Van Arty Association and RUSI Van Members News Dec 12, 2017

Newsletters normally are emailed on Monday evenings. If you don't get a newsletter on time, check the websites below to see if there is a notice about the current newsletter or to see if the current edition is posted there. If the newsletter is posted, please contact me at bob.mugford@gmail.com to let me know you didn't get a copy.

Newsletter on line. This newsletter, and previous editions, are available on the Vancouver Artillery Association website at: www.vancouvergunners.ca and the RUSI Vancouver website at: http://www.rusivancouver.ca/newsletter.html . Both groups are also on Facebook at: https://www.facebook.com/search/top/?q=vancouver%20artillery%20association and https://www.facebook.com/search/top/?q=rusi%20vancouver

Upcoming events – Mark your calendars See attached posters for details.

See poster	Vancouver Welch Men's Choir Christmas Concerts
Dec 13	Last Lunch of 2017
Dec 17	5(BC) Regt Band Concert
Jan 01	New Years Levee – starts at 1100hrs in the Officers Mess
Jan 10	First Lunch of 2018

World War 2 - 1942

John Thompson Strategic analyst **-** *quotes from his book "Spirit Over Steel"*

Dec 13th: As the 8th Army draws near to El Agehila, Rommel's men leave town. The US launches heavy air raids on Tunis and Bizerte.

Dec 14th: The Luftwaffe flies 180 tons into Stalingrad today and the counter-offensive is advancing nicely too. The El Agehila Line to the west of the city is attacked by 7th Armoured and the New Zealanders. The Japanese start a counter-offensive towards Gona and the Americans capture much of Buna. The Free French are given control over Madagascar.

Dec 16th: The Soviets initiate the next stage of their offensive by attacking the Italian Forces on the Don River and attempting more crossings over the Chir: A wider Stalingrad encirclement may be developing – which will soon force Manstein to reconsider busting through to the relief of 6th Army. The Panzerarmee Afrika defence on the El Agehila Line disengages on learning that the line has been flanked by the New Zealanders. The British Arakan offensive forces a

minor Japanese withdrawal. US bombers disrupt another run by the Tokyo Express to Guadalcanal.

Dec 17th: The Volga has frozen over and the battered 62nd Army inside Stalingrad is in supply once more. Hoth's offensive is still proceeding, however, and is making good progress. Thanks to intelligence smuggled (at great risk) out of Poland and elsewhere in occupied Europe, the evidence of the Nazi mass murder of Europe's Jews is abundantly clear. The British and Americans openly denounce the murders but there is little they can do to stop it.

Essential Reading: The Polish Resistance hero Jan Karski carried much of the news (including his own first-hand observations) of the plight of Europe's Jews to the Western World in 1942. His 1944 book *Story of a Secret State* ran to 400,000 copies in 1944/45 alone. The book was reprinted and updated in 2001, but any true bibliophile would rejoice to have one of the earlier editions.

Dec 18th: The Australians are now leading the attack at Buna (with armour) and are making good progress; the Japanese have few anti-tank weapons and their bunkers cannot withstand a few point-blank shots from even the light guns of the M3 tanks."

Dec 19th: The Italian 8th Army has been brutalized despite making a determined four day stand against the Soviets on the banks of the Don and is ordered to withdraw. Manstein orders Palaus to achieve a breakout, but he refuses. Hoth's strength is likewise petering out in the face of increasing Soviet opposition. The Japanese on Mount Austen on Guadalcanal are proving to be a tough nut to crack.

## The War Diary of C31 L/Sgt Charles D Phelan, A Battery, RCHA 1939 - 1945
Edited by BGen (ret'd) Robert P (Bob) Beaudry CD

Chapter 38. The Gothic Line

22 Aug 1944. We arrived at a concentration area about 0200 hrs and bedded down. We were on two hours notice to move to our gun positions, but the move was postponed to tomorrow. We added big ripe tomatoes from two nearby fields to add to our dwindling rations.

