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"I prefer not to talk about it"

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The Adventures of an Oral Historian: "I prefer not to talk about it"

In April, I made my way, for the first time, to Wild Rose Country. My trip had two purposes: the first was to promote our museum among Klingons, Catwomans and Cosplayers at the rapidly growing Calgary Expo; the second was to begin my yearlong Mining and Metallurgy Legacy Project. The latter requires me to interview approximately 70 people who have played a significant role in the world of mining, metallurgy and petroleum. As I was already headed to Calgary for Comiccon, I decided to begin interviewing some of the veterans of the natural resources

world. Being in Alberta, talent in that department was not lacking. The first man I interviewed was Bob Lee, a renowned figure in the metallurgy world.

Dr. Robert Lee was born and raised in the city of Montreal. He began his career with Canadian Liquid Air Ltd as research assistant in metallurgy. Throughout his time at the company, Lee proved himself a prolific innovator, improving many facets of metallurgy. He eventually became the Manager of Metallurgy which led to Manager of the Research Department and then Director of Research and Technology for Liquid Air. By the end of his career with the company, Bob Lee owned well over 200 patents which had earned him multiple prestigious awards such as the Order of Canada and the Queen Elizabeth II Diamond Jubilee Medal.

For our interview, he was wearing the tie of his alma mater, which paired well with the first series of questions I asked him concerning his education at McGill:

“In the old times, they called it the metallurgical engineering department, but now they call it materials engineering. And some of the work that I did while I was at university, I prefer not to talk about it.”



[\[http://collect-connect.cstmweb.ca/wp-content/uploads/2015/07/bob-lee.jpg\]](http://collect-connect.cstmweb.ca/wp-content/uploads/2015/07/bob-lee.jpg)

Bob Lee during our interview in Calgary.

“In the old times, they called it the metallurgical engineering department, but now they call it materials engineering.

And some of the work that I did while I was at university, I prefer not to talk about it.”

