

# Message in a bottle: the discovery of a young medical officer's map from the 1917 Battle of Hill 70

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## SUMMARY

We report the serendipitous discovery of a map drawn by an army surgeon during the First World War. The map, entitled "Loos 36° NW3," was drawn by 24-year-old Captain Alexander Edward MacDonald in fall 1917 and was found in his old surgery textbook. MacDonald's map depicts the positions of Canadian frontlines and medical units after the Battle of Hill 70. During the battle, Dr. MacDonald tended to the wounded in an aid post that he constructed in a ruined coal mine near the Front. MacDonald would go on to serve with distinction in the Battle of Passchendaele and Canada's Hundred Days, and he received the Military Cross for gallantry. He maintained a passionate interest in cartography throughout his life and eventually became an authority among map collectors. Artifacts such as MacDonald's map remind us of the realities of war and the sacrifices of our surgeon predecessors.

Virtually every town, city and church in Canada and the rest of the British Empire created memorials to their participation in the First World War. Veterans, however, were often hesitant to recount their wartime experiences to their families, likely out of reluctance to relive terrifying memories and a fear of breaking down in front of their children or grandchildren. One night in 2012, one of us (C.M.) was looking through old textbooks on the shelves of the University of Toronto's ophthalmology library and came across a 1911 edition of Rose and Carless' *Manual of Surgery*. Inside the cover, in neat handwritten cursive, was a list of places the book was taken, "Germany, France, England, British Honduras," along with a note from Dec. 4th 1918, "Re: official 1<sup>st</sup> crossing into Germany after WWI. The bandage was a 3' flannel, clot [sic] marked the boundary."

Hidden within the textbook was a hand-drawn ink and pencil map on weathered wax tracing paper, neatly folded in 8 with edges worn (Fig. 1 and Appendix 1, available at [canjsurg.ca/012318-al](http://canjsurg.ca/012318-al)). Entitled "Loos 36° NW3," and drawn by Captain A.E. MacDonald, Medical Officer in the Canadian 3rd Battalion (Toronto Regiment), the military grid map was from the Western Front during the First World War.

Alexander Edward MacDonald was 24 years old and one year out of medical school when he was deployed for active service in France with the 1st Canadian Field Ambulance in June 1917. The *Manual of Surgery* he brought along was a well-known textbook with a special chapter devoted to the management of problems encountered in "war surgery."<sup>1</sup> MacDonald likely drew the map in September or October 1917 after the Battle of Hill 70, which took place outside the coal-mining town of Lens in the Nord-Pas-De-Calais region of France.

Lieutenant-General Currie's Canadian Corps was originally ordered to attack Lens to attrite the enemy and divert German resources away from the faltering Allied offensive at Passchendaele. However, Currie believed that a direct assault on the fortified town would result in a terrible number of casualties, and proposed instead that the attack should focus on the tactically more

important Hill 70, north of Lens. Hill 70 provided excellent observation over Lens and the surrounding area; if the hill were taken, German reinforcements would be compelled to counterattack.<sup>2</sup>

The war diary of the 1st Field Ambulance recounts Dr. MacDonald's experience on the first day of battle (Fig. 2).<sup>3</sup> After eating dinner at 1 am in the damp, ruined coal mine that housed the 1st Field Ambulance's headquarters, MacDonald departed into the early morning darkness to build an advanced dressing station (ADS) in anticipation of that morning's casualties. He was accompanied by a party of fellow medical officers, a clinical staff including 23 other ranks, 30 walking wounded, and several horse

ambulances and wagons. They arrived at their destination at 4 am and were ready to accept the wounded. By 4:30 am, MacDonald's team had barely built the new post when intense bombing was heard in the distance — the Battle of Hill 70 had begun.<sup>3</sup>