23 Aug. The recce left at 2359 hrs and travelled a few miles to the village of Piaggi. Jerry had given the area a heavy dose of mortaring yesterday, and the damage was extensive. While the 2 i/c took the CPOs forward, we waited and scrounged coffee and stew from the Poles who had occupied the village. Then we moved forward and found a position about 4000 yards south of the River Metauro. While we were looking over the area, Jerry dropped about 30 rounds on the road just ahead of us, but did no damage. The digging party started work. By dusk the CP was finished and the gun pits nearly ready. Then came the payoff! We were told 11 Fd Regt was going to occupy our area, and we were moved a few hundred yards to an even worse position. The whole recce had to be done after dark, and it was pitch black. We worked steadily, as a

number of shells had been arriving at intervals since our arrival. I found an old mortar pit for the CP, and Lt Doe arrived to take over as GPO.
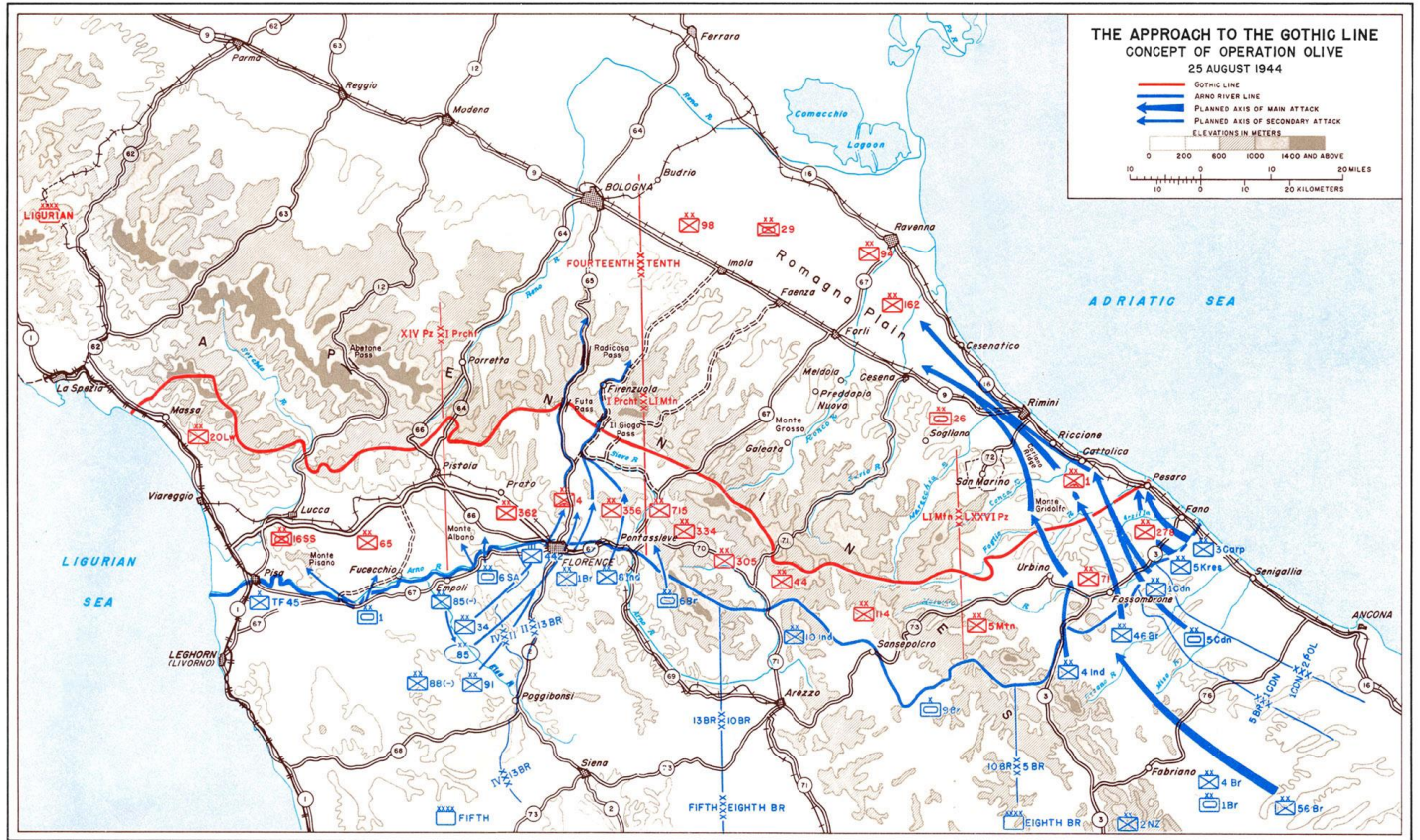
The Gothic Line, August 1944 and the concept of Operation Olive. The dark blue arrows represent major Allied attacks.

