

# BARRAGE

The RCA Museum News

THE RCA MUSEUM  
CANADA'S NATIONAL ARTILLERY MUSEUM



April 2022

## Mission Afghanistan Exhibit

The RCA Museum is delighted to host *Mission Afghanistan* starting March 18, 2022, which will run until July 22, 2022. The Military Museums of Calgary and the Directorate of History and Heritage in Ottawa developed the exhibit.



Mission Afghanistan represents a tribute to Canadians who served in Afghanistan from 2001 to 2014, emphasizing the September 11 terrorist attacks in the United States. It contains over one hundred artifacts that soldiers and civilians brought back from Afghanistan. It's probably the best collection of artifacts on Canada's experience in Afghanistan.

The exhibit arrived in twenty-three 4x8 crates that filled a 53' tractor-trailer. Over a dozen soldiers helped empty the crates and install the temporary walls and display cases. Once the walls were complete, our three curators took over and added the artifacts to the exhibit. I want to thank everyone who worked on the exhibition's installation.

Mission Afghanistan includes many unique artifacts, such as a small piece of one of the planes that flew into the World Trade Center found in the rubble at Ground Zero. The exhibit's centrepiece is a modified motorcycle that had improvised explosives used against Canadian troops in Kandahar. When the suicide bomber attempted to detonate the device, only the blasting caps went off, and no one was injured. Other notable artifacts include Afghanistan military and police uniforms, a bagpipe used for ramp ceremonies to honour the fallen, and the last Canadian flag to fly in Kandahar Airfield. It's a great exhibit, and we hope visitors will come and see it.

## Artillery Notes – A Donation From Colonel (Retired) Charles Simonds

The RCA Museum receives approximately thirty to fifty donations per year, some having unknown provenance. In some cases, an outside appraiser may review the artifact to determine its cultural significance, connection to the Canadian Artillery, and monetary value for a potential tax receipt. In 2014, the museum accepted an 1890s bound collection of Artillery Notes from past CFB Shilo Base Commander, Colonel (retired) Charles Simonds, but the provenance of the donation was ambiguous.

In 2021, after careful research, with the assistance of a rare book specialist, we determined that Quartermaster Thomas Maxwell from the Montreal Brigade of Garrison Artillery compiled the bound manuscript from unpublished and published sources from 1889 to 1892. The handwritten compilation contained 431 pages, including 143 blank pages and two pages of original introductory remarks. It includes 27 pages of guns, shells, fuzes, sights, and other artillery equipment, all masterfully drawn.

Quartermaster Thomas Maxwell from Montreal created this work to demonstrate the need for new guns and technology in the Garrison Artillery.

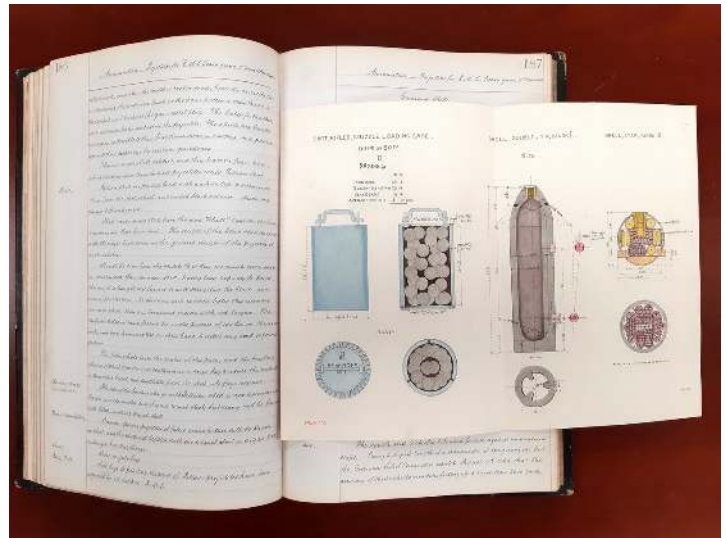
The Montreal Brigade of Garrison Artillery had six batteries outfitted with obsolete rifled guns and smoothbore cannons during this timeframe. Maxwell said, "the Canadian Garrison Artillery is not receiving the attention its vast importance requires." He intended to use the document to convince the military and the Canadian government to rearm the Canadian Artillery.

