

## November Meeting

Topic: Cold War Fighters: Fighter procurement with a Canadian solution

Speaker: Dr. Randall Wakelam, Assistant Professor,  
History, Royal Military College

Reporter: Gord McNulty

Our November meeting began solemnly with a Remembrance Day ceremony led by CAHS Toronto Chapter Member Tom Nettleton. Members and guests observed a moment of silence in memory of Canadian military personnel who made the ultimate sacrifice. Tom offered a prayer for the safety and well-being of those currently serving Canada and our allies, at home and abroad --- including members of our armed forces and their civilian associates, whether engaged in peacekeeping, rescue, mercy missions, security or training. In addition, Tom asked for care and guidance in helping those who provide care for victims of post-traumatic stress syndrome and/or physical disabilities as a result of their courageous service on Canada's behalf. As Tom said, *"may they be recognized and treated fairly, medically, socially and financially. Amen."*



Speaker – Dr. Randall Wakelam  
Photo Credit – Neil McGavock

CAHS Toronto Chapter President Dr. George Topple introduced our guest speaker. Dr. Randall Wakelam, who has a PhD in History from Wilfrid Laurier University, teaches history and leadership at the Royal Military College of Canada in Kingston.

Previously, Colonel (retired) Wakelam had an extensive military career which saw him fly helicopters for the Army, serving in three different squadrons before commanding 408 Squadron in Edmonton from 1991 to 1993. Between flying tours, he had staff assignments in aircraft procurement and language training policy. Between 1993 and 2009 he was a member of faculty at the Canadian Forces College in Toronto, the military's professional graduate school, and subsequently a senior administrator at the Canadian Defence Academy in Kingston, the military's 'ministry of education.' During those years he led several curriculum design projects including the current National Security Programme for senior officers and civilian executives.

Randall is a faculty associate at the Laurier Centre for Military, Strategic and Disarmament Studies. He will be a Visiting Fellow at Oxford University's Changing Character of War Programme through June, 2014. He writes extensively on the use of air forces, command and leadership questions, and military education. In 2009 Randall published *The Science of Bombing: Operational Research in RAF Bomber Command* and in 2010 co-edited *The Report of the Officer Development Board: Maj-Gen Roger Rowley and the Education of the Canadian Forces*. In 2012 he published *Cold War Fighters: Canadian Aircraft Procurement, 1945-54*. He is currently starting work on a biography of Wilfred Curtis, who was Canada's Chief of the Air Staff from 1947 to 1953 before going on to help establish York University. Randall began by saying he was pleased to write his recent book on Canada's relatively successful procurement of fighters at the start of the Cold War.

The book focused on the themes of a viable air force and defence industrial base, and viable world-class products as exemplified by the Avro Canada CF-100 and the Canadair Sabre. The lack of air force history post-1945 provided an ideal opportunity to explore this subject for a thesis while he was working on his Master's in War Studies at RMC. Concentrating on fighter procurement, Randall found extensive government and air force files at the Public Archives in Ottawa.

Canada emerged from the war with big financial challenges. Whatever aspirations Canada had to grow as a world player, after building 16,000 airframes during the war, it wasn't well-positioned to spend money on acquiring new weapons. There was another major issue as well: growing concern that Canada had to gain control over military aircraft production in this country. An allied organization called the Munitions Assignment Board, based in Washington, decided where all military aircraft would be stationed.

Problems soon arose during the war when Canada's allies refused to release aircraft that the RCAF badly needed. Notably, Hawker Hurricanes built at Fort William for the RAF were not released to Canada even though the Japanese posed a real threat to the west coast. Air -Vice Marshal Ernest Stedman, for one, was especially prominent in declaring that Canada needed to build its own combat aircraft in this country to protect its security.

For his part, powerful C.D. Howe, minister of public works, felt that peacetime Canada needed to build large transport aircraft – not fighters. Finally, as the war ended, the Cabinet War Committee decided to build a fighter with a jet engine built in Canada. Canada had not produced any engines during the war. The RCAF was rapidly downsized after the war, but any 'peacetime dividend' would prove elusive. The brewing Cold War soon erupted in an alarming way with the defection of Soviet embassy cipher clerk Igor Gouzenko in Ottawa on September 5, 1945. Canada initially used its wartime credits for surplus RAF Spitfires and Mosquitos for British de Havilland Vampire jets, in what Randall called "a pragmatic entry into the jet age." With Gouzenko's revelations about Soviet spying in North America and the realization that our former Soviet allies were developing intercontinental bombing capability, Canada recognized that air defence of North America would be essential. The Vampire entered squadron service. However, the Vampire didn't meet the RCAF's need for a long-range, all-weather, twin-engined, two-seat interceptor which led to the CF-100. More modern fighters were required both to protect Canada's cities and contribute to NATO for European air defence.

In the immediate post-war years, the RCAF discussed a massive continental air defence system with the U.S. Air Force. Money continued to be tight, however, and demand for social spending was high with the baby boom. By 1948, the RCAF was down to 9,000 people in uniform. Planning for major expansion continued nonetheless. C.D. Howe, "minister of everything" in the St. Laurent government, saw a defence buildup as a way to boost Canadian industry and provide good jobs. But capable fighters and jet engines were in short supply. While Avro Canada's ambitious CF-100 and Orenda engine projects were slowly progressing at Malton, the RCAF chose the North American F-86 Sabre to replace the Vampire.



