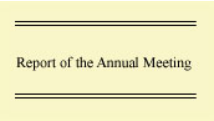
Report of the Annual Meeting of the Canadian Historical Association
Rapport de l'assemblée annuelle de la Société historique du Canada



An Unsolved Problem of Canadian History

F. G. Roe

Volume 15, Number 1, 1936

URI: https://id.erudit.org/iderudit/300157ar
DOI: https://doi.org/10.7202/300157ar

See table of contents

Publisher(s)

The Canadian Historical Association/La Société historique du Canada

ISSN

0317-0594 (print)
1712-9095 (digital)

Explore this journal

Cite this article

Roe, F. G. (1936). An Unsolved Problem of Canadian History. *Report of the Annual Meeting of the Canadian Historical Association / Rapport de l'assemblée annuelle de la Société historique du Canada*, *15*(1), 65–77. https://doi.org/10.7202/300157ar

AN UNSOLVED PROBLEM OF CANADIAN HISTORY

By F. G. Roe

The words of my title are those of a particularly competent Canadian historical scholar, recently deceased: the late Dr. W. L. Grant. He applies them to an episode in the history of Western Canada of which, for fairly obvious family reasons, he may perhaps be considered somewhat better qualified to judge than an ordinary student who must approach such problems along the more conventional lines of research. Dr. Grant is referring to the somewhat sudden and highly spectacular change in the route of the first Canadian railway to the Pacific Ocean, from the previously adopted survey through Battleford, Edmonton, and the Yellowhead Pass; to the existing route of the Canadian Pacific through Calgary and the Kicking-Horse Pass, some two hundred miles farther south. Dr. Grant remarks: "No satisfactory reason for the change has ever been given . . . it is one of the unsolved problems of Canadian history . . ."[1] Of "reasons" of sorts—were it not for the intractable adjective in the foregoing quotation—there has been no lack; and they are almost as diverse as they are numerous. It will be the purpose of this paper to examine their nature and their value in the light of other relevant evidence.

It is needless to recapitulate here, in any detail, the various arguments *pro* or *con* which were hurled back and forwards by the champions of the two camps: the Canadian west as a land of unbounded possibilities; or a useless region, fit for nobody but Indians and fur-traders. A cynic might suggest that both parties won. The first of the two schools, aided by the psychological effect of a "secessionist" atmosphere in British Columbia, carried the case for a railway. The second, with a laudable anxiety to lessen the terrific burdens awaiting the Canadian tax-payer, contrived to redeem the original blunder of a nationally-owned system, and to place the load on the shoulders of private promoters; who almost miraculously were found willing to undertake such responsibilities in a region "which would never pay for the grease on the car-wheels". Neither is it my purpose to base my conclusions upon recondite source-material not available to ordinary students. While such might undoubtedly furnish justification for a reversal of previous findings, such as is commonplace in every department of knowledge; my object is also (in part) to show that what I believe to be the true solution of the problem of the change is to be found in evidence which is at the disposal of everybody who reads anything at all. For example, perhaps the very best general account I have read of the Hudson's Bay Company and its relations at large with the Canadian government, C. 1855-1870, and onward through the "railway era" of the following decade, is in John Macoun's well-known work, which in the 'eighties was probably in everyone's hands.[2] My only serious criticism of Macoun as a political historian is that in defending the terms made with the "syndicate" for the construction of the first transcontinental railway, on the grounds of "adverse public opinion", "the best terms that could

[1] Geo. M. Grant, *Ocean to Ocean,* 1873; ed. W. L. Grant, Radisson Society, Toronto, 1925, Intr. p. XIX.

[2] John Macoun, *Manitoba and the Great North West* (Guelph, 1882), 422-466.

be got",[3] &c, it is nowhere even hinted that the creators of this adverse public opinion and the heads of the syndicate were principally one and the same body of men; who as railway-constructors and "Empire-builders" clutched eagerly at huge areas of the very land which, as fur-traders, they had slandered as being unfit for agriculture;[4] and of which they included in their "much more than 25,000,000 acres", great blocks in the very territory through which they refused to build their railway.[5]

It is of course a well-known historical fact that the earlier projected routes for the first transcontinental railway lay very considerably to the northward. These favoured respectively, the line of the Fort Garry and Edmonton Trail, which lay along the line of the Grand Trunk Pacific from Portage la Prairie to Saskatoon; and less closely along that of the Canadian Northern from Saskatoon to Edmonton. (2) A route crossing at the Narrows of Lake Manitoba and thence north-westward across the Saskatchewan by Lac la Biche and Lesser Slave Lake, and so through the Pine Pass or the Peace River Pass.[6] The more northerly of the two routes almost undoubtedly owed its selection to Macoun's enthusiasms in 1872 and 1875. After the second exploration, in particular, his exuberance knew no bounds, and frightened even those who believed in him;[7] although in his *Autobiography* he apparently refuses to shoulder any responsibility,

---

[3]*Ibid.*, 606-621; *cf.* H. A. Innis, *A History of the Canadian Pacific Railway* (Toronto, 1923), 98-109.

[4]See particularly, A. H. De Trémaudan, *The Hudson Bay Road* (London, 1912), 128, 192-208, 228, 243, &c; W. T. R. Preston, *Life of Lord Strathcona* (Toronto, 1916), 22-62, 298. *Cf.* Sir Edward Watkin, *Canada and the States, 1851-1886* (London, 1887), 64, 120-143; B. Willson, *The Great Company* (Toronto, 1899), 481-496; Geo. Bryce, *Remarkable History of the Hudson's Bay Co.* (Toronto, 1904), 445-479.

