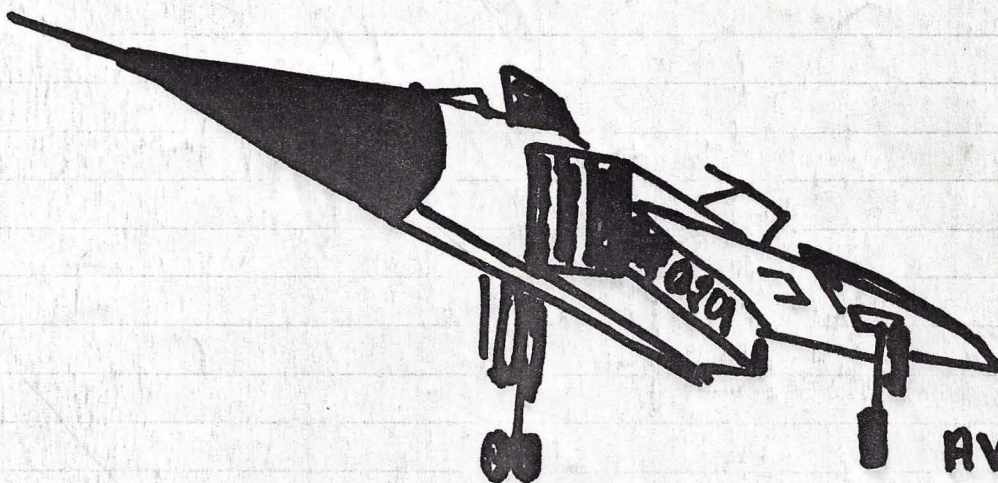


For B. Rich

Planning 156: Examination of the Making of a Public Decision:
The Cancellation of the AVRO ARROW project.

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AVRO CF-105 ARROW
COW

A - general sketch.

B+

Late in the morning of Friday, February 20th, 1959, the then Prime Minister John Diefenbaker announced in a speech on Canada's defense policy that the AVRO CF-105 ARROW project had been cancelled by the government. The ARROW was an all-Canadian designed and built all-weather supersonic multi-purpose jet interceptor for use by the Royal Canadian Air Force and the United States Air Force in defense against bombers and missiles from the Soviet Union and her allies. At the time it was cancelled, five prototypes were flying and another thirty-two had been seventy-five percent paid for and were well along the production line. Some fifteen thousand people had been involved in its design and production, including a design team which had been building over the past twenty years (when the government at the time (1939) had decided that Canada should produce aircraft in large quantities with heavy government support) and which was responsible for 1) North America's first (in terms of design) gas turbine aero engine, 2) the AVRO C-100 CANUCK, an all-weather subsonic jet interceptor which had pioneered the use of quickly-interchangeable pods allowing the aircraft to change roles very quickly (for example a photo reconnaissance pod full of

cameras could be replaced in a matter of minutes with a missile pod full of anti-tank missiles) and which was used very successfully for a long time by the Royal Canadian and Royal Belgian Air Forces, 3) the AVRO C-102 JETLINER which was the second jet airliner to fly in the world and which had great promise but had to be cancelled because the airlines were not yet ready to buy it, 4) the engines for the C-100 and C-102 and 5) a sort of flying saucer which was being built for the United States Air Force ^{Army} as a reconnaissance aircraft but which was cancelled because the U.S.A.F. / U.S.A. decided they didn't need it. On the basis of these achievements, the design team was considered one of the best, if not the best, in the world at the time. The industry itself had been operating on a very successful basis for the past ten years, having built some five thousand aircraft, including two thousand jet fighters. The decision to cancel the ARROW hit the industry very hard because there was no substitute work for the design team which the government was willing to support. As a result, it split up and most of its members went south to the United States, a great loss to Canada. What was the thinking behind making a decision which had such monumental

effects.

Firstly, the ARROW was an extremely expensive aircraft. When the original contracts were signed in 1953, the anticipated unit cost was two million dollars. By 1958, the cost per unit had worked its way up to almost eight million dollars. As with most very expensive aircraft, it was heavily government subsidized. When production was terminated, the Canadian government had paid out some four hundred and fifty million dollars. As a result, the decision to cancel the ARROW had a great deal to do with the government's economic policy, let alone its defense policy. It was as a result of the changes in economic and defense policy as outlined below that the ARROW had to die.

