

Why We Built The Train of Tomorrow



A Study in Government

American Enterprise and Governmental Dictation

IF YOU believe in the capitalistic system, under a democracy which stands for individual initiative, free enterprise under proper regulations that will prevent monopoly, what follows may be of interest to you.

If you are firmly convinced that capitalism is dying and that democracy is dead, that our only hope is for socialism under a planned economy, dictated by a central government, which, in order to control, must create state monopolies, then, what follows will be of no interest to you.

We are using as our text the presentation to the American people of the "Train of Tomorrow," under the direction of the General Motors Corp.

Under the socialistic trends launched by the New Deal two factors are to be considered.

1—Government regulation of all business under the monopolistic philosophy of the NRA, with competition eliminated and price fixing the order of the day.

2—The artificial creation by the centralized government of jobs which degenerated into boondoggling and the handing out of billions of dollars of the taxpayers' money in doles and subsidies tainted with political favoritism, which created nothing permanent and left us poorer than we were before.



NOW, the extreme opposite end of that doctrine is the philosophy behind the creation of this "Train of Tomorrow."

No taxpayers' money has been spent in this experiment.

All costs are met by the stockholders of GM. They may not get their money back in the way of dividends for another generation—and not then if it doesn't pan out.

But they are creating permanent work. By bringing about vast new avenues of production they are adding to the wealth of the Nation and supplying new sources of taxation. There is in this philosophy no political "feather-bedding" and no threat of monopoly.

Such a development could never be brought about by a government-planned economy which takes away the individual initiative and the freedom of enterprise that has characterized the American system since the beginnings.

The heart of the principle is the philosophy of abundance which comes with an expanding economy in opposition to the socialistic planned economy of scarcity.



ONLY when there is a scarcity, in which the people live on a level of mere subsistence, can the politico-socialistic doctrine function—through centralized control and ration cards.

When Capt. Eddie Rickenbacker and his men landed on that raft in the Pacific Ocean, he rationed the one orange and the little water they had left. If there had been plenty of oranges and plenty of water rationing would not have been necessary. So it is any rational economy.

It is not the purpose of the General Motors to manufacture trains or take over railroads. That corporation developed the Diesel engine for the purpose of selling them to the railroads and thereby creating a market for new productions.

For the same purpose they have had built this "Train of Tomorrow" and have sold the idea to the railroad systems of America. Under competition, if one railroad system adopts the new technique all the other roads will have to follow suit or create still better trains.



IT may be that the present idea will not work at all. It may be a failure. But to the American traveling public it is the dawn of a new era. The BIG thing is that they are all satisfied that the old railroad systems are obsolete.

As a part of this competitive system, Robert R. Young, of the Chesapeake & Ohio Railroad, has blasted "the old fogies" of the railroad world with blistering page ads. For that he has become a sort of a national hero in the eyes of those who have to ride trains.

In the early days of the New Deal, Secretary of Labor Frances Perkins, in one of her Town Hall lectures, suggested that it was a mistake for Henry Ford ever to have given up making his Model T.

The answer, of course, was that Ford did not give up making the Model T—the public quit buying it because, under competition, the public could get a much better car from his rivals. ★

IF it had not been for that ceaseless competition, which is the life blood of American business, the vast technological development of American industry would never have taken place. We would not have been able when war came to perform the "Miracle of Production" which saved the world from the "planned economy" of the Nazi dictatorship.

The "Train of Tomorrow," created by the teamwork of a hundred different companies and thousands of research engineers, could never have been brought about under a political government.

Because, unless there is a permanent dictatorship, our Federal Administration changes every four or eight years, whereas private business lasts as long as it continues to deliver the goods. And, with that sense of permanency, private business can plan ahead even unto the next generation.

In organization of personnel it is no more permanent than a major league baseball team but must constantly change in its leadership to permit younger men, with new energy and new visions, to carry on.

If it doesn't, it drifts into decay and rival corporations take over the market.

There is a democracy in business by which ability alone counts. We have not as yet achieved that efficiency in political democracy.

That is why government can not take over business with dictatorial powers which, in order to function, would have first to destroy democracy.

