“Surviving Calamity”: Allied Intelligence Failures and Anti-gas Responses at the Beginning of the Western Front Gas War, April-May 1915

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Abstract

Based on British and French archive material, this paper seeks to contribute to the limited “gas warfare historiography” by exploring a neglected but revealing aspect of Franco-British chemical warfare in 1915. A contextual examination of the first German gas attack will be undertaken while the light will be cast on a revealing yet unexplored archival document about the “murky side” of French military acquaintance with the first German use of poison gas.

Keywords: First World War, Gas Weapons, Allies, German Army, Western Front, Schlieffen Plan, Intelligence.
The year 2015 marked the centenary of the introduction of chemical weapons during the First World War. Following an explanation of the wider context, this article focuses upon the intelligence dimension of the initial gas attacks undertaken by the German army and explores the allies’ emergency, make-shift responses to protect their front line troops from chemical poisoning.

At the heart of the problem of the twentieth century’s first total war was how to break the stalemate on the Western Front. The flat open land of northern Belgium was the obvious choice for the German army for a swift and decisive attack to encircle the French forces. But the unfolding of the Schlieffen Plan in August 1914 resulted in Britain declaring war on Germany in defence of Belgian neutrality.¹ Seventy German divisions attacked about seventy French divisions along with the six divisions of the British Expeditionary Force in the first of the great land battles of the Western Front: the first battle of Ypres. After one hundred days the fighting stalled into what became known as the trench pattern. The German army had been held in the west. The high hopes and over confidence of the Schlieffen Plan had been dashed and an unprecedented form of large-scale, attritional static warfare now confronted the combatants.² Nevertheless, Germany retained the initiative by its occupation of French territory.

The French were placed in a position where they had to evict the Germans. The only tactical means available to the French were frontal offensives against German trench systems. The technical problems of trench warfare baffled the armies of Western Europe. One of these problems was to do with the impact of modern weapons on the battlefield which led to the superiority of defensive firepower.³ For example, the machine gun, invented in 1884 by Hirman Maxim, transformed infantry tactics by both its range and rate of fire power.⁴ Indeed, a major military lesson of both the Boer War (1899-1902) and the Russo-Japanese War (1904) was the greatly increased killing power of modern rifles, machine guns and quick firing artillery. The scale of the challenge was highly significant. Given, the continuous battle line stretching from Switzerland to the English Channel, the imperative was how to overcome the defender’s use of firepower to dominate the battlefield. Soon the machine gun became the exterminating reaper of the battlefield. As the infantry crossed no-man’s land between the trenches, the enemy machine gunners dispatched them on a fearsome scale.

It was this exceptional combination of circumstances, static warfare combined with the supremacy of defensive firepower, which led to the appalling levels of lethal and non-lethal causalities.⁵ By 1915 breaking out of a more-or-less static trench warfare remained the over-riding objective of the combatants. But what new weapons and tactics could be employed? Later in the war the tank would be used (prematurely at first, as it turned out) as

¹ Belgium had been created as an independent kingdom in 1830. Its neutrality had been guaranteed in perpetuity (in 1839) by France, Britain, Austria and Prussia.
³ The role and implications of the vastly increased firepower of modern weapons by 1914 is discussed fully in Albert Palazzo, Seeking Victory on the Western Front. The British Army and Chemical Warfare in World War I, (Lincoln, Nb: University of Nebraska Press, 2000) esp. pp. 190-191.
⁴ Sir Hiram Stevens Maxim (1840-1916) was born in the USA who later emigrated to England. He was the inventor of the Maxim Gun, the first portable, fully automatic machine gun.
⁵ For example, during the Second Battle of Ypres in April-May 1915 aggregate British losses amounted to 2,150 officers and 57,125 enlisted men.
part of new tactics to return to mobile warfare.\textsuperscript{6} But earlier, on the 22 April 1915 at the Second Battle of Ypres, the age of modern chemical warfare arrived on the Western Front.

