

FORUM ARTICLE

INTRODUCTION TO DR. ROBERT BELL'S ARTICLE

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I consider Dr. Robert Bell (1841-1917) to be the father of boreal forest fire ecology and fire behaviour in Canada. It is thus a very great honor to have been asked to recommend the article that follows and then have the privilege to write this introduction to it.

I first began to learn of Dr. Bell's writings back in 1976 soon after I was hired on as a forest fire research officer with the Canadian Forestry Service at the Great Lakes Forest Research Centre in Sault Ste. Marie, Ontario. I had intended someday to write an article about Dr. Bell and his observations regarding forest fires in the northern regions of Canada, considered "so astute that most can still stand today, more or less unrevised" (Pyne 2007). Instead, I turned my Bell collection over to Dr. Steve Pyne in February 2002 with the hope that he could make good use of the materials as he undertook to chronicle the cultural history of forest fires in Canada, which he admirably did in a section of his book, *Awful Splendour: A Fire History of Canada* (Pyne 2007: 146-154, 494-495).

Dr. Bell worked for the Geological Survey of Canada (GSC) over a period of 52 years. In 1857, at the age of 16, he began working the summers for the GSC, eventually being appointed a permanent officer of the GSC in 1869. He was promoted to Assistant Director in 1877, Chief Geologist in 1890, and served as Acting Director from 1901 to 1906 before retiring from the GSC in 1908. Dr. Bell is widely regarded as Canada's greatest exploring scientist, having traversed all regions of Canada from the Yukon and British Columbia to Newfoundland and Labrador (Zaslow 1975), a good deal of it by canoe I might add (Figure 1). The extent of his explorations in the Canadian "bush" over the course of so many summers of fieldwork should be an inspiration to any young, aspiring fire ecologist.

Bell wrote over 200 reports and papers during his career, mostly on geology, biology, geography, and ethnology (Ami 1927). His first major contribution on forest geography, *The Geographic Distribution of the Forest Trees of Canada*, was a monograph published in 1882 that followed a map he had prepared in 1873. He would go on to revise these works for many years to come.

While Bell held many of the very same biases as the foresters of his generation regarding the "mindless vandalism" caused by forest fires, he also recognized that fire played a natural role in the ecology of the boreal forest as evident, for example, by his description of the connections between fire, cone serotiny, and stand renewal in jack pine (Bell 1897). As Pyne (2007) points out, it is his paper, *Forest Fires in Northern Canada*, read before the American Forestry Congress in Atlanta, Georgia, on 1 December 1888, that Bell (1889) elaborates on in his earlier essays while serving as the core text for his works to come.

One hundred twenty-five years after Dr. Bell's perceptive words were written, large-scale crown fires continue to significantly influence boreal forest ecosystem dynamics. Slowly but surely, we have come to recognize and appreciate that the attempted exclusion of fire from the boreal forest is in fact neither ecologically desirable nor economically feasible. While Dr. Robert



Figure 1. Scene of Dr. Robert Bell and his survey party in camp in the Athabasca region of Alberta, Canada, during the 1883 field season. Dr. Bell is seated at the left in front. Photo credit: Geological Survey of Canada/Library and Archives Canada/PA-040074.

Bell was indeed “a creature of his time” (Pyne 2007), in a way he helped begin our understanding of this important fact. One cannot expect to chart one’s future without an awareness of our “roots.”

LITERATURE CITED

- Ami, H.M. 1927. Memorial of Robert Bell. *Geological Society of American Bulletin* 38: 18-34.
- Bell, R. 1889. Forest fires in northern Canada. *Proceedings of the American Forestry Congress* 7: 50-55.
- Bell, R. 1897. The geographical distribution of forest trees in Canada. *Scottish Geographical Magazine* 13: 281-296. doi: [10.1080/14702549708555005](https://doi.org/10.1080/14702549708555005)
- Pyne, S.J. 2007. *Awful splendour: a fire history of Canada*. UBC Press, Vancouver, British Columbia, Canada.
- Zaslow, M. 1975. *Reading the rocks: the story of the Geological Survey of Canada, 1842-1972*. Macmillan, Toronto, Ontario, Canada.