[5]The "more than 25,000,000" is Innis's phrase: *op. cit.*, 98-109. *Cf.* C. M. MacInnes, *In the Shadow of the Rockies* (History of South Alberta, London, 1930), p. 60. The credit of first making this sinister identity clear in so many words belongs (I think) to W. T. R. Preston's valuable *Life of Lord Strathcona*, 1916.

Compare Macoun (*Silver Heights*, Winnipeg, Nov. 1881):—"At breakfast there were the Marquis (of Lorne), Mr. Smith, and myself, and we, of course, enjoyed the talk very much. The Marquis wished to thank me for the information I had given him the preceding winter and stated that he had followed the route that I had given him, the whole of the past season and found I was right in every particular. When Mr. Smith heard him say this, he turned with great unction and said: "Your Excellency, Mr. Macoun and myself are the only two men that have the right opinion about this country." I was almost prompted to say: "You old rascal, six years ago you wrote that the statements were all lies, and that I was untrustworthy in the statement I had made about it to the Government." In 1875 he was the head of the Hudson's Bay Company, and now, in 1881, he was acting the patriot for the Government in power. . . ." Macoun, *Autobiography*, (Memorial Volume, published by the Ottawa Field Naturalists Club, 1922), p. 195.

For an equally interesting chronological comparison, I know nothing better than Macoun himself: in 1875, 1882, and 1922 (see *Autobiography*).

[6]Macoun, *Autobiography*, 133, 178; virtually the same urged by Butler, *The Wild North Land* (London, 1878), App., 345-357.

[7]When asked in 1877 to prepare a report on the North Land for Mackenzie, the premier—"I was cautioned in plain words, not to draw upon my imagination": (*Autobiography*, 158). So also, Sir Charles Tupper, 1880:—"Macoun, for God's sake do not draw upon your imagination." (*Ibid.*, 164). On the North, Blodgett, U.S. climatologist, in Hind, *Report on the Assiniboine and Saskatchewan Exploring Expedition of 1858* (Toronto, 1859), 122, 124; Macoun, *Manitoba*, 141-176, (showing Fort Simpson, 61° N., 113° W., to be warmer, 1876, than Fort Macleod, 50° N., 113° W.: 770 miles S. (p. 167); C. R. Tuttle, *Our Northland*, (Toronto, 1885), 392-419.

preferring to leave that with Charles Horetzky, his engineer colleague on the first expedition of 1872.[8] Macoun is beyond question, however, the one who furnished the "scientific" argument for the Peace River route.

Sandford Fleming, on the contrary, was strongly in favour of the Edmonton and Yellowhead Pass route; the route of Milton and Cheadle —whose journey of 1862-1863 was largely with the ultimate object of a railway in view—and of many another.

I have indicated the general alignment from Winnipeg to Edmonton. west of Edmonton, the two existing railways or formerly existing (prior to their amalgamation as the Canadian National) diverged slightly until after crossing the Pembina River. Here again the Canadian Northern followed the route of Milton and Cheadle, by way of Father Lacombe's early settlement at St. Albert, and onward past Lac Ste. Anne;[9] while the Grand Trunk Pacific kept a somewhat shorter and more direct line a few miles to the south. From the Pembina the two roads ran virtually side by side, and through the Yellowhead Pass to the Tête Jaune Cache (or near it) on the Fraser headwaters. Here they finally part company; the one descending the Fraser Valley, *en route* for Prince Rupert; the other climbing over the watershed of the Canoe and Columbia Rivers, and ultimately following the valleys of the Thompson and the lower Fraser to Vancouver—the route pronounced "impassable" by Butler in 1873.[10]

The prairie section of this Yellowhead Pass route traversed the heart of what Palliser and his colleagues in 1857 termed the fertile belt;[11] a region whose manifest richness and abundant promise had been enthusiastically extolled by everyone who ever travelled through it, whether resident,[12] scientist,[13] or "traveller" pure and simple.[14] Their views were fully

---

[8]"Horetzky and I, having seen the two passes to the north, were considered fit to give an opinion, and he (*sic*) recommended that the railway be built past Lac la Biche. . . ." (*Autobiography*, 133, 178). *Cf.* Horetzky himself, *Report of Progress on the Explorations and Surveys for a Canadian Pacific Railway, up to Jan. 1, 1874.* (Sandford Fleming, Engineer-in-Chief, *et al.*, Ottawa, 1874); App. B., 45-55.

[9]Milton and Cheadle, *North West Passage by Land* (1901), 180-182, 198-201.

[10]Butler, *Wild North Land*, App., 351-352.

[11]I am ignorant whether it was first so classified by Palliser. See its definition in the (H.B. Co.) "Deed of Surrender", 1869: E. H. Oliver, (ed.) *The Canadian North West* (Publs. of Can. Archives, No. 9; 2 vols., Ottawa, 1914, 1915), 11, 958, 1002.

[12]One might cite the early fur-traders endlessly, Umfreville, Henry, Harmon, Ross. I select one whom Macoun met. Rev. John McDougall writes (*c.* 1868):— "From the North branch of the Saskatchewan, extending a hundred miles north (from Carlton) "and then west along its whole length, is to be found one of the richest portions of Canada": McDougall, *Pathfinding on Plain and Prairie* (Toronto, 1898), 273. His other books contain many similar passages.

