man by man, and will never wake again – Canadian divisions. The enemy’s losses are enormous.”⁴⁸

The fighting withdrawal of Canadian units, who “were literally blown out of position after position,” was a heart-wrenching, weary operation for men who had been shelled and fired on for two days, gassed, plagued with jammed rifles, and deprived of food and water. Major Lester Stevens of the 8th Battalion, when moving his gassed men to a farm, jumped into a trench and stumbled over one of his men sleeping waist-deep in frigid water. “I thought he was dead, but he had merely passed out due to the exhaustion, lack of food and the effects of the gas.” Others like H. Ronald Stewart, a gas casualty who barely made it to the rear, later wrote: “I shall never forget it. Hell was let loose and remained loose! Such a noise and such sights I did not think were possible ... The Germans in using gas have put on the last straw. They will never be forgiven.” The Canadian infantry’s suffering was almost as legendary as their heroic stand.⁴⁹

J.H. Bowyer’s company of the 5th Battalion was rushed in to help the 8th and 15th Battalions, and he was horrified at the effects of gas on his fellow Canadians: “Men came staggering up that were gassed. At first we ran into an orchard and I went and helped these fellows to make them comfortable by the side of a barn. I gathered up any old coats that were laying around and covered them up.

That night I got cold ... and went back to see if I could find a coat or something and saw these fellows and they were all dead, great bunch of bubbles at their mouths and nostrils, drowned.”⁵⁰

Others were forced to choose between holding their ground against impossible odds or leaving the wounded to be overrun by the Germans. Private W.F. Dodds of the 13th Battalion risked capture or death by carrying two of his poisoned companions back to a safe area near the wreck of a house. He remained haunted for the rest of his life by the half cries, half chokes of those gassed men he left behind, who “begged and prayed that they wouldn’t be left to the Germans.” There were no cures for gassed victims; severely gassed soldiers who were not carried by companions to the rear risked execution – a not uncommon occurrence by both German and Canadian troops.⁵¹

As the exhausted troops retreated from the front line, running from crater to crater, many of the gassed simply could not keep up and collapsed into ditches, dying by the side of the road or becoming prisoners. Canadian Lieutenant Scott, who was gassed on the 24th, later remarked that he made it to the rear only because of two friends who “coaxed, dragged and pushed me over the most uncomfortable four miles I had ever gone. I wanted to lie down every twenty yards to get my breath back.” Sid Cox of the 10th Battalion remembered running across a friend lying in the sun and already turning black and green. Assuming him dead, he left him there. Only after the war did he find out that his buddy had been gassed, was still alive, and had spent the rest of the war in a prison camp.⁵²

Barely staving off annihilation, the average Canadian Tommy had no idea of what to do with his gassed companions. Gas wounds were not like conventional ones; these men were slowly suffocating to death. The insidious nature of gas was that it killed the uninformed and the weak. As the gas, heavier than air, slowly rolled over the Canadian lines, it seeped into and filled every crater and shell hole, killing those who were seeking safety in them. In taking cover from the conventional dangers of battle like bullets and high explosives, soldiers were forced into their infected trenches and slit holes. “The chlorine was heavy,” Colonel T.S. Morrissey observed, “and it lay in the trench and the boys were smothered to death.” Those Canadians wounded by shell or bullet would have been bound up and placed at the bottom of the trenches or dugouts, awaiting stretcher services to clearing stations in the rear. It was they, the wounded and defenceless, whom gas was most likely to kill. John N. Beaton of the 7th Battalion wrote a letter to his father following the battle: “It was the poisonous gases that killed a lot of our poor fellows. They did not have a chance to fight.” Those who were standing and firing, with their rags over their mouths, were generally able to keep above the suffocating vapours of gas once the cloud had moved past them, but the chlorine clung in some dugouts for two hours, dispatching all those who could not get out. The malevolence of poison gas was being learned the hard way.⁵³

AIR HUNGER

The chaos inflicted by the gas also affected the doctors and medical officers. As the gassed soldiers moved to the rear in hope of finding help for their affliction, there were lines of soldiers walking back with their arms in the air, gasping desperately for breath in the way long distance runners do after a race. The strain of walking left men stranded along the road, turning blue as they gradually suffocated. “You couldn’t get a lungful,” remembered one scared Canadian. “You couldn’t use any energy because you felt as though your windpipe had been partly shut off.”⁵⁴