From 1875 to 1895, the Canadian Artillery, including Field Artillery and Garrison Artillery, was severely underfunded and suffered from a lack of uniform gun systems and technology. In 1876, for example, the Inspector of Artillery stated the Garrison Artillery was "in a demoralized condition," suffering from antiquated equipment and poor working conditions. The Garrison Artillery used a variety of outdated rifled muzzleloaders and rifled breech-loading Armstrong guns, such as the 64 Pounder R.M.L. or the 20 Pounder R.B.L.

Maxwell emphasized the need for new rifled guns, particularly rifled howitzers, which did not exist in Canada in 1890. He said Gunners in garrison were mere "blue-coated infantry," without rifled howitzers that would allow them to take up arms. He said the current state of artillery technology was a complicated and misunderstood topic, with the Garrison Artillery holding much of the collective knowledge.

After completion, what became of this one-of-a-kind document is unknown, and we don't know if senior military leadership or federal government officials read it. However, in 1895, the Venezuela Boundary Dispute between Great Britain and the United States threatened a potential Anglo-American war, which pushed the Canadian government to rearm the Canadian militia. In 1897, some field batteries received 12 Pounder BLs, and some militia units received 5-Inch Howitzers and 4.7 Inch QF Guns. The new guns and funding advanced the Canadian Artillery with new technology, recruits, training and summer camps.

The bound collection of Artillery Notes compiled by Quartermaster Thomas Maxwell outlines the need for more funding and new rifled howitzers in the Garrison Artillery after a prolonged period of austerity from 1875 to 1895. It's an important topic that deserves more attention, and we thank Charles Simonds for this generous donation and appreciate its historical significance to the RCA.



## Sound Ranging and Vimy Ridge

A reliable source told me a story or folktale that a Canadian soldier invented the idea of sound ranging while in a lavatory on the Western Front. The soldier noticed waves forming in a small pool of water after each successive thumping of the guns and wondered if sound waves could locate enemy guns. While it is certainly plausible, this story is not historically accurate or valid. Instead, scientists from many nations invented and perfected sound ranging before and during WW1. Leo Lowenstein, a German physicist, first patented the concept of sound measurement to locate enemy guns in 1913. When Lowenstein presented the idea to the German army that year, they rejected it.

In the early stages of the First World War and the emergence of trench warfare, the Germans and French were actively looking for any scientific and technological advances to help them locate enemy guns. Other countries, such as the Americans, British, and Russians, were also keen to incorporate any scientific advances that gave them an edge. It meant that scientists from many nations worked on technological advances to locate enemy guns.

Scientists learned that when artillery fire, they produced a low decibel sound that low-frequency microphones could record. The basis of sound ranging used multiple microphones to determine the coordinates of enemy guns. It included a network of listening posts with microphones and other specialized equipment to determine each sound wave's timing, direction, and strength. The system required up to six microphones several kilometres apart and machines to process the results. With this equipment, armies could analyze sound waves and chart the location of enemy guns.

Sound ranging was a passive method that was untraceable, and the equipment was small and easy to transport. It had disadvantages such as how the speed of sound changes with temperature and weather conditions. It was hard to distinguish between the sound of the gun firing, the sound of the projectile in the air and the sound of the impact explosion. In addition, those using this method could only locate the guns after firing, and when multiple guns fired, it was difficult to pinpoint one gun.

Our museum references LCol A. G. L. McNaughton advancing counter-battery techniques, such as sound ranging. Canada did not invent sound ranging, but Canadian soldiers such as LCol McNaughton helped make it more effective. Specifically, McNaughton led an operational research team that advanced modern sound ranging and flash spotting that allowed Canadian Gunners to locate, target, and destroy enemy guns before the Battle of Vimy Ridge that lasted from 9 to 12 April 1917.

