

CANADIAN RAILROAD HISTORICAL ASSOCIATION INCORPORATED.

NEWS REPORT NO. 85

P.O. BOX 22, STATION "B"
MONTREAL 2, QUEBEC

JANUARY 1958



The sign carried by Ottawa Transportation Commission car No.685, on charter to the Association on December 14th, is that of a rail route which has been discontinued for several years. This wintry setting was captured outside the Cobourg Street car house.

- Photo by O.S.A. Lavallee

CANADIAN RAILROAD HISTORICAL
ASSOCIATION

News Report No. 85
January 1958

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PLANS OF THE EDITORIAL COMMITTEE:

This year, the subscribers were asked for an increase of 50¢ per year in our subscription fee, bringing it up to \$2.00 annually. The response by the number of early renewals indicates that the increase has met with the approbation of the greater majority of our readers, and in view of this, we feel it appropriate to outline a few of the plans we have for improving our publication in 1958.

For one thing, the idea of photo covers seems to have won the support of our readers as a feature which lends some distinction to each particular copy of the News Report. We hope that we will be able to include this feature every second month at least, and the

subject will alternate between steam and electric railway material, with a marine picture thrown in for good measure once in a while. It is also planned to include more photo-offset pages of maps, diagrams and plans than has been possible hitherto, and, if the usual increase in circulation takes place in 1958 as in other years, it may be possible to include occasional interior sheets with photographs on topical subjects, illustrating feature articles, etc.

The Editorial Committee is aware of the absence of the periodical appearance of the special Bulletins, and despite plans to the contrary, the large amount of artistic work and preparation on the Montreal & Southern Counties Railway bulletin, coupled with your Editorial Committee's economic limitations, have caused us to put it aside for the present time. In its place, we hope to present Bulletins on shorter, more varied subjects and thus release a backlog of Bulletin material which has been accumulating since the publication of our last Bulletin on Official Cars of the Canadian Pacific Railway nearly two years ago.

As usual, we earnestly solicit manuscripts from our membership on topics of Canadian railway or allied interest, for inclusion in our Bulletins, or in the News Report. We hope that 1958 will enable us to publish more of the results of the extensive historical researches of Mr. Robert R. Brown, who has been inactive lately as a result of an unfortunate and prolonged illness.

Finally, we earnestly solicit the support and encouragement of all of our subscribers, not only in the renewal of their subscriptions for 1958, but in securing new readers and subscribers to our publications.

Thank you.



Chairman, Editorial Committee.

A note or card to the Editorial Committee will send a sample copy of the News Report to a potential subscriber. Won't you do your part?

Notice of Meeting

The Annual Meeting of the Association, for the delivery of reports for the year 1957, and the election of officers and directors for the 1958 term, will be held in Room 202, Transportation Building, 159 Craig Street West, Montreal, on Wednesday, January 8th, 1958, at 8:15 PM. Members having regular status, resident in the Montreal area, are urged to make a special effort to attend this meeting and exercise their franchise.

Nominations for any of the eight vacant posts may still be made by mail, or telephone (Cr.9-8822) to the Chairman of the Nominations Committee, Mr. C.S.A. Lavallee, at 7440 Durocher Avenue, Montreal. Such nominations should be made and seconded by members in good standing, and have the consent of the person nominated.

Association News

At a recent meeting of the Numismatic & Antiquarian Society of Montreal, the distinguished antiquarian Dr. Victor Morin tendered his resignation as President of the group, after many years as its chief officer. When our Association was founded by a number of members of the antiquarian society at the Chateau de Ramezay, Dr. Morin's interest and encouragement to the new body caused its members to elect him Honourary President of the Association, and he has retained this post throughout our twenty-seven year history. It is a particular honour to our Association that Mr. Donald F. Angus has been chosen by the Numismatic & Antiquarian Society to succeed Dr. Morin in the presidential post. Mr. Angus is a charter member of our Association, and one of its sponsors at the time of incorporation, and the choice made by the antiquarian society is one which the officers and members of the Canadian Railroad Historical Association will second heartily.