*Canadair Sabre 6 RCAF 23605 at CFB 17 Wing  
Winnipeg Air Force Heritage Park in the colours of 410 Cougar Squadron  
Photo Credit – Gord McNulty*

Making the cover of Time magazine, Howe convinced Washington to allow Canadair to build the Sabre under licence in Montreal, initially with the General Electric J-47 engine and then the more powerful Avro Orenda. The Americans were reluctant to allow their military hardware to be sold offshore, but Howe managed to broker a deal for the Sabre. During the same period, Canada forged ahead with the CF-100, with the first two aircraft powered by the British Rolls-Royce Avon before the Orenda became available. Tensions escalated with the outbreak of the Korean War in June, 1950 and military spending rose. As much as 50 per cent of defence spending in the 1950s went to the air force, as opposed to the army and navy, to manage the threat of Soviet intercontinental bombers. Collective defence was also urgent for western European nations, which were struggling financially. Britain, Canada and the U.S. shouldered the brunt of the burden in continental Europe, during the critical initial years of NATO. Canada delivered Sabres, starting in 1952, and later CF-100s, starting in 1956, in quantity to No. 1 Air Division RCAF in NATO.

At one point, Randall noted, Canada was even asked to provide a second Air Division of light bombers (presumably British Canberras) as NATO headquarters reached a state of what our speaker described as “near panic.” Financial reality prevented the light bomber division from becoming a reality. The Canadair Sabre, however, became a world-class day fighter, because of its tremendous performance in the later models with the Orenda engine in the proven F-86 airframe. In 1950, Canadair sent 60 early Sabre 2s to the U.S.A.F. to help in the Korean War. More exports soon followed. Under the Mutual Defence Assistance Act, first set up in the U.S. to help the western allies, various models of Canadian-built Sabre were distributed to European nations including Britain, Greece, Turkey, West Germany and other countries. In all, Canadair built 1,815 of these classic swept-wing jets, completing production in 1958, in one of Canada’s great aviation success stories.





*Avro Canada CF-100 Mark 5 RCAF 100784 at CFB 17 Wing  
Winnipeg Air Force Heritage Park in the colours of 419 Moose Squadron  
Photo Credit – Gord McNulty*

Compared to the Sabre, development of the CF-100 was more complex. Serious problems were found with the centre section wing spar, and multiple modifications were made as the RCAF at one time envisioned the aircraft in numerous roles other than interception. C.D. Howe put defence production specialist Crawford Gordon in charge of Avro in 1951 and was so concerned that he threatened to freeze the project in 1952. An interdepartmental panel was set up for Avro. That sounds a bit like today's ongoing problems over procurement of the F-35 Lightning II fighter for the RCAF.

The production delays were finally overcome and by the mid-1950s, the CF-100 was in squadron service as part of NORAD. It was as capable an interceptor as anything that the western allies had at the time. The CF-100 wasn't perfect, but was at least as good --- and probably much better than --- the contemporary U.S.A.F. F-89 Scorpion. In fact, the CF-100 might well have been sold to the U.S.A.F. and the RAF if Avro had been able to produce enough in time. In addition to the CF-100s for No. 1 Air Division, 53 were also supplied to Belgium, which chose it over the F-89. Some 692 CF-100s were built by Avro Canada when production ended late in 1958.

In retrospect, Randall noted Canada had managed to develop a viable defence industrial base for fighter production during the Cold War. Canadair and Avro Canada showed they could build world-class combat aircraft. It was a unique period in Canada's history, which laid the foundation for what would become the halcyon days of the RCAF. However, Canada's capacity to build fighters to its own specifications wouldn't last. Avro Canada folded with the cancellation of the CF-105 Arrow, the even more ambitious planned successor to the CF-100. Much of Canadair's fighter production, apart from the 1960s procurement of the Lockheed CF-104 Starfighter and the Northrop CF-5 Freedom Fighter, shifted to civil aircraft over the years.

Answering several questions, Randall credited C.D. Howe as a politician who negotiated skilfully with the United States for access to the F-86. Howe also put a lot of time, effort and support into Avro, once the need for the CF-100 was clear, and into research and development of the Orenda engine. These were among Howe's accomplishments, weighed against his negative role in flatly discontinuing Canada's highly promising Avro Jetliner in 1951 on the rationale that Avro had to concentrate on the CF-100. As Randall said, Canada's successes in procuring and manufacturing the Sabre, the CF-100, and the Orenda engine certainly compare well to the cost overruns, delays and uncertainties that we continue to experience with the troubled Cyclone and F-35 programs and others.

Randall's thorough presentation covered all of the key points in this story of how the "Golden Years" of the RCAF had a distinctively Canadian foundation. His book is earning favourable reviews from observers such as Richard Goette and Carl Christie. The reviewers have praised Randall for providing new insight into how decision-makers were able to balance competing pressures to equip the air force, create jobs, please the allies and control costs. Program Support Volunteer Bob Winson expressed his thanks to Randall and presented him with a gift on behalf of the Chapter.



*Chapter Member Tom Nettleton conducting the  
Remembrance Ceremony  
Photo Credit – Neil McGavock*