LCol McNaughton's operational research team contained leading British scientists, including Sir William Bragg, Charles Darwin (the evolutionary scientist's grandson), and Lucien Bull. Sir William Bragg commissioned in the Royal Horse Artillery and worked on sound ranging early in the war. He developed an airwave indicator to locate the low-frequency boom of the enemy artillery, which proved very effective.



A photo of General A. G. L. McNaughton, PC, CH, CB, CMG, DSO, CD (1887 – 1966).

During the Battle of Vimy Ridge, the Canadians overcame three critical German defences: barbed wire, machine-gun fire, and artillery fire. Together these represented a robust and deadly German defence.



The Canadian Field Artillery using a captured German 4.2 inch howitzer during the Battle of Vimy Ridge, April 1917. Photo credit Library and Archives Canada (3194730).

First, before the Battle of Vimy Ridge, the Canadian Artillery fired hundreds of thousands of rounds with the new No. 106 instantaneous fuse. This fuse exploded upon impact with the ground or with barbed wire and did not create large craters. The Canadian Artillery removed the German barbed wire, allowing the Allies to advance up the ridge unobstructed.

Second, during the battle, the Canadian Artillery used rolling and creeping barrages to stop German machine gunners from firing on advancing Canadian infantry. Shells landing in front of the advancing infantry kept enemy troops in their dugouts and allowed the Canadians to advance up the ridge.

Third, the four divisions of the Canadian Corps used the information gained from sound ranging and flash spotting to locate and destroy enemy guns. Flash spotting used the flash of the gun firing and provided an optical measurement for the location of enemy guns. McNaughton's team used a 1:10,000 scale map to plot each enemy gun. They also used aerial surveillance to confirm the location with aerial photography.

From 20 March to 9 April 1917, during the preliminary bombardment of Vimy Ridge, LCol McNaughton's team plotted the location of most German guns. With assistance from the British, Canadians deployed over one thousand guns with a shell allotment of 1.6 million. The Canadian Artillery then used this data to take out 83% of the German guns on the ridge. The Canadians pounded the ridge for three solid weeks, including the final week from 2 April to 9 April, called "the week of suffering" by the Germans.

The work of LCol McNaughton's research team played a critical role in the victory at Vimy Ridge, becoming one of the defining moments in Canadian military history.

## Gray's Missing Silver Flask

In 2008, the RCA Museum received a donation from Nairne Gray out of Vancouver, B.C., consisting of his father's military memorabilia. The collection contains artifacts that belonged to Captain W. E. Duggan Gray, who landed on Juno Beach on D-Day and fought with the 3rd Anti-Tank Regiment, part of the 3rd Canadian Division. The artifacts include a silver flask with the engraving "D. Gray," a WWII helmet, a framed medal set, discharge papers, and one newspaper article.

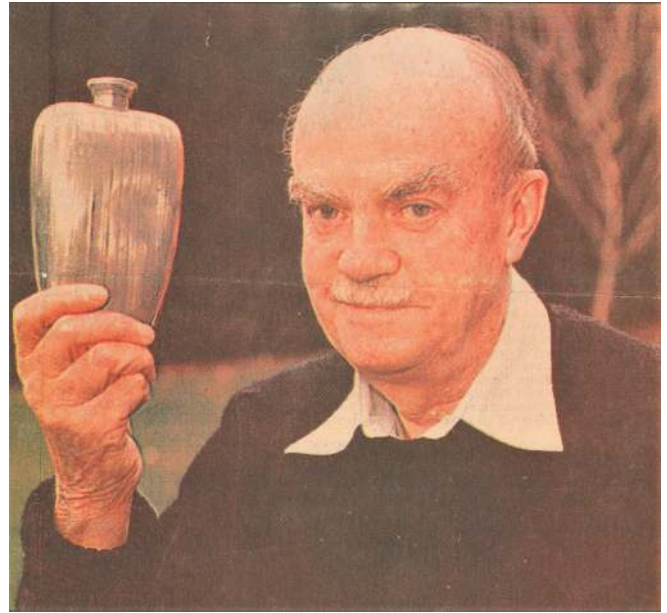
On 18 January 1992, the Vernon Daily News published an article written by Renee Taylor, entitled: "After 47 Years, His Flask is Back." The published account contains unique wartime information about Captain Gray and his silver flask. In the article, Gray described himself back in 1944 as "young, stupid, and very fatalistic." In August 1944, while fighting in France, Gray suffered a leg wound from a German mortar. British soldiers discovered Gray wounded, and transported him to hospital.