Private W.F. Dodds of the 13th Battalion stumbled into a converted casualty-clearing station and lay down alongside a man on a stretcher: “The schoolyard was packed, stretcher to stretcher all the way across with men in all cases of asphyxiation.” Dunlap Pearce Penhallow, a doctor with the Royal Army Medical Corps, frankly admitted that “it is difficult to convey the mental impression produced when the first batch [of gassed men] was unloaded.” “I saw some hundred poor fellows laid out in the open, in the forecourt of a church, to give them all the air they could get, slowly drowning with water in their lungs – a most horrible sight, and the doctors quite powerless,” was how British General John Charteris recounted in his diary the scene of one makeshift hospital. The much lower-ranking Canadian private, Harold Baldwin, arriving as a reinforcement, was equally shocked when he stumbled across gassed men: “Row after row of brawny Canadian Highlander lay raving and gaspy with the effects of the horrible gas, and those nearing the end were almost as black as coal. It was too awful – and my nerves went snap!” Having to care for hundreds of men slowly strangling to death was a daunting task for any doctor, especially ones that had to deal with soldiers suffering from horrible conventional wounds as well.⁵⁵

James S. Walker of No. 2 Canadian Stationary Hospital remarked on the Canadian gas casualties: “The deadly gas which had been pressed into use so effectively by the enemy had told the ghastly tale. Staggering, dumbfounded and stupefied they were brought in, after having been conveyed from the ambulance train ... The effect of these gas fumes which wrought such deadly havoc is a noticeably watery running of the eyes. Later the features become discoloured by a sort of green and yellowish hue. Many took the precautions to stuff handkerchiefs in their mouths. However, once too much gas has been inhaled its action has the same effect upon the lungs as a slow process of drowning.”⁵⁶

The process of death was ugly, with men flopping around, making gagging, choking sounds, pulling at their clothes, uncontrollably vomiting “greenish slime,” propping themselves up to gasp for help and then falling back exhausted from their struggles. In the most advanced cases, where the soldiers’ breath could be heard rattling out of their ravaged lungs, they were simply given a wet

cloth to place over their mouths in hope of soothing their agony. Some of these patients clung to life for days before they finally died.⁵⁷

Canadian doctors and surgeons of No. 3 Canadian Field Ambulance, who had just spent forty-eight hours binding wounds and amputating limbs, had little idea of how to treat gassed patients. One man pleaded with a doctor: "I don't know what's wrong with me, I can't breathe. I'm jittery as if I were a piece of haywire ... It's just as if someone was tying that tighter. I thought the fresh air would get me over it but I'm getting worse." The doctors did their best to develop a cure, but as Major Lester Stevens remembered, the doctor "looked at my throat and he stuck needles, long steel things, up my nose." Only a trench soldier, in describing such proddings, would add laconically: "I didn't like the idea of it at all." Neither did the doctors, who had few notions about how to cure their suffering men, and could only prescribe rest with fresh air.⁵⁸

A sergeant of the 15th Battalion was one of hundreds of gassed Canadians carried off the battlefield into the medical clearing stations. A Royal Army Medical Corps officer attempted to treat the suffering man, but the Canadian died two days later in a puddle of his own discharged fluid. One of the medical officers who tried to save him labelled his death as being from "air hunger." A post-mortem report indicated: "The Body showed definite discolouration of the face and neck and hands. On opening the chest the two lungs bulged forwards. On removing the lungs there exuded a considerable amount of frothy light yellow fluid, evidently highly albuminous, as light beating was sufficient to solidify it like white of egg. The veins on the surface of the brain were found greatly congested, all the small vessels standing out prominently."⁵⁹ The army doctors and surgeons had little idea how to help their suffering men, but the search for a better cure started on that day.

A REPUTATION FORGED

After the bloodbath on 24 April, both sides dug in for the night to recuperate. The Canadians had been pushed back on all fronts, but only a thousand yards at most. The men of the devastated Canadian Division grimly clung to their positions, even though they had endured the terrible confusion induced by two gas clouds, piecemeal counter-attacks, the destruction of their lines of communication, and fighting against overwhelming forces while having their lines incessantly shelled.⁶⁰ When British reinforcements eventually stabilized the line, the Canadian battalions were sent into reserves.

