



It's four in the morning. A spring night in 1915. In the muddy desolation just outside the crumbling Belgian town of Ypres, the guns are roaring. For ten minutes, the German artillery bellows. Then, it stops. And a new horror begins.

A quiet green-yellow fog, about five meters high, creeps across the ruined landscape toward the Canadian lines. And as it reaches them, men begin to die gruesome deaths. They're suffocating, their eyes and lungs burning. Soldiers collapse, rolling in the mud, unable to breath, gasping for air as their eyes bulge from their sockets. They turn blue. And then green-black. Some will take days to die.

"It is impossible for me to give a real idea of the terror and horror spread among us by this filthy, loathsome pestilence," one officer later remembered. Chemical warfare had arrived.

Two days earlier, the Germans had unleashed this terrifying new weapon for the very first time on the Western Front. They hauled thousands of heavy cylinders toward the Allied lines, waited for the wind to turn, and then opened them, releasing the death within. On that first afternoon, the clouds swept down upon French troops. The gas drove them out of their trenches, coughing and frothing at the mouth, right into enemy fire. Dying, panicked, the French fell back in disarray.

And now, though the Germans didn't know it, there was a massive gap in the Allied lines. Nothing stood between the invaders and the coast. A turning point in the war loomed.

It was up to the Canadians to plug that hole. The 1st Canadian infantry division was brand new and deeply inexperienced. Tens of thousands of men from all over Canada had volunteered to join the fight

in the opening months of the war — but they were only just now finally getting their chance. They'd arrived on the frontlines less than two weeks earlier, many expecting glory and heroic deeds. What they found in Belgium instead was far more terrible than anything they could have imagined.

Ypres was a nightmare. Day after day they lived in that bombed out hellscape, the skies turned red by the fires burning through the town and the surrounding farms, flashes of exploding artillery shells all around them, the ground shaking, dirt raining down from above, the constant hiss of bullets whizzing by overhead, and now, the chilling sight of those poisonous clouds silently wafting toward them.

Their commanders had known those clouds were coming. Their spies and other intelligence had tipped them off: they knew the Germans were about to use their new weapon. But they had no idea how to fight gas, or what kind of gas it was, and many assumed the weapon would be entirely ineffective anyway. So no real precautions were taken.

Even now, no one was quite sure what was in the mysterious gas. But there were hints. The Canadians were right next to the French when the first attack was unleashed. Dying and fleeing French and colonial troops stumbled into Canadian lines. "Plainly, something terrible was happening, but what?" one rifleman wondered. "In the northerly breeze came a pungent nauseating smell that tickled the throat and made our eyes smart ... One man came stumbling through our lines. An officer of ours held him up with a levelled revolver. 'What's the matter, you bloody lot of cowards?' says he. The Zouave [Algerian infantry] was frothing at the mouth, his eyes started from their sockets, and he fell writhing at the officer's feet."

As the Canadians fell back, then counterattacked along with some French remnants, trying desperately to plug the breach in the line, some had been exposed to the poison. It turned the steel bayonets on their rifles to a copper colour and green tarnish appeared on the buttons of their uniforms. Some had taken enough chemistry in school to guess at what was happening. The gas was chlorine.

By the time the Canadians were directly attacked by the green-yellow clouds two days later, word was spreading. "Pee on your handkerchiefs and tie them over your faces!" one lieutenant yelled. The ammonia in the urine would partially neutralize the gas.

And it was working. While those who didn't protect themselves were dying gruesome deaths, those who did were mostly able to fight on. This time, as German soldiers followed the deathly mist into battle, they ran into solid resistance — the Canadians were suffering, giving way slowly, but they were still there, refusing to collapse into disarray, buying time for British reinforcements to arrive.

"The German infantry was thus stopped by half-blinded men, vomiting blood-tinged fluid through constricting throats, desperately firing jamming rifles," the historian Tim Cook writes in his book, *No Place To Run: The Canadian Corps and Gas Warfare in the First World War*. Thousands of Canadians were killed. More were wounded or captured. But they plugged the hole. There would be no chlorine-powered German rout.

The next day, one Canadian soldier described what he saw in the wake of the battle. "Three farms in succession burned on our front — colour in the otherwise dark. The shells flashed over the front and rear in all directions ... one can see the dead lying here and there, and in places where an assault has been they lie very thick on the front slopes of the German trenches."