What prodded the great gas war into being was – to use the terminology of crime detection – a consequence of motive and means. The pressing desire of the German army to unravel the Western Front deadlock was a compelling motive to resort to the use of chemical weapons; while the scientific, technological and industrial means to develop such weapons were now either at the disposal or within reach of the key players locked into the bloodletting stalemate in northern France. What was necessary was the willingness to deploy poison gas against the enemy. The German High Command took that fateful decision confident in the knowledge that behind them stood Europe’s most powerful and the world’s most advanced chemical industry.\textsuperscript{7} In particular, remarkable and rapid progress in their dyestuffs sector had made possible, \textit{inter-alia}, the mass production of a fearsome range of chemical weapons.

Having decided to adopt the weapon, the German army formed two new units, the 35\textsuperscript{th} and 36\textsuperscript{th} pioneer regiments whose task it was to deploy chlorine gas on the Western Front, with the primary aim of disempowering lethal defensive artillery in order to achieve a tactical breakthrough.

Historical accounts of the German first use of gas against the western allies on 22 April 1915 usually stress the complete surprise that the attack occasioned – along with the resulting panic and disintegration of the affected section of the French front line. A few historians, however, have explored in more detail the complex circumstances behind the first German chemical attack. Tim Cook, for example, has questioned the assumption that by early April 1915 the gas weapon remained a well-guarded secret. Indeed, he argues that the allies knew about the possibility of gas warfare – through a range of intelligence breakthroughs – but were handicapped into impotence because they lacked precise knowledge of what type of chemical would be used against them and the specific delivery method to be employed.\textsuperscript{8} Like other Anglo-Saxon historians in the field, Cook relies almost exclusively on British and (in his case) Canadian evidence to support his arguments. Nevertheless, he maintains that in the days and weeks up to the initial German gas attack the senior British commanders “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 build up [at Ypres] than some real or imagined gas cloud.”\textsuperscript{9} In the light of this assertion attributed to the French command, it would be pertinent to examine the French experience incorporating material from their own archives. In particular, it is important to establish just how seriously or not “this gas business” was taken by the French military authorities.

While the pitiful rout of French and French colonial troops – fleeing unprotected from the lethal chlorine gas clouds – would appear to confirm the assumption of surprise and complete unpreparedness, there is in fact evidence to suggest that the French High Command

\textsuperscript{6} The British introduced tanks on the battlefield for the first time in September 1916.
\textsuperscript{7} The decision led to the deployment of poison gas against allies’ troops at Ypres on 22 April 1915.
\textsuperscript{9} Ibid. p. 19.

Perhaps one of the most authoritative sources printed in English which details the catalogue of allied mistakes in misreading intelligence about the German army’s offensive gas war initiative in April 1915 is Foulkes’ account of the British Special Brigade.\footnote{C.H Foulkes, \textit{Gas! The Story of the Special Brigade} [1934], (New edition, Uckfield England: Naval and Military Press, 2002), pp. 34-36. Brigadier C.H Foulkes was one of Britain’s senior gas soldier who led the Special Brigade.} Over a number of pages he painstakingly lists in chronological order the crassly discarded pieces of an extensive intelligence jigsaw. While both allies were to blame, the apportionment of responsibility was perhaps implicit in Foulkes’ concluding remarks on the episode:

It seems that the French were inclined to regard the reports as a ruse deliberately conveyed to their notice in order to prevent them from withdrawing troops from Ypres for the offensive which they were preparing near Arras; while the British appear to have been prevented from raiding the enemy’s trenches to investigate the matter owing to a shortage of the ammunition required for the preliminary bombardment. Nobody realised the great danger that was threatening…\footnote{Ibid, p. 28.}

