Referred to the Committe.

S.S.Worthen

By far the best way to avoid the implementation of a sound proposal is to refer it to a committee for further study.

Old political adage.

Nowadays, hardly anybody pays much attention to the distance between the rails of any of Canada's railways. Most people who are even remotely interested in this characteristic of the modern railway quit thinking about it when the Newfoundland Railway became part and parcel of the Canadian National Railway Company and, subsequently, lost its steam engines. Granted, there is still the White Pass and Yukon Route and other lines with slight differences in track gauge, 'round about the country, but they are often remote and very hard to find.

There was a time, back in the early history of our country, when the distance between the rails was very important. Gauge was quite a reliable indicator of the future success or failure of the venture. For nearly 15 years after 1853, the railways in the eastern United States had to contend with the Grand Trunk Railway Company of Canada, which was of a non-standard gauge, as far as they were concerned. In southern Ontario, the Great Western Railway Company busily loaded and unloaded freight cars at Niagara Falls, Windsor and Sarnia, where it connected with U.S. railroads - all because of the difference in gauge!

In later years - and farther west - this gauge problem was not encountered, since by the time the western lines were built, the "great contention" about the guage of railways had been settled and a "once-and-for-all" decision rendered.

True narrow-gauge railways (3 feet 6 inches, or less) could, of course, be built for reasons of economy, but if they were built, it was with the clear understanding that they were narrow-gauge and could not expect their standard-gauge neighbours to make any special concessions on account of the difference. The Stephenson gauge was firmly established. If you wanted your company to participate in the exchange of interline traffic, that was the guage you adopted.

Curiously enough, Canada's first two public railways, the Champlain and St. Lawrence and the Lanoraie and Village d'Industrie Rail Roads were both built to the Stephenson gauge, the first in 1836 and the second in 1850. Contrariwise, the St. Lawrence and Atlantic/ Atlantic and St. Lawrence, Canada's first long-distance railway, was planned and constructed to a 5-foot 6-inch gauge. Indeed, when the Grand Trunk Railway Company of Canada obtained its charter in 1853 , it was obliged by law, if you please, to adopt this "Provincial Gauge". So was the Great Western Railway in southern Ontario. How did this unwise legislation get on the statute books?

By 1867, Confederation had been accomplished, God was in Heaven and Sir John A. Macdonald was ensconced in Ottawa as Canada's first prime minister. The Grand Trunk - the MAIN LINE - boasted a magnificent broad-gauge, trunk-line railway from Portland, Maine, U.S.A., to Sarnia, Ontario, on the St. Clair River near Lake Huron. This impressive 5-foot 6-inch gauge empire was not destined to endure unchanged, for practical necessities led to the eventual decision to narrow the gauge to the Stephenson width by 1875.

You could say that, prior to 1845, the gauge of a Canadian railway was largely determined by the equipment that it purchased from the United States or England. This apparently "cart-before-horse" situation becomes logical with the realization that English locomotive builders generally chose the Stephenson gauge, while United States builders tended to favour that gauge. There were other gauges, granted, but George Stephenson was after all the "Father of the Railway" and Isambard Kingdon Brunel and his 7-foot 0 3/4-inch-gauged railway could hardly be taken seriously.

On the Canadian scene, the British Government who were in fact still responsible for the defense of the Canadian colonies had not completely recovered emotionally from the War of 1812. They lived in trembling, if not in fear, that there would be a future invasion of British North America, probably from the south. To frustrate the possibility of Canadian railways being used to the advantage of the enemy, they decided a gauge of 5 feet 6 inches would be advantageous.

There were other reasons for the adoption of this gauge. Mr. Miles Pennington, the first Freight Traffic Manager of the Grand Trunk Railway in 1853, made a visit to Portland, Maine in that year and reported that the broad-gauge had been chosen in order that Portland should be the terminus of Canadian railroads and thus the trade would be prevented from going past Portland to Boston. Mr. Pennington's conclusion apparently received wide acceptance and for many years was considered as the "real" reason for the adoption of the Broad-gauge in Canada.

Now let us turn to the real sequence of events. In 1846, before construction began on the first portion of Canada's first main-line railway, the Government of Canada appointed a committee to inquire into the subject of the gauge of this, and succeeding, railways. By 1851, the Government got around to receiving the report of the com-

mittee, despite the fact that the St. Lawrence & Atlantic/ Atlantic & St. Lawrence was well on its way to being completed.