Why We Built the Train of Tomorrow

From a talk by
PAUL GARRETT
Vice President General Motors Corporation

INTRODUCING THE TRAIN OF TOMORROW
ON ITS NATIONWIDE EXHIBITION TOUR

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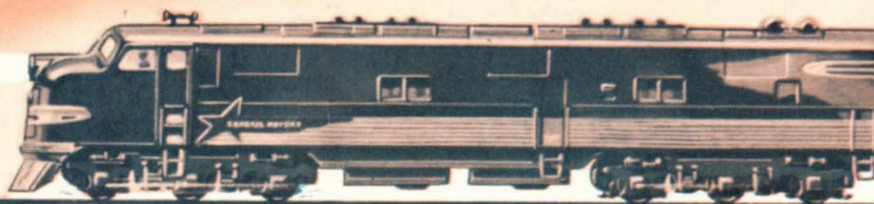
In 1944, C. R. Osborn left Denver early one gorgeous morning on a trip through the Rockies in the cab of a Diesel locomotive. Cy Osborn is a vice president of General Motors and general manager of the Electro-Motive Division—which builds Diesel locomotives at La Grange, Illinois, just outside of Chicago. Though he had made that trip many times before, it seemed to Cy that never until that morning had he fully enjoyed the scenery of the Denver and Rio Grande. The reason, of course, was his unobstructed vision from the cab of the Diesel locomotive. This started a train of thought. Why should not just regular passengers be able to enjoy a railroad ride like this? Even a brakeman in the cupola of a freight train caboose is better off in this regard than a paying passenger. He gave that raw thought to Harley Earl, GM vice president in charge of styling. At that moment was born the idea which eventually developed into the “Train of Tomorrow.”

Perhaps it would be more accurate if we called the train which resulted from Cy Osborn’s early morning ride not *the* Train of Tomorrow. It is rather *a* Train of Tomorrow. For this Train is

really just a suggestion designed to stimulate, as time goes on, other and no doubt better ideas for the future of transportation by rail. Even so, with its hundreds of innovations in engineering and styling it is by far the most daring sample yet created of what our trains of tomorrow may be like.

Astra Dome Atop Each Car

The most conspicuous feature of the new Train as well as its most radical departure from standard railway car construction is the innovation which resulted from Cy Osborn's idea. Each car as part of its integral construction carries an Astra Dome—a sort of sky parlor enclosed in windows of specially tempered glass and plastic that permit unobstructed vision. The glass is heat and glare resistant. This sky parlor does not replace the regular accommodations of the cars but is added to them—or rather superimposed on them in a very literal sense. In other words, the middle of each car consists of two new floor levels—one raised, which is the Astra Dome, the other lowered. To make this novel arrangement possible it was necessary to devise a new method of

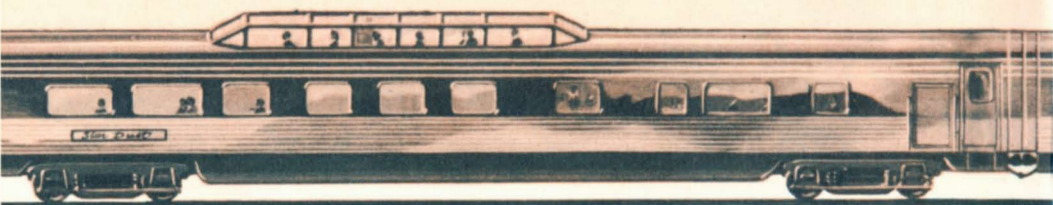


car construction with the frame underslung between the trucks.

The Astra Dome is a highly visible innovation but it is perhaps no more revolutionary than a feature that is much less conspicuous—that must, in fact, be experienced to be appreciated. (Unless, of course, you are an engineer.) I refer to the way it feels to ride on the Train of Tomorrow. Or perhaps I should say “glide” instead of “ride.” At times you even have the amazing sensation that you are not moving at all, that it is the landscape that is sliding past you. This is the result of a new system of car suspension developed for the Train by means of which the supporting base which cradles each car on its trucks has been broadened from 56 to 96 inches. This new system of suspension eliminates lurching and sidesway in great degree—just as you yourself can stand more steadily if your feet are spread apart than if they are close together.

