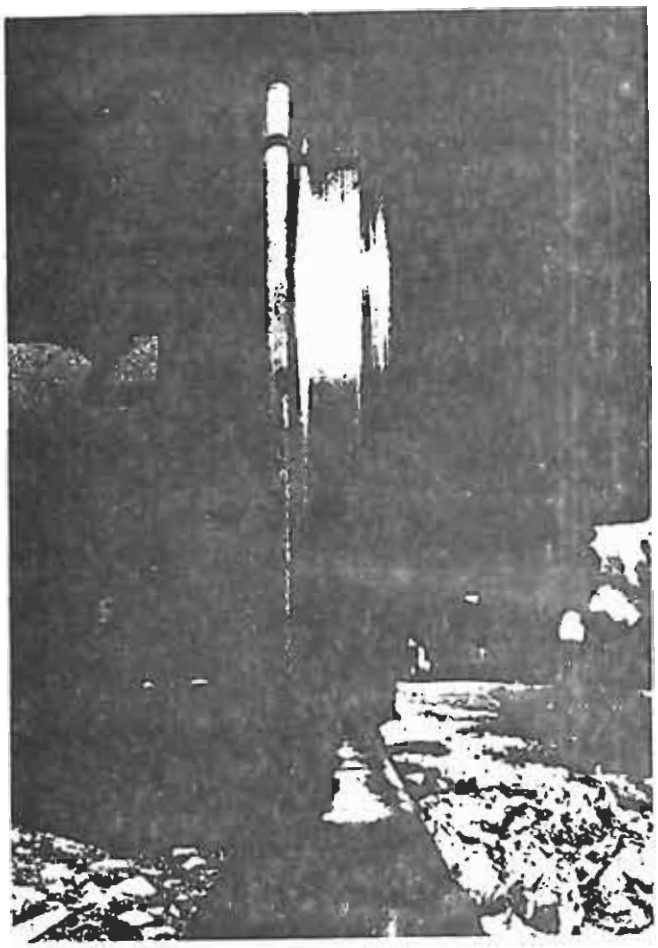
THE BRANCHLINE

October 1968 Vol 4 No 1

Speed: How fast can we really go?



MONTREAL — What is the potential of the conventional steel-wheel-on-steel rail concept of a railway for meeting the demand for intercity travel, in terms of speed, capacity and comparative costs?

J. A. McDonald, Canadian National's vice-president of production, touched on this subject in a recent address to the Atlantic Professional Engineers Conference in St. Andrews, New Brunswick.

Speed limitations, said Mr. McDonald, are related directly to the design of the truck (wheel assembly unit) on which the car rides. New advances in truck design, led by British Railways, suggest that trucks can be designed to operate without instability up to 300 miles per hour He felt this was the apparent upper limit of the steel-wheel-on-steel-rail-technique.

French National Railways has run an experimental train at 205 m.p h. British Railways have plans for an advanced passenger train capable of 155 m.p.h. The Japanese are currently operating at 125 m.p.h., and CN's Turbo, expected to go into regular service this fall between Montreal and Toronto, has a similar speed capability.

What is more important than top speeds, however, is the average speed that can be obtained during the elapsed time of a journey.

"That is why in Canadian National", said Mr. McDonald, "we look forward to knocking one hour off the Rapido's schedule between Montreal and Toronto with the introduction of the Turbo — even though the Turbo will not exceed the maximum permissible speed of the present conventional trains. The secret is to be found in a non-stop journey in which curves can be taken at speeds as much as 30 per cent higher than conventional trains; hence the average speed for the 335-mile distance will increase from the Rapido's 67 m.p.h. to 84 m.p.h. when the Turbo services begin."

Les essais du Turbo entre Montréal et Toronto

MONTRÉAL — Les récents essais du Turbo ont démontré que ce mode de transport révolutionnaire est prêt à réaliser les espoirs de ses créateurs.

Le Turbo a régulièrement parcouru le trajet Montréal-Toronto en trois heures cinquante-neuf minutes et bien qu'on n'ait pas encore pris de décision définitive au sujet de la date d'inauguration, le CN et la United Aircraft Corporation espèrent mettre deux rames en service d'ici la fin de l'année.