We would like to take this opportunity to offer our felicitations and good wishes to Dr. Morin on his retirement from active conduct of the affairs of the Chateau de Ramezay, and to assure him, if indeed assurance is necessary, that he leaves the leadership of his group in very capable and conscientious hands.

Enclosed with this issue of the News Report, is a list of back copies available. They may be had upon written application to the Editorial Committee at Box 22, Station B, Montreal. Some of the earlier copies are in very short supply; only one copy remains of several of the issues. If your file lacks any of these copies, we would urge you strongly to make your application while they are still available.

Our Cover

Following our practice of alternating between steam and electric railway subjects for our cover photograph, the illustration this month shows Ottawa Transportation Commission car #685 in front of the Cobourg Street car-house, during a charter trip which members of the Association made over lines of the OTC, on Saturday, December 14th. The car was in charge of Chief Instructor Mr. McBurnie, of the OTC and an enjoyable time was had by the fourteen participants.

THE CHANGING TIMES

Referring to the opening of the Canadian National's 22-mile Bartibog-Heath Steele spur in New Brunswick recently, the Montreal "Star and Herald", in an Editorial of November 25th, remarked, in an amusing way, how modernization has changed the opening ceremonies. We are grateful to Mr. John M. Maffre, of the "Star", for allowing us to reprint this Editorial.

Railroading's Romance is Getting Sidetracked

The romance is dying out in railroading, and that's for sure. Time was when the last spike in a railway was clouted in by a bearded president, who borrowed a section hand's sledgehammer and did his best to whack the spike instead of the rail or some vice-president's toe. Remember that picture of Sir Donald A. Smith having a go for the C.P.R. out in Craigellachie Pass in 1885? Or that shot taken in the American northwest in 1869 on the Union Pacific when both coasts were joined, with bottles being hoisted on each of those high-wheeled old wood burners?

Well, things have changed. These days the bottles are discreetly hidden, probably at the behest of some nervous public relations man. Now it's usually a humming Diesel engine that supplies the background, and jars men's teeth when it lets off a blast on its infernal horn. Nothing like the good old days of the steam locomotive with its almost human panting and its lonesome whistle. And to cap it all, the sledgehammer has vanished.

Down east in New Brunswick the other day, Donald Gordon of the C.N.R. drove in the last spike in a 22-mile rail link to a mining site. Maybe "drove" isn't the right word. He seems to have presided over some new-fangled automatic machine that puts them in. Little elbow grease was required. And that's a pity, considering the proportions of Mr. Gordon. Isn't it a shame that posterity won't have a picture of him, a man about six-foot-four and with shoulders like a bull moose, belting that last spike in as if he'd built the line with his own hands?

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Short Line Timetables Wanted

Our subscriber, Mr. John Cooshek, of Vancouver, B.C., writes the Editorial Committee as follows:

" To help celebrate British Columbia's Centennial Year 1958, I will send free to anyone interested, three different issues of Pacific Great Eastern Railway public timetables of recent years showing: 1. Service before line was built to Prince George. 2. Service Squamish to Prince George, and 3. RDC service North Vancouver to Prince George. This, in order to promote interest in this historical railway with a future, as well as to promote interest in the Centennial. What I would like in return is one copy of any short line timetable from your vicinity. "

Those interested should write direct to Mr. John Cooshek, 4418 Ontario Street, Vancouver 10, British Columbia.

Mr. Kemp submits another of his provocative articles on passenger service

ARE CANADIAN RAILWAYS REALLY INTERESTED
IN PASSENGER SERVICE ?

by Forster A. Kemp

SOME OF THE ACTIONS of Canada's railways in regard to passenger services and equipment during the past ten years leads one to speculate: do they or do they not want to stay in the passenger business? It would seem, from appearances, that railway officials themselves are not quite in agreement on this point. In the following paragraphs, some of these actions will be discussed and a few suggestions put forward. It is hoped that this discussion will be of interest to members of the Association.