Other Unusual Features of Train

The entire Train moves as a single unit, thus eliminating jerky starts and stops. The problem of overcoming the discomfort that arises when cars become overheated standing in the sun

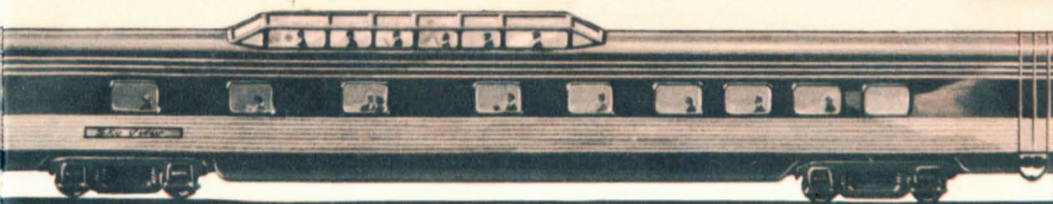


has been solved by special new equipment. Underneath each car is a complete power package including a small Diesel engine, a generator and a compressor. The use of the Diesel engine makes it unnecessary to hook the generator up to the car wheels. Thus each car can be said to be air-conditioned and lighted quite independently of power from the locomotive.

The design of the chairs in each car is based on studies of human measurements made by Dr. Ernest A. Hooton, professor of anthropology at Harvard. Each seat has an adjustable footrest and may itself be adjusted to nine positions.

Crack GM Diesel Trains

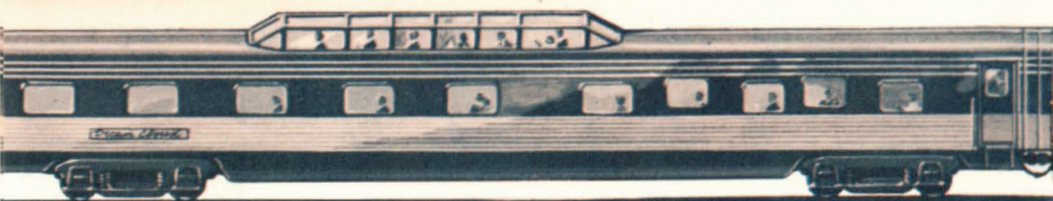
The Train is powered by a 2,000 h.p. General Motors Diesel locomotive similar to those used by more than 150 of America's crack passenger trains—the New York Central's *Twentieth Century Limited*, the Burlington's *Denver Zephyr*, the Great Northern's *Empire Builder*, the Santa Fe's *Superchief*, the B&O's *Capital Limited*, the Rock Island's *Rocky Mountain Rocket*, the Illinois Central's *Panama Limited*, the Union Pacific's *City of Los*



Angeles, the Florida East Coast's Champion, the Pennsylvania's Broadway Limited, the Southern Pacific's Golden State Limited, the Texas and Pacific's Southerner, the Louisville and Nashville's Crescent, the Gulf Mobile and Ohio's Ann Rutledge, the Southern Railroad's Southern Belle, the Denver and Rio Grande Western's Colorado Eagle, the Northern Pacific's North Coast Limited and the Boston and Maine's Pine Tree—to name a few.

Ship-to-Shore Radiophone

The Train moves along easily at 117 miles an hour where roadbed conditions permit. Its ship-to-shore mobile radiophone enables you en route to call your wife at home or on the Queen Elizabeth in the middle of the Atlantic or she can call you. The car doors open by a touch of the finger tip. It is the first train to have an all electric kitchen. It has electric ranges, broilers, dish washers, food mixers, toasters and coffee urns, and it makes its own ice. An electric garbage disposal unit grinds up all refuse so finely that it can be flushed away as the train moves along. A styling feature of the Train is the use of wall paper in attractive

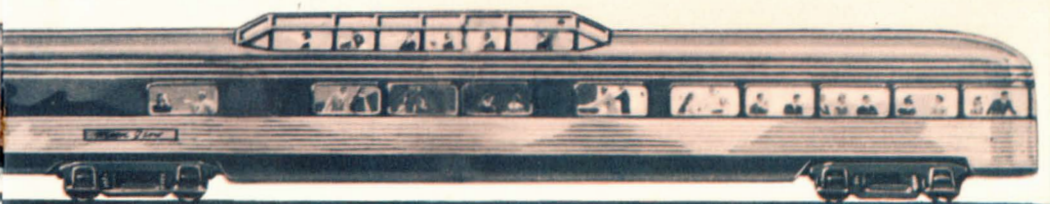


designs. The paper is coated with a plastic that can be cleaned easily with soap and water. These are a few of the innovations that the average passenger notices. Many of the basic engineering advancements incorporated in the Train are hidden from view.