Due to unfortunate events and miscommunication, Gray's unit thought he had died on the battlefield. While recovering from his wounds in hospital, his unit sent his family an erroneous telegram pronouncing his death. His family was overcome with grief. Soon after, his unit corrected the mistake, and his parents received the extraordinary news that Gray was very much alive and recovering from leg wounds sustained in action. Gray said his rebirth "created a bit of excitement. I laughed heartily about it afterwards."

The silver flask played an integral role in the story. Before learning that Gray was still alive, the 3rd Anti-Tank Regiment sent his kit, including the engraved silver flask filled with military rum, to divisional headquarters for disposal. Once Gray was discovered alive, his unit retrieved the items. However, the rum and the silver flask had mysteriously disappeared.

Unbeknownst to Captain Gray, another Canadian soldier, James McCorrison, carried the flask for the balance of the war. Postwar, McCorrison retained the flask for decades, and in 1991, with the assistance of the War Graves Commission and the Legion Magazine, tracked down the original owner, Captain Gray. In 1992, McCorrison returned the flask to Gray during a 3rd Anti-Tank Regimental reunion dinner – 48 years after Gray had lost it in France. Gray spoke to McCorrison on how he acquired his flask, and the story goes that "some girl" gifted it to him. Gray believed McCorrison helped himself to the military rum contained in the flask, after the false reports of his death.

The 3rd Canadian Anti-Tank Regiment suffered heavy casualties during WW2, with one battery losing 50 percent over three days. The Canadian military mentioned Captain Gray twice in dispatches during his service in France and Belgium. Years later, after the return of the silver flask, Gray gave his military memorabilia to his son, who donated the artifacts to the RCA Museum. The silver flask has significant provenance and deserves an honourable mention. His family donated the collection to keep their father's legacy alive, and we will honour this commitment by retelling the story of Gray's missing silver flask.



A photo of Duggan Gray holding his silver flask from 1992. Photo credit Vernon Daily News.



The silver flask in the museum's collection 2021.

## Normandy Landing Photo



Above is an aerial reconnaissance photo of the Normandy coast near Juno Beach dated May 1944, just weeks before the D-Day Landing on 6 June 1944, with annotated remarks from the 74th Anti-Tank Battery, part of the 6th Anti-Tank Regiment, stating: "Approx 1 ½ mi. W of where we landed 8 Jul. 44." The photo taken at low tide includes beach obstacles, the famous Czech hedgehogs, ramps, and beams (Hemmbalken), to hinder the Allies from an amphibious landing.

**"Sand normally produces plants of a pale and sickly variety which usually wither and die before bearing fruit. However, the 6 Cdn A Tk Regt was born in the sands of Petawawa and was never known to be pale or sickly"** — Quoted from the official unit history of the Sixth Anti-Tank Regiment, RCA. During the Second World War, the 6th Anti-Tank Regiment became a well-trained and respected unit of Canadian Gunners.

The 3rd Canadian Infantry Division landed on Juno Beach, starting Canada's involvement in the Battle of Normandy on 6 June 1944, with the 2nd Canadian Infantry Division landing in the first week of July 1944. Gunners from the 6th Anti-Tank Regiment, part of the 2nd Canadian Infantry Division, with self-propelled Ram Tanks and towed 17 Pounder Anti-Tank guns, landed at Juno Beach on 8 July 1944.