Passenger service is clearly a dilemma to railways all over North America. By the formula of the Interstate Commerce Commission, United States railways lose over three-quarters of a billion dollars annually in passenger operations. Some passenger-minded railways dispute this figure, contending that many of the expenses charged to passenger trains would still be incurred if the railways ran only freight service. In Canada, passengers contribute eight to ten percent of the total revenue from railway operations. It is estimated that the three main agencies of public transportation are carrying about ten to fifteen percent of the travelling public. The remainder are travelling by private autos.

Let us consider the main means of public transportation within Canada. Besides the railways, there are busses and aircraft. As we have said, the railways, air lines and bus companies are competing for from ten to fifteen percent of the traffic. Each transport means has its inherent advantages and disadvantages. The private automobile has reached its place of prominence in today's transportation picture because first, it is cheaper (not for a single person, but for a group). It has been the practice in some quarters to figure the cost of automobile operation at ten cents per mile, but this includes some operating costs which are actually tied to a period of time rather than to mileage. Thus they will accumulate whether the car is driven or not. These include licenses, insurance and depreciation. Other expenses, such as cost of tires, are not likely to be of note until the car has travelled several thousand miles, so that per-mile cost of these items will be negligible. A saving is also apparent in cost of transportation to and from terminals, as the automobile carries you from door to door. Second, the automobile is more convenient; automobile passengers are not bound to a schedule. They can leave, arrive, stop, eat and sleep whenever they please. Also, they can go from door to door without the problems of transferring themselves and their baggage from one vehicle to another. It is small wonder that the automobile has become the premier form of transportation in Canada.

However, the disadvantages of automobile travel are also considerable. First of all -- safety. Of all travellers, the automobile driver and his passengers are the most vulnerable to their own errors and those of others. This fact is brought home to us by headlines in our daily newspapers and by reports on radio and television. Second -- comfort. Automobile travel can be very tiring for driver and passengers. Driving under today's conditions requires much concentration on the part of the driver. Despite the improvements in automobile design, passengers are still liable

to be cramped, especially if they have long legs ! On long trips, it is usually necessary either to rest or to change drivers, so that travel time is usually longer. Third -- congested roads, especially in the vicinity of cities. It is not unusual, on an automobile trip, to drive three hundred miles in a few hours, then to spend half as much time again in driving the last thirty miles to your destination. I wonder how many motorists in the Sunday night traffic jams at Montreal's approaches wish that they had taken the train ? On a recent trip to Ottawa, the writer was transported by automobile from Montreal West to Ottawa's outskirts in two hours and a half, but it required an additional hour to reach a destination within the city. Finally -- automobile travel is subject to weather conditions. Rain, snow, fog and cold weather make driving hazardous, while hot weather makes automobiles very uncomfortable.

However, the advantages of lower cost and more convenience seem to outweigh the disadvantages of possible hazard, discomfort and delays due to congested roads and bad weather for most Canadians. Therefore, let us see how the others make out.

Highway motor coaches offer the least expensive form of public transport in Canada. They have the advantages, besides that of low cost, of a limited "door-to-door" service along their routes, so that if you live on a bus line, it is not necessary to go to a terminal, since many busses may be stopped almost anywhere. Usually, busses run on more frequent schedules than trains or aircraft, and reach many points not served by either of the other means. Bus service is usually operated by courteous, safe drivers, and the vehicles are steadily becoming more comfortable. The disadvantages are, that the service is usually slower than other means of transport; that passengers receive many road bumps and hear considerable engine noise and are often subject to winter cold and summer heat. The terminals of some bus lines are often located in sub-standard restaurants which serve marginal food and have poorly-maintained facilities. Bus passengers must also remain seated for two or more hours at a time. Also, while Canada is served by a number of regional companies whose services are shown in an "Official Guide", there are a number of small operators, especially in Ontario and Quebec, about which it is virtually impossible to obtain any information except at one of their terminals. This presents a problem to persons living more than a few hundred miles distant. For instance, there is a bus service running between Grande Baie (near Chicoutimi) and St. Simeon, Que. It connects with other bus lines at both terminals to make connections between the Saguenay region and Murray Bay. However, Montreal information clerks are not even aware of its existence. Examples like this are quite common, and are a bugbear to persons planning trips by bus.