[13]Franklin (First) *Journey to the Polar Sea* (London, 1925), 106, 158; Richardson, *Arctic Searching Expedition. . . . of 1847-1850* (London, 1852), Appendix, 391; *Journals . . . of the Palliser Expedition of 1857-1860* (London, 1863), 6, 9, 13, 35, 46, 90, 269, 282 (Palliser), 51, 63, 70, 145 (Hector), 90 (Sullivan); Hind, *Report*, 1858, 34, 35, 67 (Hind), 74, 75 (John Fleming).

[14]Paul Kane's "Long Grass Prairie", Fort Pitt to Edmonton, 1846: Kane, *Wanderings of an Artist* (ed. L. J. Burpee, Radisson Soc., Toronto, 1927), 90; Southesk, *Saskatchewan and the Rocky Mountains* (Toronto, 1875), 286; Milton and Cheadle, *op. cit.*, 40, 50, 56 (Red R. to Touchwood Hills), 170, 174, 199 (Carlton west); Grant, *Ocean to Ocean*, 153; W. F. Butler, *The Great Lone Land* (London, 1910), 256, 264, 331, 381; Butler, *Autobiography*, (London, n.d.), 138.

shared by Sandford Fleming and his comrades on the survey of 1872.[15] This includes Macoun himself, until he saw the Peace River region, after leaving Fleming's main party at Edmonton in 1872; and again in 1875,—this time working south-eastward.[16] After these respective visits, the northland seems to have held the first claim upon his superlatives.[17] In this respect he was not alone.[18]

Fleming's careful and skilled examination of the topography of the route[19] vindicated the judgment also of Milton and Cheadle and others who had likewise considered it practicable—even to the remarkably low grades to be obtained through the Yellowhead Pass.[20] Although there is here (as almost everywhere on this question) some conflict of testimony,[21] I think it is true that it was practically considered a settled conclusion that the route of the first transcontinental railway in Canada would be *via* Edmonton and the Yellowhead Pass. Not long after the project was handed over by the Government to the "syndicate", it was announced to the surprise of almost everyone—including some at least of those who had participated in Sandford Fleming's original survey[22] that the new line would follow a route some 200 miles south of Battleford and Edmonton.

As I remarked at the outset, a number of reasons have been advanced in explanation of the change. Although the late Sir Cecil Denny was in the territory at the time, it is not probable that he was in the inner counsels of the syndicate; but he doubtless reflects contemporary popular opinion quite faithfully. He says the change of route was due "to the representations of wealthy cattle companies", together with scanty settlement in the more northerly districts.[23]

This may be compared with a fairly recent historian of Saskatchewan, who makes very considerable use of early reminiscence. He writes: "It was a matter of common remark in those days that the railroad ran through

[15]Fleming, in *Can. Pac. Annual Report* (up to Jan. 1, 1874), App. A, 35-40.

[16]Macoun, *Manitoba,* 95, 109, 110; *Autobiography,* 58-62. He was the "enthusiastic botanist" of Grant's *Ocean to Ocean.*

[17]*Id., Autobiography,* 107-113, 127, 129-134, 296.

[18]See Butler, *Wild North Land,* App., 345-358. "It will yet be found that there are ten acres of fertile land lying *north* of the North Saskatchewan for every one acre lying south of it. . . ." (358). Not altogether as exaggerated as one might think!

[19]*Annual Report* (up to Jan. 1, 1874), 162, 193.

[20]Milton and Cheadle were unaware they had passed the summit, until they saw the waters flowing westward, July 9, 1863: (*op. cit.,* 245). Travelling by train to-day is much the same; I have fired locomotives over the Yellowhead Summit, and can speak from experience.

[21]Macoun is very confused and vague concerning this. He states that the Yellowhead Pass route was favoured by Fleming: (Macoun, *Autobiography,* 133, 157, 161, 164). This is authenticated elsewhere. As I have shown above (see note 8), Macoun was applied to, on behalf of a rival route through Pine or Peace River Pass, favoured by some Liberals after 1878 in opposition to the government's choice. But he says again (*in re* 1880):—"A number of gentlemen had taken up the railway route by Pine Pass in preference to that of the Yellowhead Pass and considered it their duty to belittle my statements and, in one or two instances, to make counter ones. . . ." (*Ibid.,* 163-164). Actually, I cannot find a single word in either the *Manitoba* or the *Autobiography* advocating the Yellowhead route; nor does it appear that he ever saw the Yellowhead Pass in his life!

[22]G. M. Grant's indignation "cost him the friendship of a chief of the Canadian Pacific Railway": (*Ocean to Ocean,* Intr. VIII).

[23]*Denny MS.* (in Prov. Legist. Library, Edmonton), 336. He was one of the original Mounted Police force of 1874: (*ob.* 1928).

the worst part of the country because the C.P.R. wanted to be sufficiently close to the boundary to keep out another line . . ."[24]

A western friend of my own, who has studied the politics of this obscure subject considerably, is of opinion that the close proximity of the Northern Pacific, and its frequent branches northward toward the Canadian border, had aroused fears in government circles for the spirit of national solidarity in the West, unless the new line came nearer to the international boundary; and that the government insisted on the change being made.