24 Aug. The guns arrived in the dark at 0400 hrs and were in action within the hour. In daylight the position looked as crowded as I had feared. Jerry shelled the whole area all day but did no damage. 11 Fd Regt in our old position had some damage and casualties.

25 Aug. Jerry continued shelling the area – no damage. We learned the big attack on the Gothic Line is tonight. Zero hr is 2300 hrs, but our first target is at 2359 hrs. We worked out a list of concentrations and Counter-Mortar tasks, and prepared gun programmes. We received a message from Lt Gen Oliver Leese at Tac HQ 8th Army, thanking everyone for the victories from Cassino to Florence, and now we were ready to break the Gothic Line. The plan of attack was that the Polish Corps is on our right and 6 Br Corps on our left. The British facing Florence, where there are eight German divs, will make a feint. On the Mediterranean, six US divs are ready to move. When the enemy moves his forces to the east, the US divs will attack in the west. We opened fire at 2359.

26 Aug. At 0015 hrs number 4 gun (Sgt Johnny Clarke) had a premature. The round exploded in the chamber, bulging the barrel.   The counter weight flew into pieces, and the muzzle brake was wrecked. Miraculously, not a man was scratched! We fired steadily until 0300 hrs. Our

troop fired 779 rounds. Up front, our troops had crossed the River Metauro and reached the highway Via Flaminia, north of the river, without opposition. The 0540 Sitrep indicated the Poles on our right flank were at Pilone and meeting stiff opposition. On our left 46 Div had crossed the River Metauro and their tanks had started crossing the river. 1 Cdn Div is on its objective. Reports said the fire plan was very good. A message at 1000 hrs said our troops were at the report line about 2500 yards past the river.

At about 1400 hrs the recce was ordered to move at once. We travelled over rough twisting roads, crossed the River Metauro, and reached our area near Caroceto at about 1800 hrs. The area was really terrible! B Tp position was ¾ of the way up a 400-metre hill. Once up, we found a terrace about 150 yards long and 19 yards wide. Directly behind us, on the next terrace down, were the 4.2" mortars of Saskatoon Light Infantry. My protests about the area were overruled, and I went back to the main road to meet the guns.   At about 2330 BHQ and part of A Tp arrived, but no sign of B Tp.

27 Aug. After a long wait, somewhat enlivened by shell and mortar fire, the troop arrived. The guns had a lot of trouble getting into the area, and after practically building a road, the guns were finally put into action at 0700 hrs. After a quick breakfast, everyone turned in for a few hours of much needed sleep. The Sitrep at 1145 hrs said that the PPCLI are about 2500 yards in front of us and the Seaforths about 2000 yards. The Poles are coming up on our right and 46 Br Div is almost even with us on the left. We did a couple of Mike targets in the afternoon. One of our guns went out of action with a split breech block and was evacuated to workshops. Late in the afternoon we were informed a new quad and gun were on their way. A new German fuze has been found which has a 30-minute time delay. We left on recce in late afternoon, travelling across country on tracks and trails. We got back onto the road at Edmonton Bn HQ, where two Canucks had just brought in a batch of prisoners. We learned that the attack on Montecerrado was going well. The 2 i/c went forward in his Staghound (an armoured car), and returned later with a badly shell-shocked infantryman. We stopped a bit farther back and waited for the 2 i/c.