The air lines offer the fastest passenger transportation between points in Canada which have airports. Air travel is fast, courteous, quite safe, and usually offers good meal service. While air fares are quite high, they usually include meal service. Also air lines employees may not accept gratuities. This progressive practice might well be followed by competing forms of transport, as well as by proprietors of lodging and meal establishments. However, few of them seem tempted to follow the airlines' lead.

The time saved in air travel is directly proportional to the distance. While time between airports is almost invariably less than that which can be made on the ground, the airports are usually at a considerable distance from the communities that they serve. Therefore, the air passenger is

subject to the same difficulties as the highway traveller; he runs into congestion near cities. In one extreme case, a flight from Montreal to Ottawa requires 40 minutes, but pick-up time in downtown Montreal is one hour before flight time and it requires 45 minutes or more to get to downtown Ottawa including check-in and baggage handling procedures at both ends. It therefore requires at least two hours and 25 minutes to go from Montreal to Ottawa by air -- the fastest trains do it in two hours. Other disadvantages are: considerable noise on some types of aircraft, discomfort due to altitude on non-pressurized aircraft, the vulnerability to air turbulence, and the fact that air accidents are often fatal to all passengers.

Well, where does all that leave the railways? They are in a position between that of motor coach and that of air travel; faster and more expensive than motor busses but slower and usually cheaper than aircraft, as well as being more comfortable than either in this writer's opinion. They have the advantages of safety, dependability, comfort and freedom of movement for the passengers. Almost any type of facility can be provided on board a train. They have the disadvantages of fixed stopping-places, requiring auxiliary transportation for most travellers, which often involves considerable expense; schedules which are not often so frequent as those of other means of transport. The difficulty, especially at the present time, of reaching smaller centres by rail, and the necessity of transferring to busses with attendant long layovers, and the high cost of ancillary services such as dining car meals, sleeping accommodations and news-agent supplies. The continuance of the anachronistic practice of gratuities to employees is a contributing factor in this cost.

The dilemma of Canadian railway officials in regard to passenger services has resulted, on the one hand, in the purchase since 1936 of over one thousand new units of passenger rolling stock, comprising reclining-seat coaches, sleeping, dining, parlour and lounge cars, many of which are among the best to be found in North America; and on the other hand, it has resulted in attempts to dry up the passenger traffic on branch lines, in dubious cost-cutting by means of RDC equipment on long runs for which they were not designed, without any modification whatsoever, and by discontinuing passenger services instead of attempting to improve them, or encourage additional traffic by means of advertising.

In a previous article, I have dealt with the comparison between RDC equipment and conventional hauled coaches. However, substitution of RDCs for conventional trains has continued apace, and will be carried to an extreme with the imminent introduction of RDC equipment on a 30-hour run of 962.6 miles by the Canadian Pacific Railway. Honestly, would you want to ride for thirty hours in an RDC ?

On shorter runs, the primary consideration has been a decrease in running time. This is evidenced by the Montreal-Sherbrooke service of Canadian National Railways, where great pains have obviously been taken to undercut the CPR's running time by from three to five minutes, at the expense of leaving several communities with only a mediocre service. One of these stations is St. Lambert, Que., where 40,000 or more people live within a five-mile semi-circle around the station, and would find it very difficult and costly to take trains at Central Station. It has been said that people are willing to sacrifice comfort in the interests of speed. Are they? Busses have reclining seats, these days. It is obvious that if such equipment is to be used on long runs, it should be fitted accordingly, instead of with the straight-back seats and small, no-hot-water facilities presently provided.

