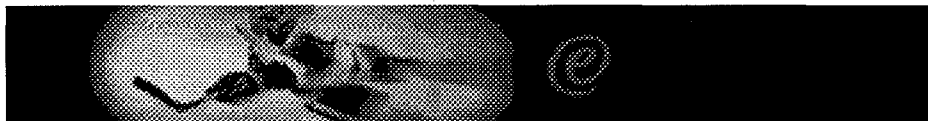




Why not share your book club successes or horror stories with us? You may save members of other book clubs a load of headaches, or inspire them...  
**Join this discussion.**

[Search](#) | [Browse Subjects](#) | [Bookstore](#) | [Search](#) | [Recommend](#) | [Sign Up](#) | [Books](#) | [Reviews](#) | [Help](#) | [Home](#)



**QUICK SEARCH**

Search

**NEWS**

## The Globe and Mail

**SHOPPING BAG**

Your shopping bag is empty.

**COMMUNITY**

Events

Interviews

The Globe and Mail News

Author Centre

Discussions

**STORE FINDER**

Ajax

Find

**YOUR ACCOUNT**

Select One

- [About This Site](#)
- [Advertising](#)
- [Affiliates](#)
- [Booksellers Centre](#)
- [Your Comments](#)
- [Partners](#)
- [Site Map](#)

### The legacy of the Arrow

**Any intelligent person just has to look at the history to see that Canada has a tremendous inferiority complex.**  
- James C. Floyd, former vice-president of engineering at Avro Aircraft Ltd.

Thursday, July 26, 1984  
BY SALEM ALATON

THE February evening in 1961 must have seemed unseasonably warm for the 250 engineers at the reunion. For a few nostalgic hours, ex-members of an elite team were reassembled; two years earlier, in Malton, Ont., they had been working on a Canadian supersonic jet fighter called the Arrow.

The party for former Avro Aircraft and Orenda Engines employees was held in balmy Santa Monica, Calif. - close to their new places of employment.

Along with about 14,000 other engineers, technicians and workers they had been laid off on Friday, Feb. 20, 1959, after prime minister John Diefenbaker announced in the Commons that work on the Arrow was to cease. A. V. Roe (Canada) Ltd., today Hawker Siddeley Canada Inc., was the parent company of Avro and Orenda; it chose to heighten government embarrassment with a mass dismissal via the loudspeaker system.

The Arrow was too expensive, the government contended, and interceptor planes would be useless in a new world of missiles. The

5650

engineers argued - then and now - that Canada was scrapping the most advanced jet fighter in existence, a plane that could match the aircraft Canada buys today from the United States. Many believe the Arrow - and the people building it - could have made Canada a world leader in aviation.

The Arrow was shot down, but in many cases the excellence of its engineers went on to find new form - helping the United States explore outer space, contributing to the Concorde supersonic jet in Britain. Some, however, remain burdened by a sense of loss - and by anger.

"It is very doubtful that a cadre of design, testing and fabricating specialists of their calibre will ever be assembled in Canada again," Murray Peden, a wartime pilot who is now chairman of the Manitoba Securities Commission, wrote in his book, *Fall Of An Arrow*. (Canada's Wings, \$14.95).

"A bunch of fellows who had been working for me, six of them, climbed into a car that Sunday morning and drove to California," recalls Colin Wrong, now vice-president for engineering at Pratt & Whitney Canada Inc. in Montreal, then aerodynamics engineer for Orenda.

A quarter-century ago, as today, California was the logical place to be, its southern area dense with the aerospace industry. Toronto, with the passing of the Arrow, was not. Yet British-based A. V. Roe (Canada) had been doing remarkable things, and these had attracted talent. Before the Arrow, Avro built one of the world's first passenger jetliners (also cancelled, by minister of defence production C.D. Howe in 1951). The intensity at Malton in those ascendant days was such that even a fresh-faced actor who landed a job as an Avro personnel officer in 1953 still carries with him some of its raw exuberance.

"I'd probably still be there today," says Elwy Yost, host of TVOntario's *Saturday Night At The Movies*, speaking from his cottage near Gravenhurst, Ont. Mr. Yost fielded workers' complaints at Avro and soaked up atmosphere. "It was so exciting, every day was like a century. I'd love to write a book about it; I'd call it *The Factory*. It was just a tremendous life."

The tough part of Mr. Yost's experience was conducting exit interviews with British engineers he had just a year earlier helped to recruit for Avro. They went straight back home.

Their projects abandoned, the engineers abandoned Canada.

"He's out in the woods," says Robert Lindley's wife from the couple's home in Annapolis, Md. "Can you call back?" Half an hour later, Mr. Lindley is on the line to say he has just put some ribs on the fire; how about a chat after lunch?

The woods and the barbecue are part of Mr. Lindley's retirement terrain, 19 acres of peace with water frontage. Not far away is the

Washington, D.C., headquarters of the National Aeronautics and Space Administration. Robert Lindley, who was in charge of the Arrow, wrapped up his career at NASA.

"What did I do on the Arrow? I did whatever it is that chief engineers do - cause it to happen." Mr. Lindley, 63, is wary. "You should make the Arrow die, go away."

That last terse remark comes from a man who had an excellent career after the Arrow did die, an indication of how deep the disappointment runs. When he went looking for new work in 1959, Mr. Lindley was hired by aircraft-maker McDonnell Douglas Corp. in St. Louis, Mo. He missed signing a NASA contract by a day but NASA scooped up 30 of the laid-off Avro engineers, led by Avro's chief technician James Chamberlin. (Mr. Chamberlin, who died in 1981, was made second-in-charge of the Mercury space program, and later won a NASA gold medal for his role in the Gemini program.)