Having moved into the rear on the afternoon of 24 April, Sir John French, the commander of the British Expeditionary Force, sent a message to General Alderson expressing "to you and Canadian troops my admiration of the gallant stand and fight they have made. They have performed a most brilliant and valuable service." Equally important to the Canadians was the recognition by the

same British troops with whom they had just apprenticed. In some rear areas British troops gave hearty cheers for the ragged Canadians returning from the front, and the Sherwood Foresters' band played "Hold Your Hand Naughty Boy," as the decimated 7th Battalion marched by, leaving Major J.R. Mellree to declare "that he'd never forget that [gesture]" as long as he lived.⁶¹

Not all infantrymen received marching music, as was the case of one unnamed Canadian gassed on the 24th and placed along with eighteen other poisoned Canadians in a burned-out building near Ypres. Unable to lie down, he spent the whole night gasping for breath and pulling "thick, tenacious, blood-stained secretions from his nose and mouth." Left behind as the Canadians moved past them, the other eighteen men had suffocated to death by morning, and he was forced to drag himself from the shelter toward the rear. On his way he stumbled upon some concentrated beef, which he ate and promptly vomited up, along with spurts of greenish liquid. Feeling better, he continued struggling to the rear, where he was eventually found and carried to a clearing station. Still unable to lie down for fear of suffocating, he was tied in a sitting position to a bed for six nights before he was able to take moderate breaths again.⁶² After the gas clouds had passed through, the difference between life and death was narrow: it depended on the length of exposure, concentration of chlorine, and type of protection, no matter how crude; but for some nameless Canadians it came down to a stranglehold on life that they were unwilling to release.

The Canadians stumbled out of the line dirty and exhausted, dehydrated from going without food or water for two days, and, in varying proportions, suffering from the effects of gas. As Colonel W.S.M MacTier remarked, "Everyone in that vicinity got gassed to some degree." Another Canadian wrote that "It would be useless to try to describe the battle in detail. It was simply four days of murder, that's all it was." Others tried to make sense of the chaotic fighting, and in a letter by Canadian engineer William Johnson to his worried wife, he briefly described his experience on the battlefield, which could double for any man who survived the ordeal: "I have had an awful time this last ten days ... I got ... about six hours sleep in a week. I was in the hottest part of it ... and never expected to get out alive. I've missed death by inches." He finished with a statement hoping to reassure his wife: "Don't worry about me, whatever happens keep a stiff upper lip and if I should go under remember its [sic] not hard to die in the heat of battle and when up against it no man regrets his life but I don't expect to fall. I've had a hunch that I'm coming through alright ... The Devil looks after his own and the good only die young so perhaps I'm not in much danger."⁶³

The devil may have been watching out for Johnson, but 6,036 good and young Canadian lads were captured, maimed, or found their graves in their brief but vicious battle.⁶⁴ In less than three days the 1st Canadian Division had lost over half of its fighting infantry strength.

Just as the Canadians were moving out of the line, three fresh Allied divisions were rushed to the Ypres sector and sent into battle. On 26 April, a French attack was characteristically late, and the Indian Lahore Division, relying on their allies-in-arms but unaware that they were actually attacking alone, was massacred as it attempted to retake Mauser Ridge. The Indians lost almost 2,000 casualties in the assault, with the Germans releasing canistered chlorine gas to send their already tattered units into retreat.⁶⁵

Reflecting the need to counter the overwhelming German weight of fire, the Canadian artillery remained in the line and continued to support British divisions in the salient, and on 2 May it furiously bombarded the German lines. On that day, with proper wind conditions, the Germans released gas against the 4th British Division between St. Julien and Berlin Woods. Canadian gunner Harry Crerar described how the British and Canadian guns dealt with the Germans: "We had a tight half hour of it. The infantry couldn't stick it and had to pull back several hundreds of yards but in the meantime, our artillery had opened up such a rate of fire along their parapet that the Germans were held behind it and as soon as the gas dissipated, our chaps took up the ground again."⁶⁶ The shock of poison gas remained strong, but it could be countered by bullet and shell.