It is instructive to examine some of the French intelligence evidence. For example, as early as 30 March 1915, the Tenth Army interrogated a German prisoner who informed them that bottles containing asphyxiating gas were being stored near Zillebeke, on the Ypres salient.\footnote{A full account of the interrogation of this German prisoner was published by General Ferry in his article “Ce Qui S’est Passé Sur L’Yser,” \textit{La Revue des Vivants}, July 1930, Vol. pp. 899-900. See also Foulkes, Ibid, p. 32. Foulkes said that the captured soldier was carrying his gas mask. Ferry’s identification of this former prisoner of war led to his arrest and trial in Germany in 1932.} Much more detailed and specific confirmation was forthcoming on 14 April 1915 when a German soldier of Reserve Regiment 234 of the XXVIth German Corps told his French interrogators at Langemarck that German pioneer companies had prepared, but postponed, gas attacks scheduled for the 15 and 16 April 1915. In addition to his detailed confession, the German prisoner presented to his French interpreter some physical evidence to validate his account: an anti-gas compress which had been treated with neutralising chemicals.\footnote{Ibid, p. 3.} According to Foulkes, the prisoner’s admissions so impressed General Ferry that he warned the Brigade Commander in the 11\textsuperscript{th} French Division. Ferry made three important recommendations: the reduction of French troops in the front line to minimise losses, the bombardment of the storage areas containing the German gas cylinders and an attempt to extemporise respirators.\footnote{Ibid, p. 28.} He also, says Foulkes, sent an officer to warn the 28\textsuperscript{th} British Division in Ypres and the Canadian Brigade in Boesinghe of the impending attack and
despatched a special messenger to the XXth French Corps and the HQ of the *Groupe d’Armées du Nord*. Despite General Ferry’s valiant efforts, the outcome, Foulkes reminds his readers, was a catastrophe:

…not only was no notice taken of these warnings but General Ferry was told a few days later that the affair of the gas could not be taken seriously, that he had no right to communicate direct with the Allied Forces; and that the disposition of troops in the trenches was fixed by *Grand Quartier Général*.

However, what is not in Foulkes’ or in any subsequent account is any reference to an intriguing piece of evidence in the Vincennes archive which could suggest that, contrary to the conventional narrative, French GHQ nevertheless initiated a mitigating, if largely inadequate, measure which anticipated the possibility of a German gas attack. Two days before the enemy chemical assault, French GHQ confirmed the dispatch of 5,000 pairs of gas goggles to the front. It is at least plausible to infer from this information that General Ferry was perhaps not such an isolated voice and that some senior French commanders did take “this gas business” more seriously than is generally assumed. Sending anti-gas accessory equipment to the trenches at this juncture would appear to underline this.

What also remains revealing is that the French army had such equipment available and in such quantity but it is not clear what happened to this consignment of gas goggles. There are certainly no contemporary descriptions of the French troops involved in the initial German gas attack wearing these protective eye pieces. Moreover, this complicating detail highlights the tragic human outcome of the first gas attack on the Western Front and poses new questions about the French high command’s culpability in failing to alert, let alone protect, their front line troops. The evidence presented above suggests that the high command had received detailed, multi-source intelligence and that there was good reason to fear a forthcoming chemical attack in the Ypres area. Even though the French military authorities may have lacked precise knowledge of the poisonous chemical that was to be used by the Germans, prisoner information about stores of chemical gas containers was suggestive, at least in terms of limiting the possible delivery scenarios. While it is possible that a practical, if tentative, anti-gas response was initiated by French GHQ – as detailed above – the brutal fact remains that on the day of the first enemy gas attack, French soldiers were left physically unprotected and psychologically unprepared for what was to follow. Even so, Tim Cook’s inference about the French army command’s wholly dismissive attitude to the imminent prospect of chemical warfare on the Western Front may require some qualification.