28 Aug. We started off again and at 0300 hrs reached an area about 1000 yards south of Montecerrado, in front of the C&Y forward company and just behind the FDLs. Lt Alexander and I walked up a small hill to look at our area, but as it looked pretty bad we decided to wait till morning to have a more careful look. The recce waited for the return of the 2 i/c, who had gone back to RHQ to see about a better area. When the Italian civilians came out of the hills and back to their houses they found a bunch of sleeping Canucks. They seemed glad to see us and a number of fresh eggs appeared. Many of our tanks were moving up and they drew a lot of fire. In the morning there was a lot of air activity as our planes bombed positions not far ahead. In the evening I climbed to the top of the hill and watched the infantry attack up the valley. I had a ringside seat. Our men advanced quite rapidly.

29 Aug. I did an hour of guard duty at 0500 hrs, then cooked an elaborate breakfast of tea and sausages. Many refugees are coming back, laden with packs and household goods. In the afternoon we went on recce, passing the scene of yesterday's battle, to a point 2000 metres SE

of the River Foglia, just west of Ginestreto. From the house I picked as a CP, we could see right into the Gothic Line. Then a recce of WNSR company commanders arrived and were amazed to find us there. They said we were 3000 yards in front of their FDLs, and that they were to move up that night to their new FDLs in our gun area. Some bright wit labelled us the "infantillery". The Regt moved up shortly after dark and the guns were soon in action. The infantry came up a little later and set up around the gun position.

30 Aug. The WNSR set up a Coy HQ in one of the downstairs rooms during the night. All morning we were busy engaging and recording targets behind the Gothic Line. The Air Force kept up a continual bombing of the Line. In the afternoon the WNSR put in a company attack which grew into a battalion attack and then a full brigade attack. In the early evening we got word that the infantry had crossed the River Foglia as well as the main minefields, and were at the edge of the Gothic Line. Fire plan "Crash" was laid on for an unspecified time. It was a series of concentrations on the main enemy defences. We worked it out at top speed.

31 Aug. In the morning the OP reported that 1 Para Div is stretched along the whole Corps front, protecting the withdrawal of the rest of the enemy. Jerry is reported to be blowing up his guns. Our fire was reported to have given excellent results. At 0600 hrs the WNSR attacked, supported by our fire plan "Crash". They ran into intense small arms fire. Lt Walsh came to B Tp as Troop Leader (TL). The WNSR established a RAP in the house. They are having a lot of casualties, many of which are the victims of the infamous Schu mines which can tear off a foot. At 1230 hrs Jerry dropped two 88mm shells very close to our house. We fired a HF programme for eight hours., along with a large number of M and U Tgts. We and the Air Force took on a group of 50 tanks. Results were obscured by smoke. By late afternoon the PPCLI were 1000 yards inside the Line, as well as some of our tanks. The WNSR are reported to have had 100 casualties with 75% being maimed by Schu mines. Late at night I was in the WNSR RAP when a Pole injured by a Schu mine was brought in. I had the unpleasant job of helping to bandage him. One foot was gone above the ankle and the thigh of the other leg badly lacerated, but he will probably live. The Poles on our right are to the Gothic Line.

1 Sep. We engaged a large number of targets. The infantry is 1500 yards into the Gothic Line and progress is favourable.   Some enemy MGs still active.