This view may perhaps find some confirmation from an already-cited history of the Canadian Pacific Railway, which is based upon official documents. The author writes thus:—

> "To check possible competition from the Northern Pacific, and to meet the demands of settlers in the southern area, not only was a shorter route desirable, but one more southerly than the Government's line located through the Yellowhead Pass. . . ."[25]

A generally well-informed railway historian, writing on the change, ascribes it to the fact of the southern route being some thirty miles shorter.[26]

Another, equally authentic, states that the Canadian government was strongly opposed to any change whatever being made; and "only relented by stipulating that if the Rockies were penetrated at any other point, it should be at least one hundred miles north of the International Boundary. . . ."[27]

The most recent historian of southern Alberta, in discussing this knotty problem, has this to say:—

> (Yellowhead Pass): "It was held that such a route would open up the most valuable land in the north-west, and by escaping the so-called desert country to the south, would be cheaper to construct, and bring more speedy returns.
>
> "The champions of the southern route urged, on the contrary, that a line which was closer to the American frontier would tap areas which were already being settled, and that the desert land of the south was a figment of certain explorers' imaginations.
>
> "Had it not been for the condition imposed by the Canadian Government, that the railway must be at least a hundred miles north from the American frontier, it would probably have been constructed still further to the south . . ."[28]

There remains one witness whom some of the foregoing historians necessarily could not cite; and whom none of them did. That one is Macoun, in his *Autobiography,* already mentioned (1922). He says:—

> "The bargain with the 'Syndicate' was scarcely concluded when they showed their determination to carry the road still further south . . ." (*i.e.,* than Edmonton)[29]

[24]John Hawkes, *Saskatchewan and its People* (3 vols., Chicago, 1924), I, 44; *cf.* John Blue, *Alberta Past and Present* (3 vols., Chicago, 1924), I, 314.

[25]H. A. Innis, *Hist. Can. Pac. Ry.*, 102-103; *cf.* 98, 105, 304. Western residents of the old days can appreciate the force of the second incentive.

[26]E. Protheroe, *Railways of the World* (London, n.d.; *c.* 1910), 658.

[27]F. A. Talbot, *Railway Conquest of the World* (London, 1911), 230.

[28]MacInnes, *Shadow of the Rockies,* 194-185.

[29]Macoun, *Autobiography,* 183.

He further tells us that he was summoned to meet the "syndicate" in St. Paul (Minnesota) in the spring of 1881; at which time he saw the redoubtable "Jim Hill", and others, including "two gentlemen from Montreal", members of it, who are considerately left anonymous. The route westward to Moose Jaw was practically settled upon before Macoun's arrival; and the discussion was whether to make for Battleford and thence to Edmonton, or to proceed directly westward *via* Calgary and the Bow River Pass, if that should prove practicable. As a result of Macoun's assurances, revelations, prophecies, enthusiasms, or what not, concerning the open plains and easy grades—we must suppose that soil was mentioned, but he makes no allusion to it—Jim Hill announced, with some banging of tables, that "they would go by the Bow Pass, if they could get that way".[30]

Possibly fearing that he might be suspected of undue self-aggrandisement, Macoun adds:—

> "Years after this, Mr. Fleming told me that for good or for evil, I had sent the road into the Bow River Pass . . ."[31]

The different reasons mentioned by the various historians noted above are much more suggestive of propaganda to hide the actual cause for the change than of any real explanation. Singly, any one of them might bear some appearance of plausibility—prior to critical investigation. Taken collectively, they are worthless; since they nullify one another.

Two of our witnesses ascribe the change to the desirability of a shorter route. Macoun, however, (whose testimony here is worth neither more nor less than its value anywhere else) shows that they were actually considering a much longer alternative route; crossing from Winnipeg to the Rockies on three long right angles resting on Moose Jaw and Battleford. Even without this inner revelation, this argument is damned by another well-known historical fact. Dr. W. L. Grant points out that the railhead "was not far from Calgary, with no pass in sight, when the route through the Selkirks was discovered".[32] This being the case, it was obviously impossible for the promoters to know in 1881, when their survey extended no farther than Moose Jaw, whether the route they had yet to discover would be shorter or not. This plea may be dismissed without further ado.[33]

The Government's displeasure seems to be much better authenticated than its instigation of the change; and in any case, *both* explanations cannot possibly be correct.

The argument concerning competition might furnish a plausible—or

---

[30]*Ibid.*, 183-185; *cf.* Innis, *Hist. Can. Pac. Ry.*, 105.

[31]Macoun, *Autobiography*, 185. Their engineer did not seem very enthusiastic about the "treeless plains"—"Where could they get the ties?"—"I told him at once that was not my business, it was his": (*Ibid.*, 184).

[32]*Ocean to Ocean*, Intr., XVII; so also, G. H. Armstrong, *The Origin and Meaning of Place-Names of Canada* (Toronto, 1930), 244: *s.v.* "Rogers" (Pass); and R. G. MacBeth, *Romance of the C.P.R.* (Toronto, 1924), 84. The last furnishes some interesting particulars concerning "the more roundabout way along the Columbia" which might have been followed had Rogers Pass not been discovered; on this curious route which was chosen because it was shorter!