To arrive at a recommendation, the Committee had consulted a variety of authorities, as follows:

- John Young, Vice-President, St. Lawrence & Atlantic Railroad: Mr. Young recommended the gauge of 5 feet 6 inches. He had to. His railroad was practically completed, built to this gauge;
- Charles Seymour, Chief Engineer, State of New York, U.S.A.: Mr. Seymour was "influenced" by the Erie Railroad whose main line had been built to a gauge of six feet even. Mr. Seymour was able to rationalize a "narrowing" of this gauge to 5 feet 6 inches, and he thereafter recommended that this gauge be selected;
- Thomas C. Keefer, Civil Engineer, Province of Canada: Mr. Keefer favoured the Stephenson gauge of 4 feet $8\frac{1}{2}$ inches. He was a practical man.
- James G. Ferrier, President, Montreal & Lachine Railroad: Mr. Ferrier's preference was the gauge of his own line, which had been in operation for about four years. It was 4 feet $8\frac{1}{2}$ inches between the rails.
- R.W.Harris, President, Great Western Railway, London, Ontario: Mr. Harris favoured the Stephenson gauge for future railways in Canada, recognizing that a part of their role in continental transportation would be as "bridge lines" for existing standard-gauge lines in the United States;
- R.G.Benedict, Chief Engineer, Great Western Railway: Circumstances, and the location of the Great Western, forced Mr. Benedict to make the same recommendation as his President. Alas for logic! Both recommendations would soon be declined;
- Erastus Corning, Industrialist, Town of Corning, New York,USA: Mr. Corning preferred the Stephenson gauge, as it was the same as that of adjacent lines in the United States - except the Erie Railroad group;
- James Gould, Railway Car Builder, Albany, New York, USA: Recognizing his position as a supplier of equipment to ALL railways, Mr. Gould recited all of the advantages and disadvantages of most of the different gauges in use at the time, but, in the

end, refused to recommend any of them;

- H.H.Killaly, Engineer, Department of Public Works, Canada: Mr. Killaly was expected to advocate the 5-foot 6-inch gauge. He was, after all, a representative of Her Britannic Majesty's government. He rose nobly to the occasion and did so recommend;
- John A. Roebling, Civil Engineer and Bridge Builder, New York: Mr. Roebling recommended the Stephenson gauge.

In summary: there were three recommendations for the 5-foot 6-inch gauge, six for the Stephenson gauge of 4 feet 8½ inches and one non-commital. The democratic process should have prevailed. But with the completed portions of the St. Lawrence & Atlantic right under their noses, the Committee could not summon up much opposition to the broad gauge. Moreover, at the Portland, Maine Railroad Conference of 1850, the broad-gauge had already been approved for the main line projected from Canso, Nova Scotia to Portland and Montreal, to form a continuous line from the Ocean to the River.

There were, in addition, cogent commercial reasons. The British trading companies, at the insistence of the Government, still clung tenaciously to the concept that trade with the United States ought to be restricted, while commerce with England ought to be encouraged. A continuous railway from Nova Scotia to Montreal, by whatever route, would surely bring this about. In addition, it would encourage an east-west, rather than north-south, flow of traffic, desirable to the Anglo-Canadian traders.

After hearing all the pros, cons and neutrals; after all the various opinions and recommendations had been expressed; a number of resolutions were jammed through by the Railway Committee on 31 July 1851:

1. MOVED that the question of the gauge to be adopted by the Grand Trunk Railway now be taken under consideration:
   Carried. 9 for, 1 against.

2. MOVED that, in the opinion of the Committee, the medium gauge of 5 feet 6 inches is the most favourable to the interests of Canada and should be recommended to the House:
   Carried. 9 for, 1 against.
3. MOVED that, in the opinion of the Committee, the said gauge of 5 feet 6 inches should be adopted as the standard gauge for the Grand Trunk Railway and also that the Government should recommend its adoption by the Directors of the Great Western Railway:
   Carried. 9 for, 1 against.

And so the gauge of 5 feet 6 inches became official, to be known as the "Provincial Gauge". It remained official for some 20 years.

It would be interesting to know which of the 10 members of the Committee was the obdurate and recalcitrant opponent of the three motions, every time!.