The Digital Age and Joint Targeting

Daniel Landry   Aug 14 2017

The Canadian Armed Forces (CAF) prides itself on being ready. Operational plans are always in the works to meet the need of the day, and this planning process is an endless endeavour where options are devised for all manner of contingencies in this unpredictable world. So, it will be no surprise that a committed Defence team has been advancing work to make one particular aspect of operations and mission execution better, and that is the creation of a Joint Targeting enterprise. The new Joint Targeting enterprise will be underpinned with proven military concepts and doctrine such as the Joint Targeting Cycle. Those who are familiar know

that the Joint Targeting Cycle relies on solid information and intelligence. In this digital age, there is useful intelligence buried in the vast data lakes being generated every moment of each day. In the establishment of a Joint Targeting enterprise there exists a very real opportunity to innovate by integrating the tried and true targeting methods with significant capabilities in data sciences and artificial intelligence, specifically the use of big data and machine learning. The Canadian Armed Forces are well-practiced and reliable at delivering traditional kinetic effects with munitions at the sharp end of the force. But today munitions alone are not always suitable, or enough. More and more often a non-kinetic effect, such as an influence campaign or a cyber activity, may be a more desirable option either as stand-alone action or in combination with traditional munitions options. We've witnessed such non-munitions effects employed in the annexation of Crimea by Russian. Russia used a combination of traditional ground troop movement, cyber methods and information operations to shape international perceptions and influence its adversaries.

While the world is unpredictable from a geopolitical perspective, theatres of operations are also more complex than ever because of the unrelenting propagation of data and communications technologies and how they enable adversaries. It is well accepted now that these technologies can make it difficult to resolve an operational picture and take action, but what is less known is how these very same technologies also offer the opportunity to find and stay one step ahead. As a Joint Targeting capability is systematically established, the Defence Science and Technology community is poised to ensure big data and machine learning algorithms provide the CAF with non-munitions options and valuable data mining tools for intelligence production. Big data refers to the volume, velocity or variety of data that is diverse, fast-changing and typically too big for conventional analytic means to make any real sense of it. Big data comes in almost any type of structured or unstructured format: geospatial, audio, video, text and anything posted in social media, for example. Big data is collected and saved in the cloud by personal mobile devices, satellites and remote sensors, software logs, cameras, microphones, radio-frequency identification (RFID) readers and wireless sensor networks, to name some. Whether you are going to the grocery store, streaming a movie or out for a bike ride, virtually every activity and query creates recordable data. Those kinds of details saved in massive data lakes mean that there are endless possibilities when posing questions and seeking answers. As the Economist noted recently, Alphabet (Google), Amazon, Apple, Facebook and Microsoft all deal in data. In this digital age, data is the number one commodity, not oil.

In terms of Joint Targeting, what do we want out of these data lakes? What we want is an ability to trace kernels of information and reveal hidden patterns, particularly those relating to human behaviour and interactions. The business world does this with machine learning algorithms, and the same science and technology could be adopted to facilitate a targeting process. Artificial intelligence has brought us computers that can beat us at a game of chess, process human speech and read handwriting. But there has been even more impressive progress in the past few years in the artificial intelligence subfield that we have already begun discussing – machine learning. Machine learning algorithms help computers map rules and find loose connections by themselves without having to be expressly programmed by a human and are the key to

uncovering the buried information in big data that leads to useful intelligence. With machine learning, computers can predict when a situation is coming to head in a foreign land, predict weather systems on a continental scale, and scour all available medical literature to uncover cancer treatments for more obscure forms of that disease. The real beauty of machine learning is that the more data accessed by a machine learning system, the more it learns to do its job better. Freed from the finite capacity of the human mind, machine learning is able to discover the patterns buried in the big data that can be useful to a Joint Targeting Cycle.

The Canadian Armed Forces' and NATO definition of targeting is: The process of selecting and prioritizing targets and matching the appropriate response to them, taking into account operational requirements and capabilities. Simply put, a target can be a person, place or thing. The targeting cycle is often presented as iterative – analyzing and prioritizing munitions and non-munitions capabilities against targets – and consists of six major steps:

(1) end state and commander's objectives,
(2) target development and prioritizing,
(3) capabilities analysis,
(4) commander's decision and force assignment,
(5) mission planning and force execution, and
(6) assessment.