A la suite d'essais rigoureux sur les Turbos 1 et 3, on a fait les changements et les améliorations nécessaires sur les cinq rames livrées au CN. Le Turbo no 4 a été livré au centre d'entretien de la Gare Centrale en juillet. Le Turbo no 5 sera remis au CN bientôt.

Le Turbo no 1 est maintenant aux ateliers de la Montréal Locomotive Works où on termine l'aménagement intérieur des voitures. Ce dernier a subi des tests très élaborés au centre de la UAC à Providence, Rhode-Island, et sur le trajet Montréal-Toronto.

Recorded announcements in Ottawa station

This is how John Busby and Jean-Claude Moret became the English and French voices of the new and effective taped announcement system which was put into service at Ottawa on July 24. Mr. Busby is Area engineer (Montreal Area) and Mr. Moret is planning officer, industrial development, at regional headquarters.

OTTAWA -- "Your attention, please . Canadian National train Panorama from Montreal and Dorval now arriving ." It may be that the voice you heard delivering this message on the public-address system in the Ottawa station was familiar to you, either in English or in French. And here is why.

Since the inauguration of the new Ottawa station, train arrivals and departures were announced "live". Because this created numerous difficulties, it was decided to register these announcements on tapes.

The realization of this project by Rideau Area and regional officers called for the cooperation of Telecommunications, public relations and linguistic services, as quality was desired both in the sound and in the texts.

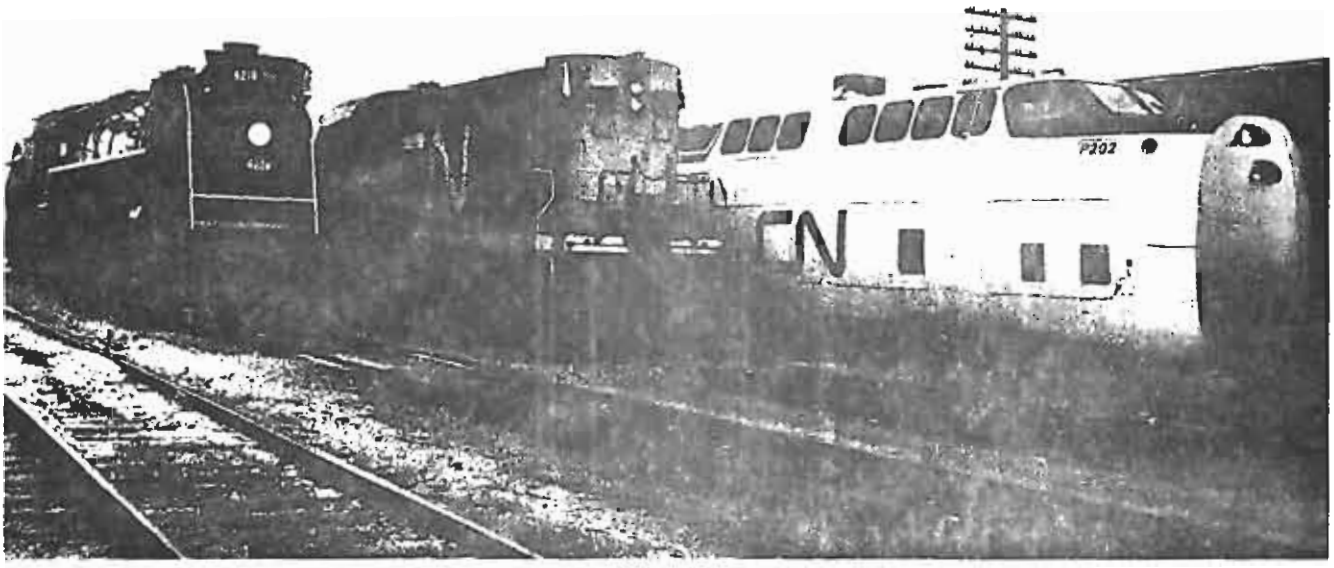
The recordings were first to be made by professional announcers. It was, however, suggested that employees with good and trained voices could probably be found in the region and that we should make use of their talent.

IT'S A PLANE ! IT'S A TRAIN ! IT'S A SUPER **WHAT ?** — Most transportation people will recognize it right off the bat, but what about the rest of us?

One HQ man said, "Look at that round door. It HAS to be a mobile washing machine." Said another, "It's an amphibious submarine for checking the underside of bridges." A third expert said it was a clockwork yard-engine, with the stem winder sticking up at the right end of it.

