

Silicosis' toxic legacy offers deadly lessons for today

July 7 2017, by Mica Jorgenson

"His cough is loose ... considerable amount of thick, black expectoration ... cannot run; in the past six months has lost 16 pounds in weight ... has no appetite in the morning and feels shaky and dizzy ... diagnosis: Extensive bilateral fibrosis due to silicosis."

So reads the medical report on a Finnish miner in the [October 1924 volume of the *Canadian Medical Association Journal*](#). He had been working at the Porcupine gold camp near Timmins, Ont., for nine years on the day of his examination. The mining boom, begun in 1909, attracted miners, geologists and investment from around the world.

But the rock held a deadly secret. When subjected to blasting and grinding, it produced tiny needle-like silica shards which shredded human lungs, cutting working lives tragically short.

A century later, [silicosis](#) is making headlines in Canada, thanks largely to the work of Janice Martell. Inspired by her miner father Jim Hobbs, [Martell began to document](#) health issues associated with a silicosis "cure" made from aluminum called McIntyre Powder. This spring [Hobbs died after a 16-year battle with Parkinson's disease](#) possibly related to aluminum exposure.

A massive threat emerges

Researchers are still trying to understand the connection between

aluminum inhalation and neurological disease. But a look back at Canada's history of industrialization can help us understand why miners inhaled McIntyre Powder in the first place.

Silicosis did not appear in the Canadian lexicon until the turn of the 20th century. Ontario's Workers Compensation Act officially included it in 1917, and the government compensated its first case in 1924.

After that, [silicosis exploded](#). By 1928, miners were required to carry certificates attesting to their lung health before they could be hired. Canada's immigration office screened for it, and mining firms amassed towering stacks of scientific literature.

The disease wreaked havoc not only on miners' bodies but also on corporate bottom lines, share prices and the viability of workers' compensation. The chaotic scramble to get a hold on silicosis in the 1920s signifies a desperate industry facing a massive new threat.

Shift towards industrialization

The timing of silicosis's rise is hardly a coincidence. A variety of hockey-stick shaped graphs for everything from global population to cultivated land to carbon emissions suggests a major shift in the trajectory of human and environmental history after global industrialization. Add to this list spiking silicosis.

During the early years of the gold rushes of the 19th century in California, British Columbia, Australia and the Klondike, miners largely worked above ground and the word "silicosis" did not exist. But as gold became increasingly hard to find, mining microscopic and finely distributed gold emerged as a profitable pursuit – for those with the capital and manpower to obtain it.

No longer the individualistic, free-wheeling mining archetype we know from gold rush lore, extraction became an expensive, large-scale and complicated industrial affair. At the turn of the 20th century, Ontario began an industrialization project aimed at bringing its hinterland, including the Porcupine area, into the service of Canada's economy.

Even after miners started dying, there was no going back for companies with millions of dollars already sunk into Canadian bedrock. In the face of terrifying, unprecedented problems, the only possible direction was further forward.

A global issue

Ontario was not the only victim of this nasty side effect of the gold bonanza. South Africa, New Zealand, Australia and the United States suffered too. The Ontario mines sent a delegate to the [First Annual Silicosis Conference in Johannesburg](#), published papers in international journals and brought in overseas experts.

They also invented [the aluminum-based silicosis cure McIntyre Powder in northern Ontario](#). It was to be inhaled by miners before their shifts underground. In an uncertain era, scientific solutions like McIntyre Powder promised stability, progress and the continuation of the industrial dream.

With its help (plus improvements to mine design, drilling and ventilation), Canada effectively cured silicosis by the mid-20th century.

Quick fixes

In what has become an oft-repeated trope, the "solutions" produced new problems. If we are to understand how mining firms and governments

could ask gold miners to inhale toxic aluminum dust, we must also understand the industrial disease crisis facing the world in the early 20th century. McIntyre Powder has been treated as a labour and social health problem, but it's also a product of our turn towards an industrial economy.

Ontario's workers' compensation board still does not officially recognize the link between (inhaled) aluminum and neurological disease, but [the research is coming](#). When it arrives, it will bring justice for Martell and other [miners'](#) families. For the rest of us, it is a lesson on the risk of trusting quick fixes to human and environmental industrial crises still to be solved.

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