Although they had not been overwhelmed, the Canadians who survived these initial gas attacks dreaded the alien nature of such a weapon and believed it to be a diabolical addition to warfare. In a letter home to his mother, Private W.H. Curtis railed against gas and called the Germans "cowards." Some were more emphatic in their beliefs, like Colonel George Nasmith after returning from the front and reaching No. 3 Field Ambulance at Vlamertinge: "Lying on the floors were scores of soldiers with faces blue or ghastly green in colour choking, vomiting and gasping for air, in their struggles with death, while a faint odour of chlorine hung about the place ... These were some of our own Canadians who had been gassed, and I felt, as I stood and watched them, that the nation who had planned in cold blood, the use of such a foul method of warfare, should not be allowed to exist as a nation but should be taken and choked until it, too, cried for mercy." Others were forced to constantly relive that battle as their lungs burned for years afterward. Those who survived realized that a new form of warfare, one more indiscriminate and merciless, had been introduced and the fighting would never be the same. When death was borne on the very air that men breathed, the notion of fighting as valorous and chivalrous was further superseded by a scientific and mechanical method of warfare.⁶⁷

Gas casualties were numbered at over a million for the entire war, but the death rates were very low. With only about 3 percent of victims dying, gas has been labelled a poor weapon. Of course at 2nd Ypres, where the soldiers had no gas masks, the death rate for gassed men was much higher: fatality ratios for gas clouds attacks in 1915 and 1916 suggest that it could have been anywhere between a quarter and a third.

As well, it is unequivocal that during the first gassing there were numerous Canadians who, like Private William Walkinshaw, were immobilized by the gas: "I could hardly breathe, I had no pain. I just couldn't take any interest in anything. I knew there was people around me but I couldn't speak to them, I couldn't do anything, I was more or less paralyzed."⁶⁸ How many of these men were left behind and captured by the Germans? Or, more important, how many of the wounded were also gassed and died on the battlefield when they would normally have survived their non-gas wounds? In the chaos of a fighting retreat, there would not have been much attention given to an already dead man. What of the cases like Private J. Carolan of the 1st Battalion, who was shot in the head and woke up three hours later to find that he had been "badly gassed"? Although he managed to crawl to shelter, and the wound caused by the bullet through his brain miraculously healed, by 1917 he had still not recovered from his gassing. How many more men never regained consciousness from their combined conventional and gas wounds? It is not the role of the historian to guess, but by following the methodology of John Keegan, who has tried to understand what happened in battle at the soldier's level, one is better able to understand the real effects of gas. This, coupled with knowledge that the Germans deliberately downplayed the number of gas casualties after the world condemned them for their new barbarous weapon, meant that initial gas casualties shall remain forever skewed.⁶⁹

Although it is impossible to determine how many Canadians were affected and succumbed to the chlorine gas at 2nd Ypres, this is an attempt to draw together and analyze existing information, whether from military records or anecdotal accounts. The recorded figures range anywhere from the 122 admitted to hospital for gas treatment to 1,556 men evacuated for sickness, of whom a very high proportion would have been gassed men. A more detailed postwar study by the Army Historical Section went through every 1st Division War Diary and noted every man listed as gassed. The figures list 3 dead, 248 non-fatal, and an additional 55 gassed men captured as prisoners of war. From anecdotal accounts alone, however, it is clear that the number of dead is incorrect. It must also be kept in mind that the figures account for only those men who were counted and acknowledged as gassed. The British Official Medical History gives some indication of the ambiguous nature of gas casualties at 2nd Ypres:

A large number of men were killed outright by gas in the field, but deaths due to this cause are included in the casualty lists under the general heading "killed in action," for the severity of the fighting and the fact that the Germans gained ground allowed little opportunity for distinguishing those who died from the direct effects of gas from those killed by shell fire or rifle bullets. Again and again officers and men who went up in support as the infantry fighting developed described how they passed men lying in groups in the trenches and on the roads who had apparently died of asphyxia.⁷⁰

It was even worse in the 1st Canadian Division, which took the full brunt of the gas, and one Canadian senior officer later wrote in his diary that “at that time [at 2nd Ypres], those who were shocked, gassed or concussed were not called ‘wounded’ as they are now.” Although it is a little unclear from his rushed diary entry, Lt. Colonel Creelman was implying that in most cases the battlefield wounded remained unclassified. Thus soldiers who became casualties from shell, bullet, gas, or shell shock at 2nd Ypres might haphazardly be lumped together under the generic heading of “wounded.” Moreover, as already indicated, the gas would have accounted for many more dead among those unconscious wounded who were left in the muddy wasteland of the Ypres battlefield.⁷¹