Purpose to Stimulate Ideas

You may wonder why General Motors created the Train of Tomorrow. Primarily what General Motors endeavored to contribute was an idea, plus its management skill in putting complicated things together. In essence the Train of Tomorrow is a research project. We build Diesel locomotives and in many ways will benefit along with everyone else in any progress for the country that improved railroad transportation brings. As you who have followed the history of the automobile industry know, a new idea, if it is a good idea, tends to grow and multiply by stimulating the minds of others. That is how our automobile industry developed from an alley shop industry into a major component of our economy.

Thus the principal purpose of the Train from our stand-



point is to suggest ideas and stimulate others, our belief being that it is ideas effectively developed and translated into more and better products that strengthen and broaden our economy. In this sense the project is a contribution to the economy from which we hope all will benefit.

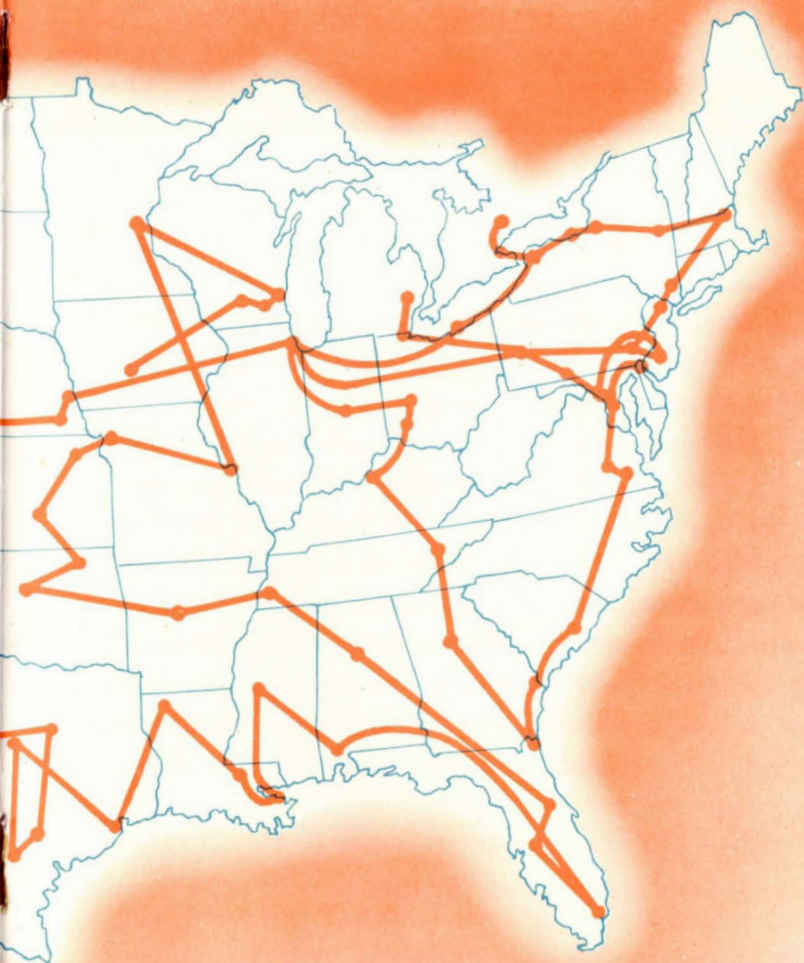
Typifies American Process

As the product of many concerns working together, the Train is an outstanding example of what, over the world, you may find only in America. Such achievements come only as many, many organizations, large and small, work competitively toward a goal. This is the typical process by which men in America surpass individuals everywhere else in turning their dreams into reality.

The job of producing more goods and services to satisfy people's wants at prices more people can afford to pay is not a job for a few men in a few big companies. It is the job of the thousands upon thousands of individuals who have the responsibility of operating the nation's businesses of all kinds, large and small.