In some cases, substitution of new schedules for former ones has caused dislocation of connections, often necessitating an additional night enroute. This was especially true in Canadian National Railways' Regina-Saskatoon service, where through trains 5 and 6 were divided into two parts, with no connecting service for passengers from northwest of Saskatoon to points east of Regina, and vice versa. On many secondary routes, passengers have faced what appears to be deliberate discouragement on the part of the railways. In some cases, modern comfortable equipment has been replaced by antiquated, uncomfortable cars. When a decrease in traffic resulted, the service was removed, with little opposition. Several illustrations of this practice are possible. The Montreal-Huntingdon service of the CNR is a case in point. Some years ago, it was proposed to replace trains 79 and 80 with RDC equipment. However, someone recalled that there was an ex-Central Vermont diesel-electric rail car, No.15780, formerly No.148, which was out of service, having discouraged all passenger patronage on the St.Armand Subdivision of the Central Vermont. This car replaced steam-hauled equipment on trains 79 and 80, and its lack of comfort and mechanical undependability soon caused a decline in traffic to the point where service was discontinued on April 26th, 1957. The line serves a number of thriving communities, Huntingdon, Ormstown, Howick, Ste.Martine and Laprairie, but instead of making any move to encourage traffic, it was allowed to wither away. The same thing has been done on a CPR local service between Fredericton and Saint John, NB, where a local train, which at one point had reclining-seat coaches, was reduced to the meagre comforts of gas-electric 9007 and trailer 9002. It was withdrawn after one timetable! The latter is now engaged in discouraging patronage on the Ottawa-Maniwaki run, hauled by gas-electric 9005.

This policy of discouragement appears to extend to local services on the main lines. Eastbound local service between Chalk River and Vaudreuil on the Canadian Pacific Railway is performed by train No.10, a notoriously poor time-keeper, which usually carries a heavy consist of express cars received by connection from western Canada. It would seem that the cost of starting and stopping this long and heavy train would pay for the operation of an RDC on the same run. Illogically enough, two RDC units remain in Chalk River for sixteen hours between their westbound and eastbound runs. In the meantime, local passengers seldom know when No.10 will arrive.

Canadian railways seem to have the policy of concentrating on passenger service between larger centres. However, this is exactly the field in which they are most subject to air line competition. In the meantime, smaller centres which would support modern, convenient passenger service have little or none at all. Such places as Simcoe, Delhi, Tillsonburg, Aylmer and St.Thomas have no direct connection with Toronto or Hamilton or other Canadian centres. It would seem to be a natural place for a modern Hamilton-St.Thomas service. However, in view of the decline in Canadian Pacific Railway's Toronto-Hamilton service, it is unlikely that this will occur.

The latter debacle was apparently due to a lack of salesmanship. The forty-mile Toronto-Hamilton journey is accomplished by train in 55 minutes, while "express" busses take 1 hour and 25 minutes to cover this distance. The CPR route features a more conveniently located station in Hamilton, and, in conjunction with the TTC subway, provides the most rapid way of travelling between Ontario's most populous cities. It all goes to prove that, in the present day, railway passenger service, like almost every other commodity, must be advertised and sold vigourously. In this automotive age, the majority of the general public are not aware of the comfort

and convenience of railway travel. The railways confine their advertising almost solely to the press, neglecting the newer media of radio and television almost entirely. This is often in contrast to the policies of air and bus lines, which make frequent use of these media, particularly radio. One air line company sponsors an all-night programme of quiet music, occasionally interspersed with brief announcements on the various services of the air line. This must develop a considerable patronage among North America's insomnia sufferers! However, it goes to point out that Canada's railways need to acquaint the general public with their services, fares, schedules, not only of long-distance trains, but of those on short and middle-distance runs also.

It might be a worthwhile project for Canada's two principal railways to investigate ways of increasing passenger patronage and, thereby, revenue derived therefrom, rather than seek, in such diligent fashion, ways to discontinue passenger train services as they are now mainly engaged in doing. Meanwhile, it would seem that, unless there is a drastic revision in the attitude of certain railway officials to passenger services, there will be little chance of returning the railways to the position in passenger travel which their inherent advantages should enable them to enjoy.

