

places culverts or beam bridges would have been built instead of the iron drains that you have introduced, and in some instances, I believe, if time had not been an object, at a considerable saving in expense; but in every case the departure from the usual fashion, I am satisfied, has been an improvement, whilst the saving in point of time has been more than I dare definitely estimate. I must certainly congratulate you on the introduction of at least two new and valuable novelties in railway construction, both of them calculated to save a deal of time in the construction of lines where the communication by road is very indifferent, where suitable ashlar cannot easily be obtained, and where skilled labor in adequate quantity cannot be secured, and I am satisfied that the rock-tunnelled water-way, and the iron pipe culvert, as first employed on the Pictou railway, will be extensively employed hereafter in all similar localities where temporary work is not allowed. The large ten and twelve feet arch culverts at New Lairg and elsewhere are beautiful specimens of work, that will never be fairly appreciated. Large, bold iron-girder bridges would have been much more attractive as works of art, would have commanded more attention, and challenged more observation, and their cost would probably have been even less than the works, unpretending and unornamental as they are, which now permanently span these difficult and formidable gorges.

On one other point I wish to bear testimony. The drainage of the works throughout is excellent; and I believe that the length of catch-water drains, blind water-ways, pole and other drains, many of them buried below the frost line, is ten times more than on any other railway in America, even when, as is not unfrequently the case, this drainage work is not entirely neglected and left to be completed after the work is finished; and the impossibility of doing it effectually is equalled only by the necessity of getting rid of the water by any temporary arrangement that can be suggested.

I shall at all times be glad if my feeble testimony can be of any service in bearing witness, as I can most conscientiously do, to the excellent arrangement of the works, and the strength and durability of all the parts.

Yours ever faithfully,

T. T. VERNON SMITH.