The government in power at the time of the cancellation was the Progressive Conservative government of 1957-63 led by John Diefenbaker. They had inherited the ARROW from the previous Liberal government of Louis St. Laurent which had initiated development of the ARROW as it saw a need for such an aircraft in Canada's defense and also saw a need to bring about useful expansion of the economy.

through capital construction projects like the ARROW which would build up the aircraft industry. The prime mover in this was C. D. HOWE, Minister of Defense Production under St. Laurent. He had a great belief in Canada being able to produce her own aircraft and was forceful enough to get the rather ambitious ARROW project off the ground. I say rather ambitious because the original contracts called for the production of some five hundred aircraft which meant selling a large number to countries like the United States which has never been very eager to buy much in the way of defense materials from outside its own borders. Still it looked as if the U.S. would buy them up to some time after Diefenbaker had been elected.

We must now digress a bit until just before Diefenbaker was elected to show why the U.S. changed its mind.

A few days before the election, John Foster Dulles, the American Secretary of State under Eisenhower, had visited Ottawa to talk about setting up an integrated air defense system for Canada and the United States. There

not enough time to do anything about it before the election but the Liberal government gave Pulles verbal consent to the setting up of NORAD - North American Air Defense Command. Shortly after Diefenbaker took office, Pulles revisited Ottawa and five days later, George Kenney, then Minister of Defense, announced that NORAD was a fait accompli and would be operational within two months, on September 12, 1957. What was not realized by many at the time was that the United States' defense policy was undergoing much more change than a mere inclusion of Canada in protection against manned bombers and ballistic missiles from the Soviet Union and her allies. The change was in the method of defense against these threats. At that time, the first ABMs (ANTI-BALLISTIC MISSILE MISSILES) were being developed and this meant that aircraft like the ARROW would be obsolete very soon, that is, as soon as the ABMs were operational. In the ARROW's case, this meant it would be obsolete almost as soon as the first production aircraft were produced. This however was not general knowledge at the time. It is interesting to note here that somewhere along the line the requirement for the ARROW had dropped

from five hundred to one hundred aircraft. It would appear that the United States had decided sometime (when exactly I was unable to find out) that the ARROW was of no use to them and they would therefore not take it because of the shift to ABMs but nowhere was I able to find out if this is true reasoning. Such a massive cut in requirement would seem to me to be tremendously important in showing how the decision to cancel the ARROW was made not at once but over a long period of time by changes in American defense policy which in turn changed Canadian defense policy. The first step in this was the decision to cut back production. I only know that it was made and that the probable "reason" was a change in American defense policy away from manned interceptors towards missiles. (There is however another likely "reason" in that the U.S. did not want to buy a foreign aircraft in such large quantities when similar, if not quite as good, aircraft were being produced in the United States. This is refuting the previous argument by saying that there really was a requirement for ARROW-like aircraft and this is actually quite likely judging from the importance the Canadian military, especially Air Marshal Sir

Roy Slemmon (one of the best military men that Canada has ever produced and the first Deputy Commander-in-Chief of NORAD), attached unofficially to the ARROW. In examining aviation periodicals from the period I found that there were several aircraft like the ARROW being developed in the United States and I also discovered that many of these aircraft were produced and well used by the United States Air Force. It is also interesting to note that ARROW-like aircraft have been developed since then in the United States amid great cries of disgust from people in Canada who could see that the ARROW could have been used.) I have put "reason" in quotation marks as far as the first reason is concerned because to me it seems rather more of a politically safe excuse for the cut in production. As far as the second "reason" is concerned, I have done so because it is not really very just considering the amount of confidence that they would buy a large number of ARROWs that the United States must have given Canada in order for so many aircraft to be ordered only to have them, the United States, withdraw most of their order.

This cut in production was a foreshadowing of the ARROW's cancellation. On September 23rd, 1958, Diefenbaker announced that the

ARROW programme would go under review in six months. He hinted that the reason was that the threat of manned bombers from Russia was lessening. One thing must be made very clear here. The ARROW, as I have mentioned, could defend against not only manned bombers but missiles and could do so very effectively due to its very advanced detection system which was considered the best in the free world at the time. However, most people thought it could only be used against manned bombers and it appears that Diefenbaker took advantage of this to explain why a review was necessary.