[33]MacBeth, *facile princeps* among the slushy type of chronicler, has the Kicking-Horse route "125 miles less" (actually about 75 or so) Winnipeg to Vancouver; and ascribes it to W. C. Van Horne, who did not join the C.P.R. until months after Macoun's date: MacBeth, *op. cit.*, 84-86, 156; *cf.* Innis, *op. cit.*, 105.

even a reasonably probable—explanation; but the close proximity of the Northern Pacific is not so apparent. In 1880, that system was no farther west than Bismarck, North Dakota; which is almost exactly south of Brandon, Manitoba, on the 100th meridian of west longitude. In 1882, it had only reached a point in central Montana, Sully Springs; apparently near Miles City, which latter place lies due south from Moose Jaw, Saskatchewan. Bismarck, (south of Brandon) is in lat. 46° 46′ N. Missoula, Montana, is in lat. 47° N. and almost precisely south of Calgary. Between the places mentioned, the northernmost point of the line is at Helena, lat. 46° 40′ No.; and along the great southern bend of the Yellowstone near Billings and Bozeman, (Montana), it lies for a considerable distance as low as lat. 45° 30′ N.; or nearly two hundred and fifty miles from the International Boundary. I have searched in vain for those frequent branches toward the Canadian border, which betokened its sinister intentions,[34] and its not very rapid progress westward would seem to indicate that it already had its hands full.[35] One is not surprised that popular gossip should dwell upon a great transcontinental system's perfectly natural dislike of competition; but in serious histories we are entitled to expect some evidence in support.

Even had the shorter distance been known beforehand, so that it even *could* constitute an actual reason for the change, the shortest distance is not necessarily the most economical in railway operation. The obscurity in which this phase of the problem is veiled—in common with most others—is but little enlightened by the authoritative historian of the undertaking. As an economic and statistical account, Professor H. A. Innis's *History of the Canadian Pacific Railway* (1923) is of unsurpassed value. Its almost entire lack of critical comment on the ostensible motives offered at the time for episodes and policies of the character now under consideration is disappointing, in a scholar possessing such an obvious mastery of the outer history of this great achievement. Innis writes as follows:—

> "The early discovery of Moberly led to the successful location of a line with a maximum grade of 105.6 feet per mile [*i.e.*, '2% grade'] "concentrated within twenty miles on each side of the summit. . . . The highest points were the Rocky Mountain summit, 5,300 feet above sea-level, and the Selkirk summit, 4,316 feet. The maximum grade was 116 feet per mile descending west from the summit of the Rockies and for sixteen miles ascending the Selkirk summit and twenty miles descending the same summit . . . Contrasted with the location of the Government line located by Yellowhead Pass, including 140 miles with a grade of 52.8 feet per mile [*i.e.*, '1% grade'], "the company's line included sixty-three miles with two heavy grades of twenty miles each. The use of additional engines and wear of track were balanced against the additional operation of

[34]Such branches are those of the Great Northern, not then amalgamated with the N.P. Ry., and later than the Canadian Pacific. The Great Northern was completed in 1893; for this, and competition with the C.P.R., see Agnes C. Laut, *The Romance of the Rails*, (2 vols., New York, 1929), II, 467; Innis, *op. cit.*, 189, 206.

[35]For the "crash of 1873", see Butler, *Wild North Land*, App., 345, *seq.*; A. C. Laut, *op. cit.*, II, 435-457. The dates above are as given by J. M. Hannaford, traffic manager, N.P. Ry.; Letter to W. T. Hornaday, Sept. 3, 1887, *in re* buffalo traffic: Hornaday, "*Extermination of the American Bison*", (*Smithsonian Reports*, 1887, part ii, p. 507). Completed Sept. 8, 1883: Laut, II, 457.

seventy-seven miles of line and an increase of two hours for passengers and four hours for freight. . . . The operation costs on concentrated maximum grades were less than on several light grades. . . ."[36]

Concerning the supposedly "more economical operation", some facts and figures may be instructive. The Canadian Pacific summit level at Stephen is given in the company's own time-table (of March 1, 1931) as 5,332 feet. From there to Field, B.C., is also given as 13.8 miles. This of course includes spiral tunnels, adding practically their own length to the original mileage down the "Big Hill"; which in the earlier days before the tunnelling was always given (by the enginemen) as "eight miles". Field is 4,072 feet, giving a fall of 1,260 feet, a grade of about 1.73%. Continuing westward to Moberly, where the first indicated rise occurs, that point is 55.5 miles W. of Stephen summit; and its stated altitude is 2,553 feet. Thus in 55.5 miles the fall is 2,779 feet; or an average for the entire distance of practically 50 feet per mile; not quite one per cent—say $\frac{20}{21} = 0.95238\%$.

The Canadian National summit at Yellowhead is given in their time-table (January, 1931) as 3,717 feet.[37] At the nearest comparative point to the distances cited above, Grant Brook, 14.3 miles W. of Yellowhead, the stated altitude is 3,455 feet; a difference of 262 feet from Yellowhead. This constitutes an average fall of 18.3 feet per mile, just about 0.34% grade. Continuing westward for an approximately similar distance to that from Stephen to Moberly, the nearest station altitude shown is at Valemount, a distance of 57 miles from Yellowhead summit. There the altitude is given as 2,602 feet, a descent of 1,115 feet in 57 miles; equivalent to an average of 21.3 feet per mile, or 0.4% grade. Wherever the "140 miles at 52.8 feet per mile" (*i.e.*, "1% grade") may have originated, a critical historian should have noted the present-day fact that the existing maximum is about 23 miles of 1% grade to the Yellowhead summit, eastbound. The "140 miles" would represent a vertical drop of 7,392 feet from a summit of 3,717 feet! Whereabouts in central British Columbia is this terrific chasm to be found? The Jordan Valley or the Great Rift in Equatorial Africa would be insignificant by comparison.