There is no way to quantify accurately the number of men affected by the gas cloud, or how many finally succumbed, because there was no way to count during the chaos of battle. Some historians have remarked that the gas casualties at 2nd Ypres included 5,000 dead and another 10,000 wounded, but that is a serious exaggeration. On the other hand, the figures must surely be higher than the number given by German doctors, who for propaganda reasons claimed they came across fewer than a dozen gassed men. An analysis of subsequent gas attacks in April and May – for which more exact figures were kept – is instructive in giving some context to the gas casualties. On 1 May at Hill 60, there were 2,413 gas casualties among British soldiers, of which 227 were fatal. Even then, those who compiled the figures acknowledged that many British soldiers who had been gassed and captured went unrecorded. Despite issuing primitive cotton gas masks to the troops, the British suffered another 557 gas casualties, 22 of which were fatal, in the 6 May gas cloud attack. Finally, after a gas cloud attack on 24 May of unusual density and length, the British lost another 3,284 men to gas, with many more of the gassed men taken prisoner or left on the battlefield. Such high figures among the British troops, even after they were issued gas masks, give some indication of the deadly nature of the first gas clouds. Those Canadian battalions who faced the full force of the chlorine suffered harshly, and it is not unreasonable to assume that hundreds perished and many more were permanently maimed due to the immediate and long-term effects of the gas.⁷²

Gas struck terror in soldiers as they were not able to defend themselves against such a repugnant weapon. The helplessness of being stuck in a trench, of not being able to evade the wall of poison that steadily crept forward until it enveloped all in its path, left an indelible print on many veterans of the German gas attack. At least the horror of shell fire and machine-gun bullets could be partly defended against, and the use of deep trenches and shell holes helped psychologically as well as physically. Not so for those caught amidst a gas cloud seeping ever closer into their hiding places, threatening their lives with an agonizing death if they stayed hidden and exposing them to sniper and machine-gun fire if they stood up. This was the stuff of mythical fears.

Word of the poison gas spread rapidly through the BEF, and for the Canadians who stood their ground against this chemical pestilence came a newly won respect. Major William Murray, a British officer of the 27th Brigade, Royal Field Artillery, noted in his diary: “22 April ... Hear that Germans used gas and wiped out the French – 50 guns lost but Canadians saved the day.” It was not only the British who took notice of the battered colonials. While moving up the line, Colonel George Nasmith noticed French civilians heading to the rear: “When the people of the little villages through which we passed saw the name ‘Canadian’ on our car they nudged each other and repeated the word ‘Canadian.’ It was the name in everybody’s mouth those days, for it was now general knowledge that the Canadian division had thrown itself into the gap and stemmed the German rush to Calais.”⁷³

Even with the gaping holes in their ranks, many Canadians took pride in standing the test of their trial by fire. To commemorate the Canadians’ stand, Corporal Jocko Vinson of the 7th Battalion composed the following poem:

England as the mother, and Canada as the son,
And proud of the deeds they have fought and won.
Yes, it was Ypres, where the battle raged high,
And we left on the field many heroes to die.

It was not by their shells, but by gas we all know,
That choked and blinded us wherever we go,
But they hung to the trench til they dropped down with pain,
And the shells burst around them, yes time and again.

But move not them, they were game to the core,
They stood in defiance, and ready for more;
We are proud, we can say, we fought side by side
With our brave Highland laddies, to try stem the tide ...

A hard struggle at hand, and every man they could find,
When the cry of a general soon passed through the lines,
“For God’s sake hang on, men, it’s the key to the West!”
And the boys from dear Canada they surely did their best.⁷⁴

The poem filled all the criteria for a heroic epic. It spoke of the Canadians holding out against high odds and a new, diabolical weapon. It evoked images of imperialism and bespoke of sacrifice. What it did not do, though, was to illustrate the new and soon fast-growing feelings of independence that Canadians fighting at the front earned with their battlefield exploits.

Harry Crerar, in a letter home to his fiancée, rightly described the stand of the 1st Division: “The Canadians have made a name – a real name and have done one of the big things of the war.”⁷⁵ The Canadians had not only begun to forge a reputation, but they showed they were not simply dull colonials. The image of the tough dominion troops may have been partly true, but Canadian success was also due to the speed with which the officers and privates learned to combat the chlorine. The front-line units directly in the path of the gas cloud and the many Canadians rushed in as reinforcements, who would have suffered through the gas in varying degrees, survived by listening to those among them who had knowledge of chemistry and knew how to partially negate the gas. These resourceful initiatives foreshadowed the role of the future Canadian Gas Services. Canadians had been caught unprepared by gas once – they intended to be ready the next time it was used against them.