"Obviously, it's an observation car for tunnels," said a passenger man. "Nonsense," sniffed a cynic, "it's a super-compact freight car assembled by a committee."

They're all wrong, though. What's YOUR guess? No prize is offered for the best, or worst, or any answer.



La traction d'hier, d'aujourd'hui et de demain. On peut voir à gauche la 6218, la dernière des locomotives à vapeur qui est toujours utilisable et qui faisait partie du parc du CN au cours de la première moitié du siècle. Au centre, c'est la 3879 dont on se sert aujourd'hui pour les manoeuvres et la route. A droite, c'est le mode de transport de l'avenir que le CN offrira à ses voyageurs: le Turbo.

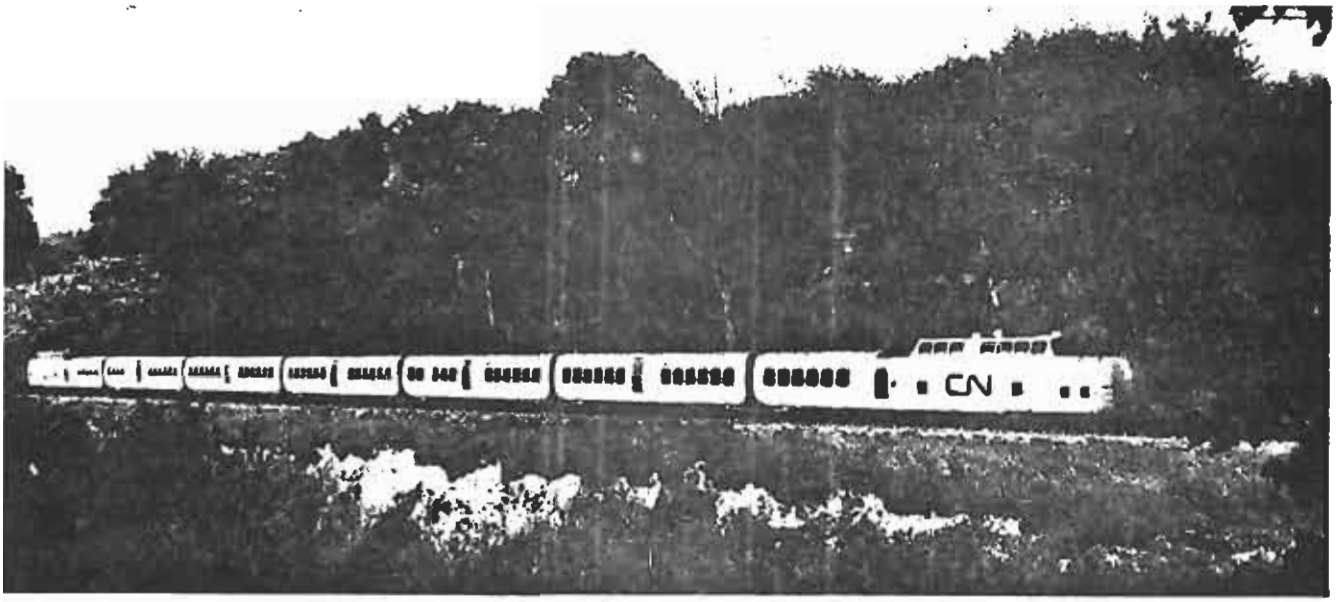
Turbo passes her exams

MONTREAL — Recent tests in the final development stages of CN's Turbo show the revolutionery new train just about ready to live up to our fondest hopes

The Turbo has been maintaining a consistent running time of three hours and fifty-nine minutes between here and Toronto, and while no definite date has been set for inauguration of regular Turbo service, both CN and United Aircraft Corporation are hopeful that two sets of equipment will be making regularly scheduled runs before the end of the year.

Modifications and improvements indicated by tests on Trains 1 and 3 are being applied to the first four of the five trains to be turned over to CN. Delivery of Train 4 has been made, and Train 5 is expected soon

Train 1, used in stringent testing both on runs out of Montreal and at Providence, R I., is having its interior fitting-up completed at Montreal Locomotive Works.