There is, however, another possible explanation for the presence of these gas goggles at the French front line in April 1915. In a secret letter written in French and dated 23

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16 Ibid, p. 33.
17 Service Historique de la Défense (Vincennes), hereafter SHD, 16N832, report No. 3948, 2 May 1915 from the Minister of War to the General Commander of the army. In the report he stated: “the letter 7150 by the General Headquarters sent 20 April 1915 includes the demand of 5,000 goggles.”
December 1918 from General Herr, General Inspector of Artillery to Brig. General Foulkes, it was confirmed that French troops had received lachrymatory shells for the first time on 21 February 1915, two months before the German first use of poison gas at Ypres. At the same time it was made clear that toxic shells (which had been filled with bromine-acetone) along with “suffocating” shells (filled with chloroformiate of methyl monochloride) had only been supplied in the following July, over two months after the first German chemical assault, the implication being that the lachrymatory shells delivered earlier were not lethal. If the goggles had been issued to protect French attacking troops then it may have been assumed by the High Command that they would have been sufficient on their own to protect key troops because of the particular vulnerability of the optical organs to lachrymatory gas – even though it might appear reasonable to assume that the olfactory organs would require protection too. The relatively limited number of goggles involved may also be significant especially if only focused tear-gas assaults had been planned by the French army. Unfortunately, in the absence of additional evidence this explanation also remains highly speculative. Nevertheless, the information in this letter from General Herr would appear to confirm that the allies did not breach the letter of the Hague protocols in the use of poisonous gas – at least not before the Germans. Moreover, it is not entirely clear when this lachrymatory gas was first used against the enemy by the French army.

The abject failure of the allies on 22 April 1915 cost many lives and ruined many more. It also cast many shadows. One in particular appears to have haunted the French. Although a matter of conjecture, it is perhaps appropriate to speculate whether the French army’s subsequent, and almost obsessive, preoccupation with defensive anti-gas issues – as suggested by the sheer quantity of documentary material related to it in the Vincennes archive – was in large part a consequence of their painful and embarrassing initial failure to react effectively on the day offensive gas warfare began on the Western Front.

In his interwar study La Guerre Chimique, Rudolph Hanslian appeared to state a critical home truth when he maintained that had effective gas masks not been produced in time and in quantity for the allied armies, then the tactical and strategic implications of the scale of the likely losses of men and territory arising from Germany’s use of poison gas could

19 The National Archives (KEW), hereafter TNA, MUN 142/109, secret letter from General of Division Herr, Inspector General of Artillery, Commander of General Reserve Artillery to General Foulkes, Director of Gas Service, 23 December 1918.
20 Ibid
21 TNA MUN 142/109, letter No. 32,326, 23 December 1918, op.cit.
22 Ibid
23 The exact casualty figures for second Ypres remain a subject of controversy among historians. Olivier Lepick, La Grande Guerre Chimique 1914-1918 (Paris: Presses Universitaires, 1998), pp. 80-81 and “Une Guerre dans la Guerre: les Armes Chimiques 1914-1918,” Revue Historique des Armées, Vol. 2, 1996, p. 76 claims that the losses of 22 April 1915 were fantasies; more realistic estimates would vary between 200 and 500, while the official medical history of the war states that the first German gas attack resulted in the deaths of 3000 allied troops with an additional 7000 who were gas wounded, W. G. McPherson, W. P. Heeringham, T. R. Elliott, A. Balfour, Official History of the Great War: Medical Services, Diseases of the War (London: H M S O, 1923), Vol. 2; an official French medical report dated 25 April 1915 indicates that the number of fatal gassings among French troops over a 36 hour period from the beginning of the attack was 625. SHD, 16N826, Medical Inspector”s report sent to the C-in-C, 25 April 1915.
have drawn the conflict to a premature close.\textsuperscript{24} Time, as it turned out, was the all important factor. But as the combat evidence suggests it was more by luck than efficiency that the French forces, in particular, avoided further massacres at the hands of the enemy’s chemical soldiers. For over three weeks after the shock of 22 April 1915, French troops were left almost defenceless in the face of further possible enemy chlorine gas attacks until the first supplies of the C1\textit{ compresse} – which was a copy of the German mask – began to reach front line troops.