I should like to watch anyone trying to convince an audience of operating officials and mountain enginemen of the more economical operation on the "pusher grades" out of Field and through the Selkirks, as against the Yellowhead Pass route. In February, 1929, owing to the collapse of a bridge in the Selkirks, almost all the Canadian Pacific traffic westbound was handled over the Canadian National from Edmonton to Kamloops. I wish the learned historian could have witnessed the scornful amazement and contempt of veteran C.P.R. passenger conductors and operating officials—at first!—at the sight of the so-called "teapots" (5100 class of C.N.R. 38% "Pacific type" passenger engines) which took hold of their trains at Edmonton, and their predictions of ignominious failure

[36] Innis, *Hist. Can. Pac. Railway*, 110-111.

[37] 3,700 by Grant, 1872: *Ocean to Ocean*, 278; 3,400 by W. F. Butler, 1873: *Wild North Land*, App., 348; 3,712 by Protheroe, *c.* 1910: *Railways of the World*, 672. I believe Protheroe's is the abandoned Grand Trunk Pacific *datum*; and the 3,717 the Canadian Northern grade-level, now in use at that point.

on learning that similar engines would make the time over the Rocky Mountain summit; followed by their utter confusion when this was done easily, and time picked up on the trip if necessary. The arguments cited by Professor Innis were evidently plausible enough for popular (or parliamentary) consumption in 1881; but that a modern economist could endorse such stuff forty years afterward by printing it without a word of critical comment, passes comprehension.

Although *C.* 1881 fell within the very period in railway engineering when the low grade was not the supreme consideration it was with the weak locomotive power of George Stephenson's day—who refused to lay out heavy freight lines steeper than one in 330 = 16 feet per mile[38]—or in that of Charles M. Hays, when the "Big Hill" grades would have been dismissed as prohibitive; yet Sir Edward Watkin, of the Grand Trunk, had no illusions about "more economical operation". He was then chairman of the Manchester, Sheffield, and Lincolnshire, later Great Central, and now the London and North Eastern main line between Manchester and London; with its "gable" between Sheffield and Manchester, including one in 97 near Guide Bridge.[39] He was also well acquainted with British main-line gradients in general, which are frequently severe;[40] and his comments on the Canadian Pacific change of route are highly instructive.[41]

We are further mystified by the really extraordinary circumstance that having found this wonderful maximum grade of two per cent., it was not utilized; and here is where the famous "Big Hill" itself first makes its appearance.

Professor Innis gives as the reason (1884):—

> "On the Rocky Mountain section the company was obliged to apply for authority to construct a temporary line for about thirteen

---

[38]F. S. Williams, *Hist. of the Midland Railway, Its Rise and Progress*: (London, n.d.; *c.* 1882), 41. For this reason, Sheffield, the fifth city in England, was not placed on the Midland main line until 1870.

[39]See the *Railway Magazine* (London, 1897 *et seq.*), XI, 97-109; XIII, 148, 189.

[40]For example, the West Coast Route (L.M.S.) to Carlisle and Glasgow, including four miles at 1 in 75 "over Shap"; and six at 1 in 75 up "Beattock bank": (*Railway Magazine*, XIII, 128-131, 466-471; XIV, 248, 339, 418; XV, 33-35).

The Midland, with its Sharnbrook and Desborough "banks" between Bedford and Leicester; 1 in 90 south of Sheffield, and up to Peak Forest summit, and steeper on the northern side of the same, near Chinley: its fifteen-mile stretches of 1 in 100 over Ais Gill summit on the road to Carlisle; and its two-and-one-eighth of a mile at 1 in 37 down Bromsgrove Lickey between Birmingham and Worcester, which handles the Bristol, Southampton, W. of England, and South Wales traffic over the L.M.S. (See on these, F. S. Williams, *Our Iron Roads* (Nottingham, 8th ed. n.d.; *c.* 1886), 98-101; his *Midland Railway*, pp. 146-150, 376, 415, 442, 478-543, 551-554; *Railway Magazine*, XIV, 145, 221; XV, 318-324; LXV, 203-211; &c.

Compare further the terrific grades in Devon and Cornwall: (*Railway Magazine*, XI, 441, 536; XIII, 31-36, 139-147; XV, 35, 167, 196-200), &c, &c; and the worst of them, Bromsgrove Lickey (*Ibid.*, XV, 318-324), only 66% as steep as the "Big Hill".

[41]See Watkin's remarks on the change: *Canada and the States, 1851-1886*, 63-66, 130-131, 451-452; *cf.* also F. A. Talbot, *Railway Conquest of the World*, 224-239; his *Railway Wonders of the World* (London, 2 vols., 1912), I, 4-6, 88-94, 193-202; and on Grand Trunk Pacific grades, *Ibid.*, II, 744-752; and his *Making of a Great Canadian Railway* (London, 1912). See further, E. Hungerford, *The Modern Railroad* (New York, 1911), 141-142; Cecil J. Allen (editor, *Railway Magazine*: the ultim-authority for practically every *authenticated* railway run in the world), *Railways of To-Day*, (London, 1929), 34-37.