The staff at the ADS ate a quick meal before the busy day ahead, and patients were fed first. By 7 am, walking wounded had begun to arrive. Minor wounds were re-dressed; these soldiers would be sent back to the Front. Major injuries, however, required urgent damage-control measures. Once stabilized, the patient would be sent by lorry to No. 22 Casualty Clearing Station for surgery. Dr. MacDonald continued in this feverish capacity until 7 pm, at which time MacDonald and his team had attended to all 392 wounded soldiers, including 35 Germans.<sup>3</sup>

Through September 1917 MacDonald attended to soldiers alone in a ruined coal mine in the nearby town of Béthune, at the 1st Field Ambulance's transfer point. In late September 1917, he was transferred to the 3rd Canadian Infantry Battalion (Toronto Regiment) as regimental medical officer.<sup>4</sup> It was around that time that he drew his map of Hill 70.

MacDonald's map depicts the position of Canadian and German lines after the battle and was likely drawn from the vantage point of Hill 70 itself. In the map, the Canadians have reached their final objective, the Green Line (the thick line to the right of the "25" grid reference). The new German frontline is represented by the pale line to the right of Green Line. Visible are the Bois Hugo, Bois Rasé, and the ruined coal mine, Puis No. 14 bis, which were German strongpoints now in Canadian hands. The redoubt of Hill 70 is represented by a stippled ellipse in the

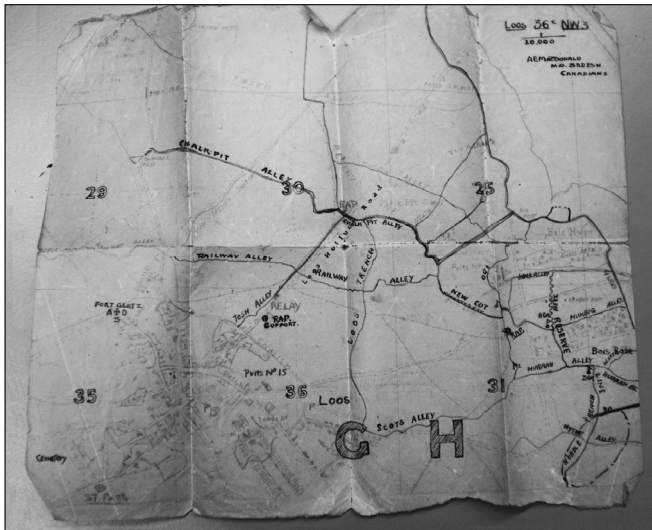


Fig. 1. Hand-drawn Loos map.

AUGUST 1917      WAR DIARY      SHEET 6      Army Form C. 2118.

Instructions regarding War Diaries and Intelligence  
Summaries are contained in F. S. Reg., Part II,  
and the Staff Manual respectively. This page  
will be prepared in manuscript.

1<sup>st</sup> CANADIAN      (Erased heading not required.)      FIELD AMBULANCE

Place	Date	Hour	Summary of Events and Information	Remarks and references to Appendix
FOSSÉ 9 DARLIN	15	AM	Dinner 1 A.M. for all details proceeding to Forward Area with 39 ORs leave at 1 <sup>st</sup> A.M. to join Capt WHYTOCK'S party with 3 <sup>rd</sup> Cdn Field Amb. ENCLOSURE, near LOOS. Majr BOYCE, Capt JONES and Capt DENSMORE, Capt MACDONALD, M.E. Capt CLARKE (Dentist), Capt & Comr J.S. WALKER, Majr CARRUTHERS (M.O. 1 <sup>st</sup> Cdn. Engineering Coy), Sgt-Majr STENSRUD, and 23 other ranks proceed to Station packing wounded L 30 & 6.6. in Horse Ambulances (3) at 2 A.M. — other transport with this column, 1 G.S. wagon, & 1 Wagon Cart. — Arrive at destination 4 <sup>th</sup> A.M. and have everything in readiness by 4 <sup>th</sup> A.M. Dig down 4 <sup>th</sup> intense bombardment for some little time. Walking wounded began to arrive by 7 A.M. and come in steadily throughout day. — Everything at Station worked excellently — Patients were first fed, this department was entirely supervised by the Chef-barracks & was most efficient, afterwards patients were	

A6945 Wt. W11422/M1160 35/000 12/16 D. D. & I. Form C/1218/14.