Between 15 May and 30 July (1915) about two million C1 masks were distributed. While the French newspapers at the time celebrated the efforts of their nation’s chemists and manufacturers in developing effective anti-gas appliances, a more intangible, if fortuitous, benefit perhaps was the enemy’s extended delay in repeating chemical attacks along the French lines. British and Commonwealth forces were not so fortunate however: they faced new German gas assaults on 24 April and on the 6 and 10 May.\textsuperscript{25} It was not until late May 1915 that enemy gas attacks resumed against the French army.\textsuperscript{26}

There is no shortage of evidence concerning the depth of official French concern or the determination of the High Command to combat, as quickly as possible, the German chemical warfare threat with effective anti-gas measures.\textsuperscript{27} Once the identity of the enemy’s poison gas had been confirmed, three pressing but connected challenges followed. The first imperative rested with French physicians as they extemporised individual and collective anti-gas protective antidotes.\textsuperscript{28} The second challenge concerned the material means of protection. By 28 April 1915 the mass production of\textit{ compresse} masks, based on captured German examples, began at a factory in Auchy-lès-Hesdin where 24 hour a day production was maintained by a pattern of working triple shifts. A laboratory chemist supervised each section which comprised fifty workers.\textsuperscript{29} With equal speed the medical laboratory of the French army produced 120,000 bags of hyposulphite solution (a chlorine antidote) in ten days.

Finally, there was the logistical urgency of equipping front-line French troops as rapidly as possible. With such frenetic application to respirator production it remains unclear why it then took the French weeks to supply the initial consignment of masks to the front. It is not known whether any post-production problem arose with the C1\textit{ compresse} which might have delayed their despatch although there is no indication of such difficulties in the military archives. But it is possible that the distribution process was simply impeded within the quick

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\textsuperscript{26} From the end of May 1915 the German artillery began using new chemical weapons against the French trenches. At the opening of their Argonne offensive on 20 June 1915, they fired up to 25,000 T-Stoff filled shells.
\textsuperscript{27} See for example, SHD, 16N834, report regarding instructions to use protective apparatus distributed to the French army 11 November 1915, and memo dated 4 December 1915.
\textsuperscript{28} SHD, 16N826, reports, 23 April 1915, and 25 August 1915.
\textsuperscript{29} Auchy-lès-Hesdin is a French village situated in Pas-de-Calais.
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sands of official French bureaucracy.\textsuperscript{30} In the meantime the \textit{poilu} at the front could only rely, at best, on such improvised protection as handkerchiefs soaked in their own urine.\textsuperscript{31} The situation, however, was little better in the trenches occupied by British and Commonwealth troops at this stage of the gas campaign but the mountain of home-made, if largely ineffective, anti-gas veils produced after a brief national press appeal in late May (1915) at least reached the British front line troops within a few days.

\begin{figure}
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\includegraphics[width=\textwidth]{image.jpg}
\caption{British women workers producing protective anti-gas veils at the start of the gas war}
\end{figure}

Source: The \textit{Daily Mail}, 5 June 1915

As it happened the Germans failed to exploit their technological and tactical advantage in April 1915 while the French and British allies went on to counter the enemy’s initiative.


\textsuperscript{31} TNA WO142/90/DGS3, memo, 5 May 1915.
with improved anti-gas discipline and the development of more effective protective equipment. As a consequence, poison gas lost its strategic potential to alter the course and outcome of the war and became instead a weapon of tactical opportunity.
References

**Primary Sources:**
Service Historique de la Défense (Vincennes), SHD, 16N832
SHD, 16N826
SHD, 16N834

The National Archives (KEW), TNA, MUN 142/109
TNA MUN 142/109, letter No. 32,326
TNA WO142/90/DGS3

The *Daily Mail*, 5 June 1915

**Secondary sources:**


James Macwilliams and James Steel, *Gas! The Battle of Ypres: 1915*, (Ontario: St Catherine, 1985)


Mordacq (General), “La Première Attaque par les Gaz Asphyxiants (22 et 23 Avril 1915),” *L’Amicale des Anciens du 1er Régiment de Tirailleurs Algériens*, No. 109, pp. 4-6, 1976