Each of these steps is driven by subject matter experts, intelligence analysts and operational planners. As a team, they execute the targeting cycle as efficiently and precisely as possible. Today's warfare brings with it significant challenges in detecting, identifying, tracking, and engaging targets due to the increased data flow, the sophistication of adversaries in concealing the data, and the speed of conflict. The expression, "time is of the essence" has never been more true. In today's operational theatres where our adversaries blend in with the local population, they hold an advantage by only being able to only briefly expose themselves to large-scale military operations. The momentary need for exposure, often prompted by the need to communicate, occurs in an instant. When adversaries take advantage of the ease of lightning speed of communications, they leave a trace. Bread crumbs can be followed, dots can be connected, and machine learning algorithms is the way to do it.

Recent operations have demonstrated the pressures and benefits that data science can bring to the Canadian Armed Forces Joint Targeting process. Whether analyzing maritime targets while in command of Operation Enduring Freedom's Combined Task Force 150 or providing targeting solutions for Operation IMPACT and the global coalition against ISIL, we can begin to mitigate human bias and our finite intellectual capacity by leveraging the exponential growth and availability of data. Denying terrorists the use of the sea to transport drugs or denying ISIL the revenue from oil production is complicated military business. Relationships, money, and communications methods all play a role in these kinds of networks, and machine learning on big data can make the connections. So far we have discussed Joint Targeting for the CAF as something new and a clean slate to take advantage of, but that is not entirely accurate. The CAF

constantly seeks to improve itself and so for several years has been implementing concepts and ideas that turn out to be strong starting points for a Joint Targeting enterprise. In 2009, the Canadian Forces Integrated Command Centre (CFICC) was established for the operational commands that were transitioned into the Canadian Joint Operations Command (CJOC). The Integrated Command Centre provides an operations watch floor focused on supporting all of Canada's domestic and international missions twenty-four hours a day. It is highly connected, houses a robust intelligence staff, a geospatial intelligence capability and the headquarters of Canadian Special Operations Forces Command (CANSOFCOM). The emphasis is on "integrated" and it is here that the Canadian Armed Forces have been melding intelligence production and operations watches, enhancing information sharing, and nurturing the kind of culture and center of gravity that is quite informative when designing a Joint Targeting Enterprise.

Similarly, the Joint Information Intelligence Fusion Centre (JIIFC) has led the way in providing timely and agile command and control solutions to the Canadian Armed Forces. Successful innovations have included a fused, multilayered Command View of all missions and operations, a near-real-time strategic common operations picture and a safe and reliable classified data transfer capability. All these tools have aided in strategic decision making for over ten years. Now with the intentions of standing up a recognized Joint Targeting enterprise, JIIFC has a central role as the coordination lead for Joint Targeting automation on Canadian Armed Forces classified networks. The concept of operations and intelligence integration under one roof supported by data, information and intelligence fusion capabilities is the second point of strength for the standing up of a Joint Targeting capability in the digital age. Looking at Canadian intelligence concepts developed for forward deployed forces, Afghanistan was the operational catalyst that led to an All Source Intelligence Centre (ASIC). In 2016, the CAF set up an ASIC as a part of Operation Impact, responsible for collecting, synthesizing, and analyzing information derived from a variety of sources. Now the intelligence being gathered from ASIC is being used to inform operational planning, ultimately contributing to the protection of coalition forces and the conduct of coalition operations.

As the Canadian Armed Forces takes steps to establish a permanent and recognized Joint Targeting enterprise, it will build on past success while at the same time innovating with the modern science and technology. The current human-centric structures (CFICC, JIIFC, ASIC) can only take the targeting process so far in the digital age. As Charlie Lewis wrote in "Capturing Flying Insects: A Machine Learning approach to Targeting," for War on the Rocks, "Targeting with machine learning by definition improves with experience. Using algorithms to help identify specific knowledge from data and experience based on sound statistical and computational principles, machine learning uses computers to find hidden insights without being explicitly programmed where to look." Google, Facebook and Amazon all use data and machine learning algorithms to provide billions of dollars in revenue. The Economist states, "Google can see what people search for, Facebook what they share, Amazon what they buy." This "God's eye view" of activities in the consumer markets of the world is powerful. They know what you want to buy before you are aware of your own need.