The 6th Anti-Tank Regiment, part of II Canadian Corps and the First Canadian Army, helped liberate Caen and end the Battle of Normandy with the surrender of the German Seventh Army. From September to November 1944, the 6th Regiment participated in the Battle of the Scheldt in northern Belgium and southwest Netherlands. They fought with Allied forces in the Nijmegen Salient and the Rhineland, then pushed further into Germany until the unconditional surrender of German forces on 7 May 1945.

## Stewart Family Donation

In our archives, I found a letter from Major G. D. Mitchell to the Stewart family (Mary and LCol James Stewart) from Kingston, Ontario, dated 14 December 1981. LCol James Stewart was the son of Brigadier James C. Stewart (Sr). Along with the letter, there are 47 photos and postcards of RCA Gunners' training during summer camps at Camp Hughes and Camp Petawawa from 1924 to 1931. All of the items were still in the original mailing envelope.



These images had initially belonged to Brigadier J. C. Stewart (Sr). The RCA Museum has the medal set originally belonging to the Brigadier, who had a long and distinguished career starting in 1908 until his retirement in 1947. He held many senior command posts during WW2, including Commander of the Royal Artillery 1st Canadian Division from December 1939 to July 1940 and Commander of the Royal Artillery 1 Canadian Corps from December 1940 to July 1941.

Major Mitchell thanked Mary and James for the photos and postcards in the letter. Mitchell spoke of the Stewart family's long service to the RCA. Other family members of Brigadier Stewart joined the Canadian Artillery, including his brother Lt A. R. Stewart who was killed in action during WW2.

Major Mitchell wrote that he would have "the RCHA photos copied for our Right of the Line." In the early 1980s, as the author, Mitchell worked on the draft for "RCHA – Right of the Line." The RCHA Historical Committee published the book in 1986, which is an excellent secondary source on the history of RCHA. I have a copy on my desk that I often use for research purposes. It appears he picked three of the images for publication, which are also in our archives.



A photo of Brigadier J. C. Stewart, CBE, DSO, CD (1891– 1972) with medal set.

The photo below includes Brigadier Stewart standing next to Ham Roberts (Great Gunner Major-General John H. Roberts), who led the ill-fated Dieppe Raid in August 1942. Note the photo below with the inscription: "Artillery Camp School, Camp Hughes June 1924." Any image of Camp Hughes after 1918 is rare; one with two generals is very rare indeed.



From 1929 to 1934, Brigadier James C. Stewart (Sr) was the RCHA Brigade's Commanding Officer. In this capacity, he was the Commanding Officer at Camp Petawawa. Most of the images are of Camp Petawawa from 1928 to 1931. There are good photos of the RCA in the field with outdated Artillery, including 4.5 Inch Howitzers, 6 Inch Howitzers, 18 Pounders, and 60 Pounders. Many of the 60 Pounder photos have the inscription on the back saying 3rd Medium Battery, RCA.



In 1964, Brigadier Stewart's son, LCol Stewart, added inscriptions to the postcards and pictures regarding their significance. There are photos with captions of the early six-wheeled gun tractors, a first-aid vehicle, a rations wagon, church service in the field, and men diving from a boat pier. Note the photo of the church service at Petawawa, above to the left. On the back of the image, LCol Stewart wrote, "Old football field, stables, house on the left now where armed units offer Mass... 1929." On the back of the diving photo, he wrote, "1928-1930, Old pier - Now main beach."

Altogether, this is an impressive collection on the Canadian Artillery during the Interwar Years that belonged to a notable family in RCA history.

By Andrew Oakden



## Korean War Gallery Refresh

Back in 2021, our twenty-year-old exhibit on the Korean War left me with more questions than answers. The main text panel summarized a mountain of ideas without clarifying the role of the Canadian Artillery, and the selection of artifacts left me confused and wondering what their purpose was during the war. We needed an exhibit refresh to tell the Canadian Gunner's story better.



