

and the ground, encumbered with sharp-pointed branches thrown down by time or the violence of winds, formed a regular abattis, and with a thick undergrowth of shrubs and bushes rendered the woods almost impervious. Parties exploring, as soon as they left the rivers or beaten tracks, had to cut their way before them. The difficulties of carrying out the service were considerable. The hills being as much covered with the forest as the plains and valleys, views of the surrounding country could not easily be obtained. Generally this object was effected by climbing, in which some of the sappers became very expert, "and, assisted by creepers—a contrivance of iron spikes buckled to the feet—could climb well."² To wander in the least degree from the path cut or marked was dangerous, as the chances of being benighted or lost in the prairie were very great.³

The detachment was divided into parties of two each as assistant-surveyors, with ten or twelve labourers, under a civil surveyor of the country. "Each party had a particular line to explore. The sappers carried either two or three barometers and detached thermometers with them; also a 5-inch theodolite, a measuring chain, pocket compasses, &c. As the lines were cut out by the axemen and labourers, the sappers measured them, and took the angles for direction, and also for elevation or depression. The barometers were registered at the summits of ridges and bottoms of valleys. Somewhere, at the most convenient spot, in the neighbourhood of the exploring parties, a sapper was stationed with a standard barometer, who did not move from his post until ordered to do so. His duty was to register his barometer and thermometers every hour during the day."⁴

The result of the surveys and investigations was an able report from Major Robinson, describing a range of country through which a railway could beneficially pass, extending in length to 635 miles, from Halifax to Quebec. The proposed route was determined with reference to the resources of the tract to be traversed, its accessibility, and facility of adapta-

² 'Professional Papers,' N. S., ii., p. 36.

³ Ibid., p. 38.

⁴ Ibid., p. 37.