In a similar fashion, machine learning allows for faster and more accurate targeting. It assists in detecting, identifying, tracking, and determining the best combination of munition and non-munitions effects for a target. For example, is that terrorist in the compound with women and children or on patrol? It is this kind of value, and much more, that data sciences embedded in a Joint Targeting enterprise can benefit from. Our allies acknowledge they need to adapt. In the words of Charlie Lewis, "Machine learning used to consolidate big data, apply that data to a strategy, and make decisions in one-millionth of a second transforms the military's ability to target… ."   In establishing a permanent Joint Targeting capability, the Canadian Armed Forces can innovate from the outset and leverage the technological advances and opportunity that big data and machine learning can offer. Embracing the digital age for a modern, digitally enabled Joint Targeting enterprise will make a qualified contribution to Canadian Armed Forces operations, and the Defence Science and Technology community is taking steps to make it happen.

Dan Landry is a defence science programme manager responsible for the emergent Joint Targeting portfolio at *DND's* ADM Science and Technology. He is also a retired naval officer, mariner, oceanographer and C4ISR leader.

From the 'Punitentary'

What do you call people who are afraid of Santa Claus?   Claustrophobic

The Vancouver Gunners Update, Murphy's other laws and Who it it, will return on Jan 5th.

Vancouver Welsh Men's Choir
SOUNDS of CHRISTMAS

Thurs, Nov 30th, 7:30pm *Downtown Vancouver*
with *Burnaby Central Secondary School Choir*
and guest fiddler Cam Wilson
St. Andrew's-Wesley United Church
Corner of Burrard/Nelson Streets
Tickets from www.vwmc.ca

Sat, Dec 2nd, 2:30pm *White Rock*
with *Johnston Heights Secondary School Choir*
and guest fiddler Cam Wilson
White Rock Baptist Church, 1657-140th Street
Tickets at www.vwmc.ca or
Tapestry Music 604-538-0906

Sun, Dec 3rd, 2:30pm *New Westminster*
with *Winter Harp* at **Massey Theatre***, 735 8th Ave.
Tickets only from www.ticketsnw.ca 604-521-5050

Where to Buy Tickets:
Online: vwmc.ca (no fees)
In person: from any choir member
By phone: VWMC 604-878-1190
From theatre box offices
At the door

Wed, Dec 8th, 7:30pm *North Vancouver*
with *Argyle Secondary School Choir*
and guest fiddler Cam Wilson
Centennial Theatre*, 2300 Lonsdale
Tickets only from Box Office 604-984-4484

Thurs, Dec 16th, 7:30pm *Vancouver*
with *Magee Secondary School Choir*
and guest fiddler Cam Wilson
Shaughnessy Heights United Church
1550 West 33rd Ave.
Tickets at www.vwmc.ca

Ticket Prices:
$29 **$27** $12*
ADULT **SENIOR** STUDENT with ID
MASSEY THEATRE* Good $28.50, Better $34.50,
Best $39.50 (includes fees)
CENTENNIAL THEATRE* $32, $29, $12
(includes fees)

CHRISTMAS 2017 CONCERTS

VANCOUVER WELSH MEN'S CHOIR
ONE OF CANADA'S LARGEST MALE VOICE CHOIRS

Fifth (BC) Artillery Regiment RCA Foundation

PRESENTS

The Band of the 5th (BC) Field Regiment

MASTER WARRANT OFFICER DANIEL MOSES
BANDMASTER

SPECIAL GUEST

Mount Douglas Senior Band

MR. DOUG AWAI, CONDUCTOR

ALIX GOOLDEN PERFORMANCE HALL
DEC 17TH, 2017 | 2:30PM