Shown above, we finished our refresh of the Korean War gallery in February 2022. First, we rewrote the main text panel, clarified the Canadian Artillery's role, and added a new border design with Regimental colours. We then added a new touch screen video and photo interactive, which replaced a twenty-year-old video consisting of a black-and-white video of 4 RCHA in Korea that repeated every 30 minutes. The updated interactive includes photos from 1, 2, 3 and 4 RCHA covering 1951 to 1954. The RCA Museum has dozens of photo collections on the Korean War, and we added the best ones to the interactive. We also added twelve short videos, six on the history of the Korean War, including portions of the old 4 RCHA video, and six oral histories from Veterans Affairs Canada, including Chief Warrant Officer E. E. Patrick, CD - a newly confirmed Great Gunner.

We updated our Korean War artifacts with examples of Canadian Gunners' commendations, patches, insignia and an RCA Winter Bush Hat from the conflict. We replaced our wall images with two 5 foot by 7 foot murals of 1 RCHA and 2 RCHA in Korea - including a gun team operating a 25 Pounder and Canadian Gunners in transit moving across the Korean countryside. Lastly, staff redressed a mannequin with an authentic Korean War-era uniform, appropriate headwear and insignia.



We hope these changes are appreciated, and we will continue to make exhibit upgrades throughout the museum.

By Andrew Oakden

## DONATE

Thank you for your support! Donations help us to fund curatorial projects and pay the salaries of summer students. In 2022, we currently do not have funding for summer students.

I would like to support The RCA Museum with a monetary donation of:

\$50  \$100  \$500  Other: \_\_\_\_\_

Name: \_\_\_\_\_

Street Address: \_\_\_\_\_

City/Province: \_\_\_\_\_

All donations are promptly processed and a tax receipt provided.

Postal Code: \_\_\_\_\_

Telephone: \_\_\_\_\_

Email: \_\_\_\_\_

Payment Method:

Please send your donation by cheque payable to *The RCA Museum* – Box 5000 Station Main, Shilo, Manitoba R0K 2A0, Canada.

All monetary donations are appreciated and will be recognized in The RCA Annual budget.

Please check the following that apply:

1. I consent to my name being published on the RCA website.

Yes  No, I wish to remain anonymous.

2. I consent to be on The RCA Museum mailing list and receive the Quarterly Newsletter (Barrage).

Yes  No, I do not consent.

## Contact Us

Telephone : (204) 765-3000 Ext. 3570  
 Fax:(204) 765-5289  
 Email: rcamuseum@forces.gc.ca  
 Website: rcamuseum.com  
 Facebook: RCA Museum

**The Royal Canadian Artillery  
 Museum (The RCA Museum)**  
 Building N-118  
 CFB Shilo  
 P.O. 5000, Station Main  
 Shilo, Manitoba R0K 2A0

**Musée de l'Artillerie royale  
 canadienne**  
 (Musée de l' ARC)  
 Bâtiment N-118  
 BFC Shilo  
 C.P. 5000, succursale Main  
 Shilo (Manitoba) R0K 2A0

Telephone : (204) 765-3000 poste 3570  
 Facsimile : (204) 765-5289  
 Courriel : rcamuseum@forces.gc.ca  
 Site Web : rcamuseum.com  
 Facebook: RCA Museum

Director/Directeur  
 Senior Curator  
 Assistant Curator/Conservatrice adjointe  
 Collections Manager/Gestionnaire des collections  
 Front Desk/Reception

Andrew Oakden  
 Jonathan Ferguson  
 Dayna Barscello  
 Clive Prothero-Brooks  
 Anita Michelsen

Ext/poste 3763  
 Ext/poste 3531  
 Ext/poste 3577  
 Ext/poste 3076  
 Ext/poste 3570

## Pour nous joindre