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NEW RAILWAY TO QUEBEC'S NORTH

On December 17th, the private bills committee of the Legislature of the Province of Quebec, approved a bill incorporating a railway to be known as the CARTIER-MANICOUAGAN RAILWAY COMPANY, which will run from Shelter Bay, Que., on the north shore of the Gulf of Saint Lawrence, west of Sept Iles, Que., inland as far as Mount Wright, Que. The railway, a private line, is to be built by the Quebec Cartier Mining Company, which is a subsidiary of the United States Steel Corporation. The railway will carry ore to ships at Shelter Bay, from an upgrading plant at the Mount Wright deposits. The railway, upgrading plant and two mine sites is to cost some \$200,000,000.

An appeal by Canadian Javelin Limited, who have mining rights in the same area, that the C-MRC should be incorporated as a public carrier, was refused by the Legislature at this time, on the ground that the mining company should be allowed to have the opportunity to build the railway and get its operation functioning without being burdened, at the outset, with the traffic of other interests.

VANCOUVER ISLAND NEWS

A new Canadian railway group has been formed recently in Victoria, B.C., whose members are interested in the railways, including logging railways, located on Vancouver Island. Appropriately enough, the name of this club is the Vancouver Island Railway Historical Association. Those of us on the CRHA Editorial Staff wish them every success with their group. There exists a very real need for an organized study group devoted to the Island railways, and we have confidence that the VIRHA will fill the gap. For those who may be interested, especially West Coast subscribers, we suggest that you contact the President, Mr. Elwood White, 4926 Cordova Bay Road, R.R.#4, Victoria, BC.

The Canadian National Railways will completely dieselize the Island during January 1958, and already, three of the five diesels required have

been received. They are 1000 hp Alco Road Switchers, with six wheel trucks. There are six steam locomotives being replaced: CNR Nos. 2104 (dead), 2127, 2141, 2149, 2175 and 1158 (a switcher). The City of Victoria may acquire one of the 2100's and the Vancouver Island Railway Historical Association are helping with the negotiations.

The Comox Logging and Railway Company at Ladysmith no longer operates geared engines. The company's last Shay (a two-truck type) No.12, lies in a dismantled condition in the yard. At the present time, Nos. 11 and 16, both 2-8-2's are doing all of the work, while No.7, 2-6-2T ex Pacific Great Eastern No.2, is a standby and a little 2-6-2T, No.2, is sitting idle.

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In the FEBRUARY 1958 NEWS REPORT:

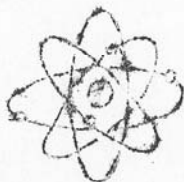
The INTERCOLONIAL RAILWAY, 1832-1876, first of a series on the building of this strategic railway, one of the instruments of Confederation, by Leonard A. Seton.

Some notes on the INTERNATIONAL OF MAINE section of the Canadian Pacific Railway, by Omer S.A. Lavallee.

M.T.C. 1325 CLASS CARS, another in the interesting series on street cars in Montreal, by R.M. Binns.

..... Our correspondent feels that it's time for a

RAILWAY REVOLUTION



A resume of, and commentary upon, a recent speech made by Dr. O.M. Solandt, Vice President of Research and Development, Canadian National Railways --

by Lorne Perry.

DR. OMOND SOLANDT SPOKE to the Canadian Railway Club at Montreal on December 9th, and demonstrated that in his two years with the Canadian National Railways as assistant vice president of research and development and more recently, as vice president, he has taken a very close look at railroading and has perceived some most interesting things.