Like many of his former colleagues, Mr. Lindley nonetheless started contributing to America's space program right away, for most major aircraft manufacturers were doing contract work for NASA; the United States profited tidily from Diefenbaker's cost-cutting. When Mr. Lindley finally did join NASA in 1969, he became a director of engineering and operations.

"I would never say that I'm sorry to have been on the Arrow," he concludes. "It gave me a lot of confidence, a lot of experience."

For others, the loss of confidence was considerable.

Carl Lindow went to Boeing Co. in Seattle, and there he remains today in the aerospace division as a systems engineer. On the telephone, perhaps constrained by the presence of his co-workers, he quietly gives expression to an unshakeable sadness. He says he has done "most everything" in his years at Boeing, but most everything does not include his job at Malton: "I was director of engineering of the total weapons system for that airplane."

Carl Lindow stayed on with Avro for two years after workmen with blowtorches cut all 10 models of the Arrow into scrap metal. (The only relic is a section of one Arrow nose cone, housed in Ottawa's Museum of Science and Technology.)

"I thought that if anyone could still make anything out of it," says Mr. Lindow, "I could." But Avro had lost the will to innovate.

"At Boeing I chose space-related development projects, the Saturn (rocket) and so on. But there's no question my career was set back tremendously."

Farther south along the same Pacific coast lives Jack Woodman, in a town called Palmdale. Palmdale's big corporate citizen is aircraft manufacturer Lockheed Corp. Mr. Woodman, now 59, was a boy from Saskatoon who flew as a gunner in the Second World War, later

becoming a Royal Canadian Air Force test pilot. He was shipped to Florida in 1956 to train in supersonic flying. Back in Malton was a new jet that needed trying.

"Had the politics not got into it," says Mr. Woodman, "I would have had a different career."

Mr. Woodman is resigned, not despondent. But below the highest levels of responsibility at Avro and Orenda there were even suicides after 1959, according to Syd Britton, who was assistant to the president at Orenda and who is now a senior consultant at the Ontario International Corp. The OIC helps domestic companies pursue business projects in other countries, an irony of which Mr. Britton is aware.

On this side of the border, stories abound of A. V. Roe engineers not even receiving acknowledgments to job applications, but some did find work here and a handful even got good jobs. "I feel I came in on the ground floor here at Pratt, and had all the opportunity," says Colin Wrong. In 1959, Mr. Wrong moved to the Montreal quarters of Pratt & Whitney, now a leader in the manufacturing of gas turbine engines.

"An awful lot of the people came here," says his colleague Robert Sachs, chief of analytical engineering at Orenda and now a marketing director for Pratt. "The work has been challenging in a different sort of way . . . I feel quite lucky, to tell you the truth."

It took a lot longer for others to find something suitable in Canada: Mario Pesando needed 12 years. Now, as director of product development for DAF Indal, Mr. Pesando has \$112-million worth of helicopter guidance systems to perfect for the U.S. Navy, in a contractual arrangement unique for a Canadian firm.

In the Avro days, Mr. Pesando was chief flight test supervisor and head of a project research group that worked up plans for something remarkably like today's space shuttle.

At 64, he still sounds eager, with a hearty laugh. He went to RCA Corp. in Massachusetts after the Arrow, worked on missiles and the Apollo space program and was surrounded there by "tremendous talent." But he still concedes: "I guess the stars in one eye had been dimmed by then."

Most recently, Canada has regained the man who largely conceived the Arrow program - but only to offer him quiet retirement. James Floyd first came here from Britain to head engineering for A. V. Roe (Canada), returned to Britain after the Arrow was scrapped, and a couple of years ago came back to Toronto.

With the cancellation first of the **Avro Jetliner** and then the jet fighter, he has seen disappointment in spades. He is still troubled, though his voice is calm.

"There was nothing for engineers much to do when the Arrow was terminated," he says from his Etobicoke condominium. "Within a few weeks I was looking for something."

With his reputation he didn't have to look long. He was invited back to Britain to work on "enhanced projects" for Hawker Siddeley. The top project on hand was a supersonic transport that eventually became the Concorde jet. Mr. Floyd took seven Arrow engineers with him.

On the Arrow, "I had been in charge of 2,000 engineers, and when I left Avro I had about 100 people with me in England. I felt it (the loss), especially for the jetliner that died. That was a very fine airplane.

"It was a tremendous break or gap that hasn't been filled."

Though he feels a little out of place working as an author, Mr. Floyd is writing a book on the **Avro Jetliner**, "because so much that is erroneous has been written."

Careers were salvaged from the Arrow wreckage, but the bitterness runs deep. It has been bitingly articulated by E. K. Shaw, who was a section head in component design when the Arrow fell. She later wrote *There Never Was An Arrow*. (Steel Rail, \$12.95). She moved restlessly after 1959, going from CUSO work in Zambia to Mackenzie Valley pipeline research at home. Today she is a freelance socio-economic consultant in Ottawa, where she maintains that "Canadians cannot tolerate excellence."

She is angry about what Canada lost at Malton in 1959 and she measures it in industry, initiative and national pride: "One man in Avro alone had something like 94 or 97 patents to his credit. And those would have stayed in Canada."

Go to  
Quick Search:  
Chapter 1<sup>TM</sup> Club

Search The Globe and Mail for  in the

Protected by copyright. All rights reserved.  
Legal notices and terms of use relating to this site.