CN demonstrates 'automatic train' on North line

PEACE RIVER — Newsmen and Railroaders received a glimpse of the future early this month when Canadian National demonstrated Automatic Train Operation in partial use on the Great Slave Lake Railway which runs for 430 miles through Northern Alberta and the Northwest Territories to the Pine Point mine on Great Slave Lake.

Because of its isolation, the Northern Lines makes an ideal field-laboratory for testing and improving automated equipment.

G. R. Graham, vice-president of the Mountain Region, said sufficient progress had now been made with the experiment to show its possibilities

The experimental system regulates power and braking functions by means of a computing device mounted on the locomotive, and coils positioned at strategic points between the rails.

The computer is so competent it even sounds the locomotive horn and bell at crossings.

Man in cab

A major advantage of the new system is it relieves the man in the cab of routine decision making. He is able to concentrate more on the functioning of the locomotive and train equipment. At his side is a powerful two-way radio that keeps him in touch with the railway despatchers. In the event of trouble he can take over manual control in one second.

One of the unique features of the new system is its ability to operate a train by remote control from the ground for the purpose of enroute switching operations.

When on remote, control of the train is transferred to a portable pack carried by a man on the ground. The pack comprises a battery-powered, hand-held, push-button operated radio transmitter that moves the train forward or backward and brakes it to a stop It has a radius of up to one mile.

The pick-up coils between the rails energize command circuits in the locomotive-mounted computer. They control the speed and other functions of the locomotive as it passes over them.

The computer compares the speed of the train with that commanded by the coil Its logic circuits automatically manipulate the power and brake controls to make the locomotive obey.

By locating the coils at points where the railway grade ascends and descends or local conditions dictate slow speed, the electronic engineers have matched the characteristics of the terrain to the capacity of the locomotives.

It is a safety feature of the control system that before any changes in speed are initiated by the track-mounted coils the computer must be cleared of existing speed commands.

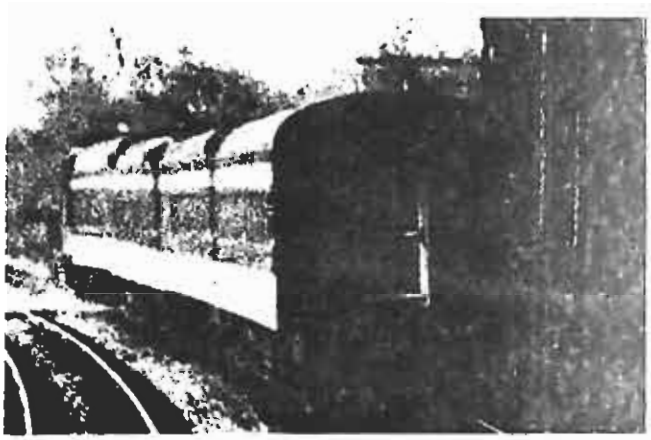
A heavy steel block, or 'train-stop', at trackside serves as the clearing agent. When a locomotive passes the block it induces magnetic flux changes into the computer that cause it to cancel the previous speed instructions.

Unless a new command from a track coil is received immediately, the train-stop acts to bring the train to a halt. Thus any speed zone requires two coils to initiate speed changes and a train-stop to ensure fail-safe operation.

When added power is required for ascending grades, 'grade input coil' is placed between the rails. It sets up circuits that will maintain constant speed. An 'end-of-grade' coil cancels the instruction and prepares the train for level operation.

When control of the train is switched from automatic to manual it becomes a push-button operation at a console mounted in front of the operator's seat. While mainline operation is automatic, all yard operations are conducted manually.

The system was designed by Westinghouse Air Brake, who along with CN are modifying it to meet the rigors of Northern Railroading, and have debugged the system over many months. Crew training has paralleled the engineering effort. Many of the crews are Eskimo who have been with the Slave Lake Division for up to three years.



The Mohawk — Grand Trunk's 'pocket Rapido'

MONTREAL — Every afternoon in the Michigan towns along the Grand Trunk Western a little whirlwind strikes. Down there it's called the Mohawk, and consists of a diesel plus three shiny passenger cars raising the dust at 80 m.p.h.