The Great Western Railway built to the "Provincial" gauge and thereafter satisfied the practical problems of operation by laying a third rail to accommodate Stephenson-gauge equipment from connecting lines. The company finally capitulated to the inevitable by standard-gauging all its lines in June 1873. The Grand Trunk tried to temporize by building a fleet of some 400 freight cars with adjustable wheels to suit either gauge. Special tapered sidings were constructed to force one wheel on each axle apart or together, so that the car could continue running on the new gauge without being uncoupled from the train. The moveable wheels were locked in place with steel pins. Some of these dual-gauge cars were built in the shops of the Vermont Central Railroad at St. Albans, Vermont.

Twenty years later, the awkwardness of the Provincial Gauge had been thoroughly demonstrated for MAIN LINE operation, but there were situations where narrow-gauge (3-foot 6-inch-gauge) railways could be built to advantage. The alleged economies of narrow-gauge construction influenced the Toronto, Grey and Bruce and the Toronto and Nipissing Railways in Ontario and the Prince Edward Island Railway to build to a gauge of 3 feet 6 inches and the Glasgow and Cape Breton Coal & Railway Company to adopt a gauge of 3 feet, 0 inches.

A few years later, in 1892, several electric suburban railways were constructed in the outskirts of Toronto, Ontario. These were built to what is probably the most unique of all Canadian gauges , 4 feet 10 7/8 inches. For years, the derivation of this gauge eluded Canadian railway historians. The late Robert R. Brown of Montreal finally explained the enigma, but not the ultimate reason for its selection. In European terms, this particular gauge, still used today by the Toronto Transit Commission, is almost exactly 1.5 meters!.

Most of the railways built to the Provincial Gauge were standardized to 4 feet $8\frac{1}{2}$ inches between 1870 and 1890. A notable exception was the Carillon and Grenville Railway, a portage line some distance above Lake of the Two Mountains, west of Montreal, Québec, on the Ottawa River's east bank. This broad-gauge anachronism, a veritable, venerable, prehistoric relic, managed to operate until 1910 but was removed about 1914. Outside of Newfoundland and Yukon Territory, the last Canadian narrow-gauge operation of any size, that of the Prince Edward Island Railway, was converted to the Stephenson gauge in 1931.

What the Railway Committee of 1851 began, time and circumstances undid. Government legislation notwithstanding, the Stephenson gauge of 4 feet $8\frac{1}{2}$ inches finally triumphed. Bureaurocracy suffered a resounding defeat when, in the second session of Canada's Parliament in 1870, an Amending Act was passed "legalizing" the standard gauge for Canadian railways.

To paraphrase the Duke of Marlborough's riposte: "All the wise men were on one side and one demn'd fool was on the other and, by gad, sir, the demn'd fool was right!."

THE GAUGES OF SOME OF CANADA'S EARLY RAILWAYS

Year opened	Name	Province	Gauge as built	Year standardized.
1829	Albion Mines Railway	N.S.	4' 8-8½"	-
1836	Champlain & St. Lawrence R.R.	Qué.	4' 8½"	-
1847	Montreal & Lachine Rail Road	Qué.	4' 9"	1850(?)
1849	St. Lawrence & Industry Village	Qué.	4' 8½"	-
1853	St. Lawrence & Atlantic Railroad	Qué.	5' 6"	1874
1853	Great Western Railway of Canada	Ont.	5' 6"	1873
1855	Nova Scotia Railway	N.S.	5' 6"	1875
1854	Bytown & Prescott Railway	Ont.	4' 8½"	-
1854	Carillon & Grenville Railway	Qué.	5' 6"	Abandoned 1910
1853	Ontario, Simcoe & Huron Union RR	Ont.	5' 6"	~~1872~~ 1881
1856	Grand Trunk Railway Company	Qué.-Ont.	5' 6"	1872-1874
1854	Erie & Ontario Railway	Ont.	5' 6"	1873
1854	Coburg & Peterborough Railway	Ont.	5' 6"	1873
1858	New Brunswick & Canada Railway	N.B.	5' 6"	1875
1858	Buffalo & Lake Huron Railway	Ont.	5' 6"	1873
1859	Brockville & Ottawa Railway	Ont.	5' 6"	1873
1859	Welland Railway	Ont.	5' 6"	1873
1859	Victoria Bridge GTR Montreal	Qué.	5' 6"	1874
1860	European & North American Ry.	N.B.	5' 6"	1875
1860	Stanstead, Shefford & Chambly RR	Qué.	4' 8½"	-
1871-1875	Intercolonial Railway (except Ste-Flavie to Campbellton)	N.B. - Qué.	5' 6"	1875
1875	Prince Edward Island Railway	PEI	3' 6"	1931
1898	Newfoundland Railway	NFLD	3' 6"	STILL IS!