> miles, dropping into the Kicking Horse Valley with a grade of about 232 feet per mile for four miles, and joining the original line at a point west of the most troublesome portion, it was estimated that the rapid construction of the permanent line to complete it in the time required by the contract would increase the cost of construction to an extent sufficient to build a temporary line. To this the Government agreed on May 30 . . . [1884]."[42]

The historical *fact* of this application is proved unimpeachably by Professor Innis's citation of the *Sessional Papers* of parliament; but that brings us no nearer to a satisfactory solution. It seems nothing less than astounding that while the "popular" history of the Kicking-Horse route is so well known, I have never yet found any shred of allusion in any source of information available to me, to the renowned "Big Hill" being only a temporary divergence from an easier grade already located.

My category includes published works, both critical and of the aforementioned "slushy" character; former associates who were engaged on the mountain construction; and old railroaders with whom I have worked, some of them handling trains on the Big Hill for years.

The time-argument, as put forth in 1884, is in my view utterly preposterous. I have pointed out that the *original* mileage down the Big Hill, with which we have to do, was not thirteen, but (approximately) eight miles. But conceding the thirteen, for the sake of the argument, how long was this difficult section of the "permanent" survey, whose temporary elimination could justify such a terrific alternative as four miles at 232 feet per mile, or about one in 23, equal to a fraction less than a grade of 4.5%;[43] and to effect which only thirteen miles were necessary? It must apparently have been so long, that it could not have been completed within the time-limit imposed by the contract, May 1, 1891.[44] Such a ratio suggests the Isthmus of Suez or of Panama; and no other place in the world known to me.

And having located a 2% grade, which for some reason not divulged had to be temporarily laid aside, why was it not utilized when the time for re-alignment of the route came in due season? I am informed that the new maximum grade is 2.1%, or 110.88 feet per mile, after the colossal expenditure on the Cathedral tunnels.

I suspect that when the Bow River Pass, to which they had irrevocably committed themselves, was found to lead to the appalling grades of the Kicking-Horse as the only way out, the energetic and masterful field-commander was not very long at a loss. His admirers tell us that *"fail* was not in his dictionary".[45] As prize-day rhetoric for the inspiration of ambitious schoolboys, such phraseology may pass; transferred to the Court of Logic, it inescapably involves a determination to win by any possible means that may offer, fair or foul. He was far too astute and shrewd a man to go either to parliament or the people, and confess that it was for a

[42]Innis, *Hist. Can. Pac. Railway*, 121.

[43]See authorities cited, above in Note 41. Some say "1 in 23"; some "232 feet per mile". One mile = 5,280 feet. One in 23 is practically 229.5 feet per mile = 23 × 229.5 = 5,278.5 feet; 4.5% = 232.3 feet per mile.

[44]Innis, *op. cit.*, 99. Everybody knows they finished 5½ years ahead.

[45]See Walter Vaughan, *Life of W. C. Van Horne*, (New York, 1920); R. G. MacBeth, *Romance of the C.P.R.* (Toronto, 1924); J. H. E. Secretan, *Canada's Great Highway* (London, 1924); &c. &c.

4.5% grade that the easy route through the Yellowhead Pass had been abandoned; or to be very long in finding a way of avoiding such a discreditable humiliation. The "approval of parliament", while constitutionally indispensable, is often—as in this case—logically, morally, economically, and scientifically worthless. The golden catchwords, "time", and "economy", would justify anything to the harassed politicians and financiers at Ottawa; faced with an impatient British Columbia on the one hand and the money market on the other. Party discipline could take care of the government supporters; and in any case, nobody knew enough about the region to ask any inconvenient questions. Considerations of the foregoing character render impossible any critical acceptance of the ostensible reasons offered—either for changes of detail such as the Big Hill; or for the fundamental change to the southern route as a whole.

Nor do I believe the solution lies in any question of the respective fertility and physical attractiveness of the rival routes. Although Professor John Macoun undoubtedly threw himself into the work of "demonstrating" the agricultural superiority of the southern territory more contiguous to the international boundary, with an ardour which led—as he querulously complained[46]—to the charge that his change of front was influenced by unworthy motives, yet other factors must not be forgotten. At the time he met the "syndicate" in St. Paul in the spring of 1881, he was himself the foremost and unrestrained champion of the vastly greater agricultural potentialities of the two northern routes; yet according to all indications he found a change of route already in the air when he reached St. Paul. So that all that Macoun really appears to have done was to furnish the agricultural argument for a region already selected for other reasons; which is a quite sufficient responsibility for one man to bear.

I believe the true explanation of the change lies in something which has been a quite characteristic feature of railway construction in the western plains territories at large. A vast amount of fine writing has been expended on the "energy" and "resourcefulness" of the "indomitable pioneers" who moved their embryo towns one, two, three miles, over to the tracks which had not quite followed the route that was expected of them by the "hardy fore-runners" of the steel. But few—and in relation to Canada, literally none, that I have found—have stopped to ask why such a step should have been necessary; in regions where the scribe surpassed himself in describing prairies "as flat as billiard tables", where the surveyor might go where he would. This has been another of those pleasant dreams, like the hatred of the Indian, or the presence of bad men, cyclones, rattlesnakes, or "the Great American Desert", which were quite fittingly true of the United States; but could not possibly have been the case in Canada!

The plain truth is that railways west of the Mississippi, whether in the United States or in Canada, have never been very favourable toward the idea of increasing the value of other folks' townsite properties. They have much preferred to own and develop their own. Two American authors, whose subject—no less a person than "Buffalo Bill" (W. F.