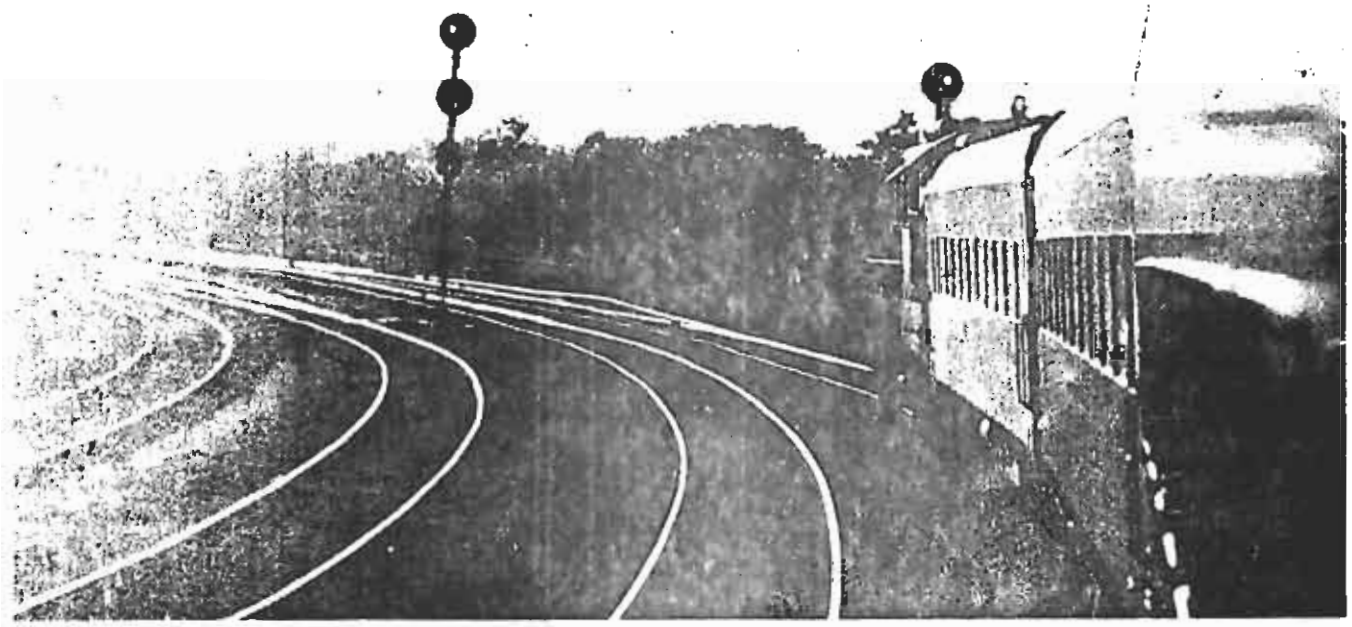
Inside, the ice tinkles in the glasses, the red-jacketed steward moves quietly but purposefully about, and the smell of dinner almost ready wafts from the kitchen. In fact, it's an atmosphere made famous by the Rapido, strictly to the customer's taste, but rarely found in U.S. railroading these days.

Grand Trunk Western, CN's subsidiary in Michigan, Indiana and Illinois, has moved its overnight Detroit-Chicago train to a late afternoon departure from each city, named it the Mohawk and set it a fast pace. Seven stops in five hours, 40 minutes for 320 miles means plenty of fast running.