He claims to be an operational research worker and has taken the broad view typical of this group of scientists who are "trained to be critical and skeptical. They rarely believe anything unless they can see it or measure it for themselves. They never accept the voice of authority or tradition and always assume that there is a better way of doing anything that a human being has done." Dr. Solandt, by way of extreme example, cited the motto that is alleged to hang in electronics laboratories where scientists and engineers devise new gadgets - "If it works, it's obsolete". From this viewpoint, he proceeds to point out problems that he has noticed, and ask questions that have occurred to him. His objective is to draw answers from railroaders, or inspire them to seek them.

Although he said that railroads have an "essential unity", defying subdivision, he did break down his discussion into three broad categories: (1) organization and management; (2) technical problems; and (3) sales.

(1) A railway is basically designed to produce one product -- the ton mile. Like other producers it is faced with the problem of selling its product. Such organizations can be subdivided for management purposes on either a functional or regional basis. CNR like most other railways follows the functional or departmental pattern. Each large department operates a nationwide organization reporting to a headquarters executive. "In the Operating Department" he said, "the effective geographical unit is the division. At divisional level there is some semblance of a unity of command since many of the functions are not directly represented at divisional level and most of those that are come under the divisional superintendent. The division is a geographical unit the size of which was set, among other things, by technical limitations of equipment of a past era This seems to be a good time to take a fresh look at the whole problem. Those who favour the division as a basic organizational unit should rally to its defence and those who favour a larger unit should advance their arguments."

"It is to be hoped that the supporters of regional and of functional patterns of organization will also enter the fray. Experience of the British Railways and also in the Canadian Armed Forces tends to support a regional form of organization with a substantial degree of regional autonomy. The enthusiasts for functional organization will have to consider this evidence very carefully before they can hope to win converts to their point of view."

He then emphasized the need for "adequate means for the timely collection and analysis of information on which management decisions are based." New data processing machinery now being installed allows CNR management to at least dream of fully integrated data processing for the system. He described the ideal system of the future.

"All essential information will be converted to machine language and inserted in the system only once. Thus the contents of a waybill will be put onto a punched card, or better yet, into a magnetic memory and from then on the information will be available for every need. As the freight train of the future pulls out of a terminal, or even before, the car sequence will be checked automatically. The waybill information for each car will be extracted from the memory in train order, the train journal will be automatically compiled and transmitted to the next terminal to allow pre-planning of work there, to local information centres who will advise shippers, to the car distributor who will keep track of all car movements, to the car accountants for per diem calculations, to the revenue accounting office for accounting and billing, to the Traffic Department for the compilation of commodity statistics and market information, to the Bureau of Statistics for digestion into reports required for operation and management control, and finally to the Operation Research group who will by then have their finger on the pulse of the entire operation and will be continually helping in the perfection of the functioning of this organization."

(2) Turning to the technical problems, he expects more advancement will be made by improving management and operating techniques, terminal layout, signalling, etc., than by improving equipment. He looks for

"No spectacular development in equipment that will revolutionize railway economics in the next ten or even twenty years." Dr. Solandt does not expect to live long enough to see atomic locomotives if development continues along present lines. He cites these reasons:

- (a) Radiation hazard, unless a fusion rather than a fission reactor could be evolved. A better solution would be the direct conversion of nuclear energy into electricity.
- (b) Complexity.—The nuclear firebox must have a steam boiler, steam turbine and some form of transmission.
- (c) High cost to build and run, the latter perhaps as high or higher than for diesel-electrics.

In summation of this point, he says that he doubts not that an atomic locomotive could be built right now but there is no economic incentive to build it.

Up to now, the only gas turbine locomotives built have utilized electric drive, but Dr. Solandt foresees DIRECT DRIVE oil-burning gas turbine locomotives. He said that, "Research has already demonstrated that the crude oils of Alberta have a very low Vanadium content and can consequently be burned in a direct-fired gas turbine most satisfactorily and with very little corrosion to the turbine blades. Turbines can be designed to give torque characteristics not unlike the electric motor and so eliminate the complications of the electric equipment in the diesel-electric locomotive. By the use of more complex cycles including waste heat boilers, there seems to be a possibility of increasing the efficiency of such a locomotive until it approaches that of a diesel. The advantages of such a locomotive over the conventional diesel electric would be the possibility of lower capital and maintenance costs and the certainty of greater flexibility in fuel supply.