[46]Macoun, *Manitoba*, 473, 609. "Macoun. . . . enjoys the distinction of being the first 'booster' of the farm lands of Southern Alberta. . . ." C. M. MacInnes, *Shadow of the Rockies*, 253. The "political" history of the fertile belt needs (at least) a paper to itself.

Cody) was temporarily despoiled by the process—describe the thing with a candour and openness sometimes lacking in more purely railway historians, on the Kansas Pacific Railway in Kansas, 1867.[47] The settlers, facing the alternatives of settling on the company's townsite or having their own (earlier) town left without railway facilities, chose the former; and hauled their settlement bodily across the intervening mile or so. The two great eras of transcontinental railway construction in Canada furnished several examples of similar policies.

The original survey of the Canadian Pacific ran through Selkirk (where it was intended to cross the Red River) instead of Winnipeg; which latter place was to be served by a short branch or "spur". The announcement caused a *furore,* as well it might; and after a bitter struggle, the company was forced to make the change, bringing the main line into the city.[48] The original alignment, heading westward direct for Selkirk, with its sudden right angled turn in the Gonor-Bird's Hill district southward into Winnipeg, still (I believe) exists; a silent testimony, in that level region, to the transparent falsity of those "engineering reasons" which were the alleged explanation of the first choice, made at the time.[49] The old two-stall roundhouse of *c.* 1880 was still standing as late as 1924, an object of contemptuous local merriment.[50] The engineering reasons which precluded direct entrance into Winnipeg from the east in the beginning, did not prevent the later construction of a "cut-off" which eliminated the afore-mentioned right-angle; but everybody knows that engineering science has made wonderful strides in the last fifty years.

Even at the time when the railway survey "through Edmonton" still held the field, a route was favoured along the line of the old telegraph line by Hay Lake, westward thence by (the later) Leduc, some twenty miles south of Edmonton, and thence onward toward the Yellowhead Pass;[51] the present capital of Alberta also to be served by a short branch. Before leaving this district, we may note (following upon the completion of the Calgary and Edmonton Railway) the persistent efforts to "move" Edmonton across the Saskatchewan River, to the company's town-site of "south Edmonton". The transfer of the land office (by order from Ottawa) was successfully resisted by a "Vigilance Committee", in defiance of the law.[52]

I have never read any "official" account of the change of the divisional point from Port Arthur to Fort William; but the local version at the former place is of a railway magnate's declaration—following upon a disagreement *re* taxation—that he "would make the grass grow in your streets".[53]

When at last Battleford got its railway, some twenty years over-due, it was another of those short branches; the main line running through "North Battleford", some few miles away. At Wainwright, "engineering

[47]Walsh and Salsbury, *The Making of Buffalo Bill,* (Indianapolis, 1928), 103-104.
[48]Innis, *Hist. Can. Pac. Railway,* 92.
[49]Read Innis's entire chapter (*op. cit.,* 75-96, and notes); and observe the consequences to Sandford Fleming.
[50]Described to me by a former resident, ignorant of its actual history. R. G. MacBeth also pokes fun at the thing—characteristically, without in the least discerning its significance—in his (appropriately named) *Romance of the C.P.R.,* 41, 84.
[51]See Rev. W. Everard Edmonds, *Edmonton Journal,* Aug. 30, 1930.
[52]See the early files of the *Edmonton Bulletin* on this.
[53]*Ex. inf.* natives and old residents of long standing.

reasons" again prevented the adoption of the (previously-established) town of "Denwood", some three miles east;[54] and *at the top of the hill* at the bottom of which is Wainwright. Here also the local version differs materially.[55] On the shore of Buffalo Lake, Central Alberta, the old settlement at Lamertom (*c.* 1888) and the later divisional point at Mirror (1910) are another case in point; the supposed engineering reasons here being equally problematical. Here the town refused to move the two miles; and has gradually sunk into decay where it stood.

It must be recognized that either at the time by resentful residents of the ill-treated place; or later by critical students (unless, in the latter case, later engineering works in the "impossible" region assist to establish his contention), it is extremely difficult to prove, however strongly one may suspect, the fallacy of the orthodox plea to which I have several times referred. Criticism on the spot is often poisoned at the source by the palpable fact that it emanates from real-estate promoters in the beginning; who are equally as anxious to force the railway through their townsite holdings and nowhere else, as the railway company are to keep out. I have no doubt whatever that the failure of the Selkirk scheme warned the promoters of the riskiness of going *too near* to any town they wished to avoid entering directly. Edmonton and Battleford were places of (relatively) long standing, where land would have to be *bought*; hence the drastic change of route. I believe this solution fits the facts as no other does.

Even so, this is not necessarily to say that these men were sinners above all the Galileans. They only followed the methods common to railway-builders on this continent. One firm conclusion emerges, however. It is high time that the history of Western Canada was written in the same critical manner as that of, say, ancient Rome or mediaeval England; and no longer left to purblind rhapsodists of the school of "Romance" and "Remarkable History".

[54]F. A. Talbot, *Making of a Great Canadian Railway,* 151-152; *Place-Names of Alberta* (Nat. Geog. Board, Ottawa, 1928), 130.

[55]*Ex. inf.* local residents, well-known to me. Every freight had to be "pushed out" of Wainwright east for years; at vast expense.