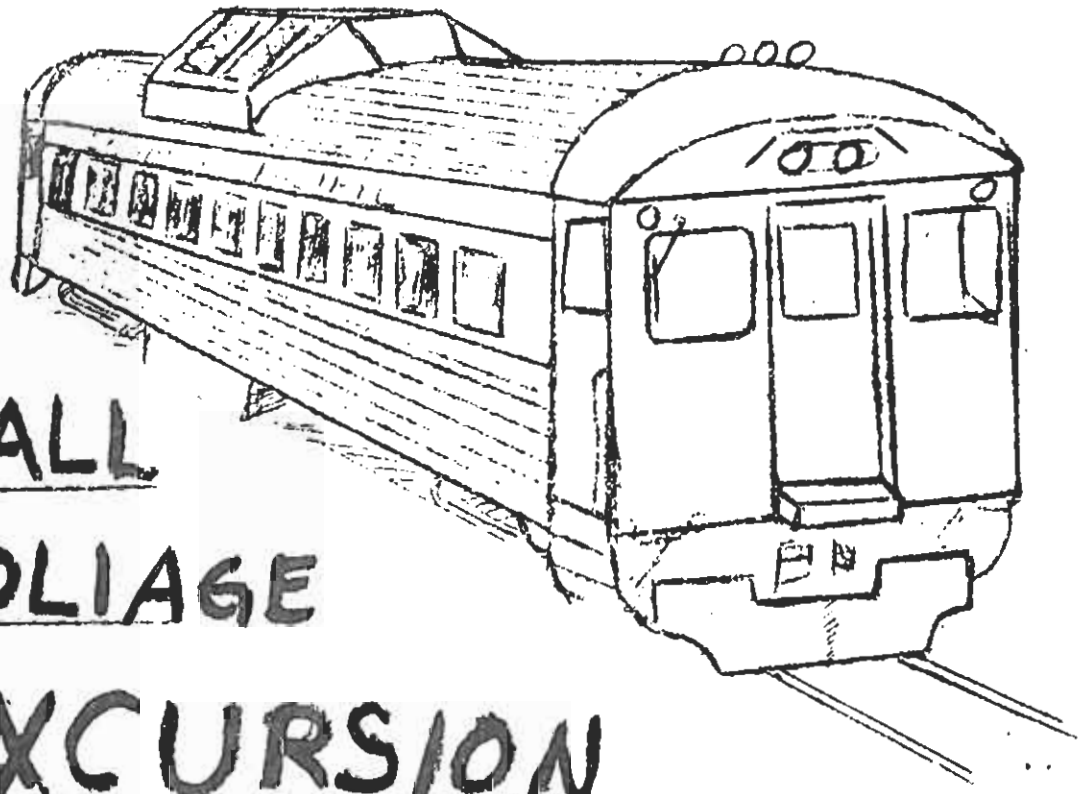
Everyone wants to see it succeed. And everyone on the railroad seems to be out to win business. Railroaders are proud of the Mohawk and it shows in the service they give aboard the train.

And truly it's a train to be proud of. Two first rate coaches, one with a Cafe take-out counter, lead the train, followed by a combined diner-club-lounge car. This tailend car is a gem. The interior design standards made famous by the Rapido Club Car and the Matinee series lounge cars, have been skilfully and tastefully applied by James Milne, assistant interior designer, office of the Chief Architect. GT's Port Huron Shops installed the red carpet, walnut partitions, luxurious reclining seats and soft illumination which are the car's hallmarks.

Chicago arrival time, the schedule says, is 9:10 p.m. Central time. The day I rode it, the Mohawk came to rest in Dearborn Station at precisely 9:06. I was in a taxi by 9:10. That's GT service. — *Lorne Perry.*



Three-hundred-and-twenty miles in five hours and 40 minutes — with seven stops. That's the Mohawk, Grand Trunk Western's mini-version of the Rapido.



FALL FOLIAGE EXCURSION

SUNDAY, OCTOBER 6, 1968

O T T A W A to C A L A B O G I E, E G A N V I L L E

and return

Your chance to ride a Rail Diesel Car over Freight Only Track and enjoy a day of Ottawa Valley Autumn colour.

Depart Ottawa 9:00 am Daylight Saving Time

Arrive Ottawa 5:00 pm Leave from Ottawa Station

Sufficient time to buy lunch will be provided at Renfrew. Tickets can be purchased at Hobbyland, 93 O'Connor Street, Ottawa, Ontario.

Fall Foliage Excursion tickets are $12.00 each; half fare tickets for children between five and eleven years are $6.00 each.

Come and enjoy a day of leisure and pleasure, and be sure to bring your camera. It is many years since these tracks have seen a passenger train, and part of our trip will be over the old Kingston and Pembroke.

COMBINED MEETING - OVAR - CRHA (Ottawa Branch)

TUESDAY OCTOBER 15TH 1968

PRESCOTT HOTEL

Entrance - Preston St. (The door nearest Carling Ave., then downstairs to basement)

HAPPY HOUR - 6:30 PM

DINNER - 7:30 PM $3.50

PROGRAMME - 9:15 PM Approx.

PROGRAMME: Movie "The Railroader"
Produced for the Brotherhood Railway Trainmen. To be introduced by Mr. J.M. Callaway, Speciel representative B.R.T.

DISPLAY: "RAILROADIANA" - anything of railroad interest - maps - plans - builders plates, etc.

"BRING IT OUT, IF YOU DARE!"