That soldier's name was John McCrae. He was from Guelph and studied medicine at the University of Toronto, now a surgeon and second in command of his brigade. At Ypres, he ran a first aid station, tasked with the gruesome chore of treating wounded men in a hole dug out of the bank of a canal, freshly dead bodies periodically rolling down on him from the battle above. During just one seventeen-day period, he and his staff would treat nearly five thousand wounded men — many of them suffering the cruel effects of the gas.

"The general impression in my mind is of a nightmare," he wrote to his mother back home. "We have been in the most bitter of fights. For seventeen days and seventeen nights none of us have had our clothes off, nor our boots even, except occasionally. In all that time while I was awake, gunfire and rifle fire never ceased for sixty seconds ... And behind it all was the constant background of the sights of the dead, the wounded, the maimed, and a terrible anxiety lest the line should give way."

It was just a week later that one of McCrae's friends — a 22 year-old officer from Ottawa named Alexis Helmer — left his position with another soldier to check on some Canadians further down the line. They'd made it only a few steps before a German artillery shell arced down out of the sky. It landed directly on Helmer, blowing him to pieces. The men gathered together whatever parts of him they could find, put them in sandbags and wrapped them with a blanket. That night, in the dark, they buried what was left of him in a small, makeshift cemetery nearby. The chaplain wasn't available, so McCrae performed the service.

There's some disagreement over the details, but the most common story is that the day after he buried Helmer, McCrae took about twenty minutes to scribble down a few lines in his notebook. He sat on the back of an ambulance parked just outside his first aid station, looking out over the cemetery where he'd laid his friend to rest.

Each grave was marked with a wooden cross, the ground blanketed with blood red poppies, and in the break between artillery barrages, he could hear birds singing overhead. They say that when he was done, McCrae tore the sheet out of his book and handed it to a soldier who'd been watching him write. He didn't say a word, just walked away and left the man to read what he'd written:

In Flanders fields the poppies blow

Between the crosses, row on row,

That mark our place; and in the sky

The larks, still bravely singing, fly

Scarce heard amid the guns below.

We are the Dead. Short days ago

We lived, felt dawn, saw sunset glow,

Loved and were loved, and now we lie,

In Flanders fields.

Take up our quarrel with the foe:
To you from failing hands we throw
The torch; be yours to hold it high.
If ye break faith with us who die
We shall not sleep, though poppies grow
In Flanders fields.

By then, the Allies were hard at work learning more about how to combat the Germans' terrifying new weapon. Two days after the attack on the Canadians, officers were already conducting experiments in a barn near the frontlines, testing chlorine gas on themselves as they wore gas masks soaked in a variety of potential antidotes. It was a chemist posted to the 1st Canadian infantry division as a water purification and sanitation expert, George Naismith, who'd confirmed that the gas was, in fact, chlorine. He quickly developed the war's first gas mask, drenching a cotton pad in hyper chloride of soda.

Soon, the Canadian Corps Gas Services was formed. Every unit in the army had a gas officer. Gas masks and gas suits were distributed, early warning systems were installed, and training for gas attacks became standard practice.

In time, the Canadians harnessed the terrible new weapon for themselves, too. By the end of the war, the Allies had used more canisters of poison gas than the Germans. The deadly clouds became an expected part of every brutal battle. It's estimated that well over a million soldiers were killed by gas during the war. And that number doesn't include those who were disoriented and stumbled into enemy fire or developed fatal symptoms after the end of the war.

It wasn't until 1925 that the use of chemical weapons was banned by the Geneva Protocol. And the production and stockpiling of chemical weapons wasn't banned until 1993.

McCrae survived the battle, but not the war. He died of pneumonia in France. By then, his poem was already one of the most famous in the world — first published in the British magazine *Punch* and then reprinted again and again and again. A few months after McCrae died, just two days before the war came to an end, an American teacher read a copy of "In Flanders Fields" published in *Ladies Home Journal*. She was so touched that she immediately pledged to wear a poppy for the rest of her life — and she set to work convincing community groups and veterans' organizations around the world to do the same: to don a blood red flower every November.

And to remember.