Fig. 2. The 1st Canadian Field Ambulance War Diary, dated August 15, 1917, recounts MacDonald's service on the first day of the Battle of Hill 70.<sup>3</sup> Reproduced with permission from Library and Archives Canada.

bottom right of the map. Also visible is a section of the Canadians' Blue Line, their first objective during the battle (the Reserve Line and Hurdle Trench in this map). Canadian troops during the Battle of Hill 70 repelled as many as 21 fierce German counterattacks, often in vicious hand-to-hand fighting.<sup>2</sup> MacDonald labels one sector of the Blue Line, "Hell," evoking images of the battle's ferocity. He also depicts several regimental aid posts (RAP) and an ADS. One newly built RAP is situated in the recently captured German first line.

MacDonald would go on to serve in the Battle of Passchendaele and in many famous battles that defined Canada's Hundred Days, including Amiens, Arras, Fresnes-Rouvroy, Upton Wood, the Drocourt-Quéant (DQ) Line, Canal du Nord, and Cambrai.<sup>5</sup> In the attack on Upton Wood, MacDonald worked in the open attending to the wounded under heavy shellfire. He was also gassed at this time.<sup>6</sup> For this act of gallantry King George V awarded him the Military Cross.<sup>7</sup> On Dec. 4, 1918, MacDonald would be the first medical officer to enter Germany. In the Army of the Occupation ceremony, he marked the French-German border with a long white bandage for General Currie's official entry into Germany.<sup>8</sup>

MacDonald maintained a passionate interest in cartography throughout his life. He began collecting maps as early as his student days in France, where he purchased several 16th century maps of Eastern North America. Over his lifetime, his collection amassed at least 794 rare maps and atlases, which were featured in many exhibitions and books at the Royal Ontario Museum. These exhibits included "Sweet-Water: the discovery and mapping of the Great Lakes" (1954), "Early maps of Canada" (1954), "Over the Rockies: the discovery and mapping of the Canadian West" (1956), "Up North: the discovery and mapping of the Canadian Arctic" (1958), and "Canontoriana: cartography of early Canadian place names from 1508" (1975).<sup>9</sup>

MacDonald would go on to specialize in pathology, bacteriology and ophthalmology, completing postgraduate work in England, France and Austria before returning to the Toronto General Hospital, where he practised ophthalmology and established an ophthalmic pathology laboratory. MacDonald died in 1976 and bequeathed to the Department of Ophthalmology and Vision Sciences (DOVS) at the University of Toronto the funds received from the sale of his cartography collection to the Public Archive of Toronto.

The A.E. MacDonald Ophthalmic Library was named in his honour. This same library housed his medical student textbook and military map, left as a message for future generations of students to find. Artifacts, like MacDonald's map, are tokens and reminders that help us to visualize and better understand the reality of war long after it is over. MacDonald's hand-drawn map from the Battle of Hill 70 is now stored in the Ley and Lois Smith

War, Memory and Popular Culture Research Collection in the Department of History at Western University, and a digitized copy is stored on the DOVS website.<sup>10</sup> The Smith Collection exists to preserve wartime ephemera, items of disposable culture that have typically been overlooked by archivists. This material is available on-site, or through the collection's Internet portal *WarTime Canada: a window into the Canadian experience during the world wars*.<sup>11</sup>

MacDonald was very young when he went overseas, yet accounts suggest he displayed gallantry and determination in helping the wounded in the throes of heavy shelling that killed soldiers alongside him.<sup>7</sup> Veterans of the First World War were often reluctant to share their experiences, and now they are gone and cannot speak. Many, like A.E. MacDonald, left mementos hidden in books, envelopes or drawers for us to find so we would remember their courage and sacrifice.

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