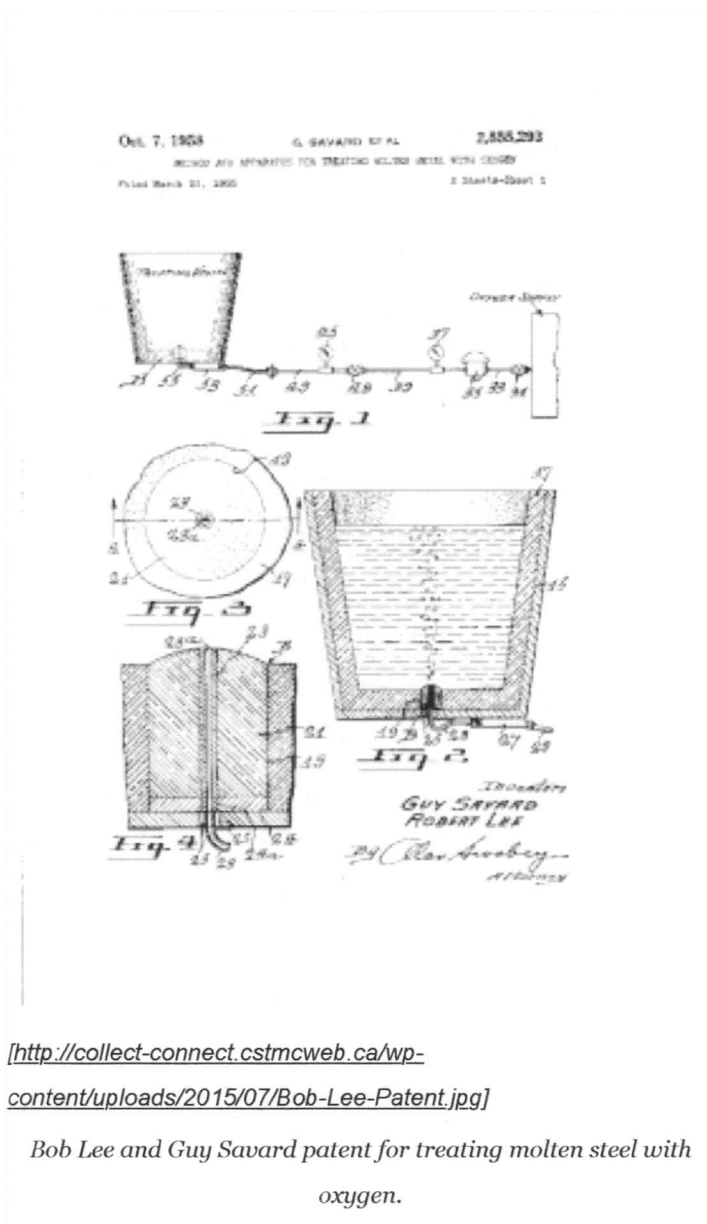
~ Bob Lee

In fact, after a gentle inquiry on my part, he was quite forthcoming about his student years and various not-so-calculated experiments involving grape juice, alcohol and even mercury. His stories related to his subsequent career were equally as colourful. I learned that one of his most important accomplishments, the idea of the porous plug, which allows gas to rise from the bottom of the ladle [*a vessel used to transport and pour molten metals*] and stir the molten steel, came to him while he was in the bathtub:

“...that was the time I was sitting in the bathtub and released some flatus they call it, a fart. And I went oh! That’s the idea, that’s how it came about. And that’s how I got the highest award of the AIME [American Institute of Mining, Metallurgical and Petroleum Engineers].” A story he had presented when receiving the aforementioned award in 2010.

It was evident to Bob and myself however, that flatulence was a very simplified version of the story. In fact, creating his famous porous plug took much more time and effort than it did to take a bath. In order to provide homogeneous temperatures and chemical composition to the molten metal, he needed a way to inject gas from the bottom of the ladle. For that, he needed to get his hands on some porous bricks, which conveniently, did not exist at the time. He was shown the door by some refractory companies who insisted on making solid, dense bricks to

increase their service lives, not bricks with holes in them. Finally, a Canadian government ceramics lab helped him develop the porous brick which, after much experimentation, led to the porous plug. This technology and process changed steelmaking and is now used around the world. Because of it, steelmaking has increased in safety and quality. Mr. Lee told me that to this day, it has been the biggest challenge and proudest accomplishment of his career.



<http://collect-connect.cstmweb.ca/wp-content/uploads/2015/07/Bob-Lee-Patent.jpg>

Bob Lee and Guy Savard patent for treating molten steel with oxygen.

Dr. Lee is also considered an expert in the fields of gases, energy, combustion, pulp and paper, environment, entomology and cryobiology. Furthermore, he has worked with Hydrogenics

to help them finance and develop the hydrogen fuel cell back in its start-up phase. He even helped Seagram's develop a way to age alcohol (with the help of his porous plug!) by feeding oxygen into the alcohol. This technique, which dramatically sped up the aging process of alcohol, is still used to fortify wines such as port.

At 91 years young, Bob Lee shows no signs of slowing down. Although "retired", he still acts as an independent technical advisor for Canadian Liquid Air and still has plenty of potential inventions up his sleeve. They might just be a soak away!



"Eureka!" The birth of argon
bubbling in the ladle.

[\[http://collect-connect.cstmweb.ca/wp-content/uploads/2015/07/bob-lee-cartoon.jpg\]](http://collect-connect.cstmweb.ca/wp-content/uploads/2015/07/bob-lee-cartoon.jpg)

Steel Irony, July 2012, courtesy Association for Iron and Steel Technology.

Acknowledgements:

Thank you to Dr. Bob Lee for making this a very enjoyable first interview. Your combination of experience, expertise and humour is a virtue that should inspire all. Your support for the Mining and Metallurgy Project is greatly appreciated.

Sources:

The American Institute of Mining, Metallurgical, and Petroleum Engineers, AIME Honorary Membership 2010, updated 2015.

<http://www.aimehq.org/programs/award/bio/robert-gh-lee>
[<http://www.aimehq.org/programs/award/bio/robert-gh-lee>]

ASRL Quarterly Bulletin No.163 Vol. XLIX No.3, October – December 2012, pp.124-125.

Lee, Robert. Interview with Robert Lee, Mining and Metallurgy Legacy Project April 16, 2015. Calgary, Alberta, in person (William McRae)

Air Liquide, Method and Apparatus for Treating Molten Metal with Oxygen, 1958.

<http://www.google.com/patents/US2855293>
[<http://www.google.com/patents/US2855293>]

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