In the passenger field, he said he expects that a cheaper rail diesel car will be developed to help regain branchline business. As we have heard from other sources recently, he feels that the long-haul passenger business will be lost to the airlines.

The CNR, he revealed, is committed to "installing CTC on the whole of its main line. This involves a most careful study of optimum locations and lengths for passing tracks and terminals. At the same time, we are embarked on a programme of installing major hump yards at our larger terminals. Each one of these must be planned in relationship to the rest of the system and particularly in relation to adjacent terminals."

(3) "Sales" is not a word traditionally used in railway circles but the Doctor used it deliberately to "emphasize the similarity between the problems of the railway and those of other manufacturing organizations who have a product to sell." He advocated the preparation of a catalogue of the prices and types of service offered by the railways. "One approach is to do as the British Railways have done. With one magnificent gesture they eliminated all old-fashioned tariffs and scales of rates and introduced a simpler mileage scale modified only by a loadability factor. I do not for a moment think that we can or should go this far in Canada now, but we undoubtedly must recognize that if we are to retain the business, that we have, and to win back the business that we should not have lost to the trucks, we will have to relate all our rates much more closely to cost

This led to a discussion of profits -- which are inevitably squeezed between wages and rates. Because of competition, rates can no longer spiral upwards as higher wages are demanded. "Therefore," he continued, "apart from the possibilities of improving sales the only other way of maintaining the profitability of railways is to increase the productivity of both men and equipment."

"It is obvious that in addition to trying to achieve a steady increase in general productivity, we must give special attention to maintaining productivity when traffic is at average or even lower level. The outlook for achieving this is by no means hopeless. If the unions will cooperate in the application of known and desirable means of improving productivity of labour, and if vigorous efforts are made to maintain and even to increase the railway's share of the nation's transportation business, the railways can and will remain as an essential part of the nation's transportation system, working in friendly but vigorous competition with road, water, air and pipeline." These recommendations mean changed thinking on the part of railroaders -- both in management and labour fields. Railroaders, said Dr. Solandt, are more prone to resist change than are many other business and industrial groups. He then cited a number of reasons why. "First, the typical railroader begins at the bottom and through industry and ability rises to a position of considerable responsibility. This training by apprenticeship produces extremely capable railroaders but they do tend to a traditional outlook Secondly, there is the problem of safety. Once railwaymen have found a way of running a railway safely -- and no one can deny that they have done this -- there is a very natural and commendable reluctance to change any element in the system lest it lead to a reduction in safety."

"Thirdly, there is the influence of the unions and of seniority. In the past the unions did a magnificent job of improving the lot of the railway worker and were among the first to get in a position to dictate terms of service to their employers. Being only human, they have continually sought new privileges and have at the same time refused to give up old ones. This is leading to a steadily increasing rigidity in the organization and operating methods of railways, which has already seriously interfered with increasing productivity and which may well in the future have a disastrous effect unless the unions recognize the dangers and show a willingness to change. Fourthly, there is the problem of government regulation. I shall not attempt to deal with this thorny question except to say that it seems to me it could be a lot worse. Fifthly, and finally, there is the restraining effect of huge capital investment and continent-wide integration of operations and standardization of equipment. Is it any wonder that changes take place slowly?"

Well said, Doctor! Oftentimes we railway enthusiasts tend to bemoan the passing of eras of railroading that have seemed to us particularly intriguing, but let us for a moment leave our restricted interests, and move back to where Dr. Solandt stands, to share his objective, all-embracing view of railroading. Aren't we compelled to agree with him that if railroads -- the steel wheel on the steel rail -- are to remain as an important segment of the transportation industry in this country, then old concepts, ideas and methods must be quickly discarded in favour of new but proven means of functioning? Perhaps there is little we can do to hurry this railway revolution, but the more people who are convinced it must come, the better.