As soon as Diefenbaker made his announcement, intense lobbying was started by the AVRO company because they felt the ARROW was very likely to be cancelled. In "Renegade in Power: The Diefenbaker Years", Peter Newman relates how Crawford Gordon Junior, the President of AVRO, became so violent in his lobbying that he was asked to leave the Prime Minister's office. This lobbying probably consisted not so much of pleas to keep the ARROW in production, for the people in charge had realized that there wasn't much future for it, but of pleas to support a substitute project for the important thing was not to lose the engineering team which had not only produced great things,

as mentioned at the beginning of this essay, but also had many advanced projects on the drawing boards, the most important of which was a design for a fifteen hundred mile per hour, five hundred passenger airliner. If the government had given the go ahead for this, the ARROW programme would have been of great use for research into the problems of large supersonic airliners. However, the lobbying was to be unsuccessful for some six weeks ahead of the time for review, Diefenbaker announced that the ARROW project was to be terminated immediately and no further costs were to be incurred from it. The AVRO company announced that very day that everyone working on the ARROW was to be laid off immediately. This added up to a total of fifteen thousand people working at the Malton plants of AVRO and ORENDA (who were making the engines.) Diefenbaker said "no other work can be assigned immediately to the companies that have been working on the Arrow and its engines." A few people were hired back to clean up and most of the people working on the assembly line managed to find jobs in other local industry but the design team, as mentioned before, was lost to Canada.

So, it seems that the actual decision which meant death for the Arrow was made in Washington by American military planners. An

even if Canada's economic situation had been different at the time, it might have been possible to produce the HRRDW without depending on the United States. We must examine Canada's economic position at the time to see why this is so.

Diefenbaker had come into office in 1957 with the promise of massive government intervention to stimulate economic growth. He said that the Liberals in office before him had shown how massive government intervention could help the economy in their actions after the end of the Second World War but lately (1950-1957) they had more or less let private business, much of it American, take over the running of the economy and this was creating a lot of unnecessary unemployment and selling of Canada to the Americans. He favoured using government money to get rid of unemployment and keep Canada for the Canadians.

When he got into office, he started to spend a large amount of money for this national development and found that although he was eliminating some unemployment, he was also creating massive inflation. In the early months of 1959, the newspapers are full of articles by various company heads demanding that the Federal government cut its spending and hold the tax line to get rid of this inflation.

The budget for 1959 was already running at a deficit of some seven hundred million dollars and putting the ARROW into full production or starting work on another project would have increased this deficit greatly. This is all just an involved way of saying that Canada did not have the capital to produce the ARROW. If Diefenbaker had not changed his economic policies, the ARROW might have been put into full production just to keep people employed but Diefenbaker felt inflation was a more important problem to be solved.

In summary then it seems that the ARROW really was a "white elephant" (as it has often been called). It was simply too expensive for Canada and what ended up happening is that we developed an excellent design team and gave it away to the United States. (That, believe it or not, seems like a fairly objective way of looking at it!) To say the least, it was not a decision that the Canadian government was particularly proud of. In fact, John Diefenbaker personally ordered that all the prototypes be destroyed, not even keeping one for the National Air Museum and, even now, the people involved with it are not

supposed to talk about it officially. My own experiences in trying to get information on it bear this "wanting to forget" thing out. It even seems to apply to people who like sticking thorns in people's sides, in other words, journalists. I was not able to find one book written specifically about the ARROW and could only find very sketchy details in books written about the Diefenbaker period, among these, *Renegade in Power: The Diefenbaker Years* by Peter Newman, a book generally considered to be very critical of Diefenbaker. Many of the details I found were not quite correct. For example, the idea of the ARROW being only useful against manned bombers which I found in the books I looked at was completely negated by an official of Orianda Engines, speaking unofficially, with whom I chatted. He gave me a great deal of very useful information about the capabilities of the ARROW and the people who produced it but could not of course tell me what was specifically going on in the politics of the decision. To really thoroughly analyze the decision, it would be necessary to spend months interviewing people in Ottawa and Washington and, even now, some ten years after the decision, I doubt whether anyone

would really be willing to tell the truth about it. I suspect that is why nothing has been written, at least for widespread public consumption, about it. In the essay, I tried to fit the few pieces I could find together and I feel that I now have a vague idea of what went on but it is not a matter of knowing who was responsible but of knowing policies made by unknown people in Ottawa and especially in Washington. It should be pointed out here that whatever John Diefenbaker wanted, he almost always got because he had a very large majority in the House of Commons and any legislation that he wanted passed would be passed by his extremely loyal majority. The same goes for votes of confidence which could have resulted from his announcement of the government's decision to cancel the ARROW.

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You should have
included it at the time
in academic sessions
it is important to
acknowledge your
sources of material
accurately