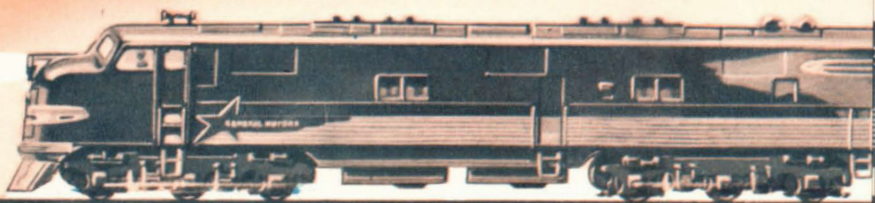
The GM Train of Tomorrow started its nation-wide exhibition tour in Chicago May 28th, 1947. It has visited the cities indicated on the above map, and the tour is still in progress.



During the thirties it became popular to say that our country had finished growing. There were no more frontiers, it was said, no more opportunities for industry to develop, no more chances for a man to start a business in a small way and, by dint of hard work and good business sense, make it grow and prosper. We were said to have reached a saturation point. It was frequently claimed that our economic troubles stemmed from over-production or too much productive capacity. It was proposed that we limit our production to our existing needs, and further, that we plan how to distribute that limited production according to the pattern of some commission. Apparently we had lost our traditional American spirit that recognizes no limits to progress. Apparently we were more concerned with attempting to distribute a shortage than with our traditional American practice of engineering for plenty.

Ours is a Dynamic Economy

Industry's war production record opened all our eyes. With a free industry we outproduced the world in weapons needed

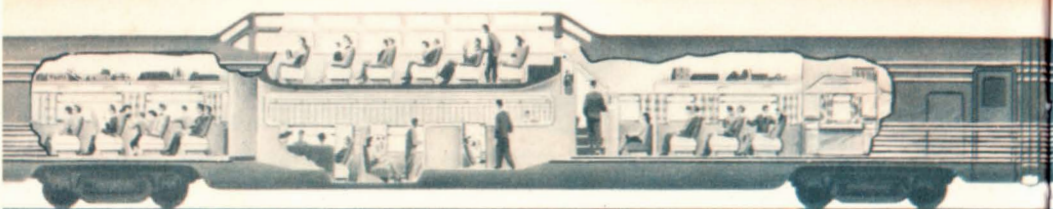


to defeat our enemies. And we did it without seriously affecting our civilian living. Yet, before the guns had stopped smoking, the prophets of doom were with us again. A few months after the end of the war we would have eight million unemployed, they prophesied. Industry would not be able to absorb the returned veterans. Again government was urged to make plans.

Events since the end of the war have not borne out these gloomy predictions. More people soon were at work than ever before. The total production of goods and services broke all peacetime records. This was accomplished despite the tremendous waste of our resources that was inevitable during the war. Comparison of our situation with that of any other country in the world must surely lead to the conclusion that as a people we have a special kind of vitality here.

The Source of Our Economic Vitality

What is the source of that vitality? Is it our abundant resources? Or our great market of 140,000,000 people? Other countries surpass us in each respect. Resources are of no use



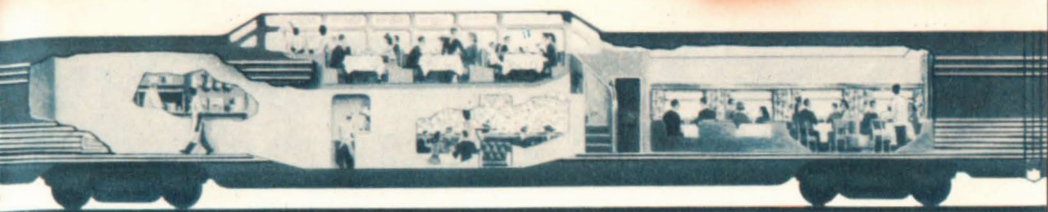
unless developed. Markets are of no advantage unless served.

No. It is neither of these. The basic fact at the root of our vitality is a political system that guarantees certain freedoms that make for the most efficient possible utilization of human energy. Thus our system, while maintaining law and order, guarantees the individual the freedom to be enterprising. Our system avoids the fallacy of assuming that one man or any small group of men with dictatorial powers can plan better for the people than the people can plan for themselves.

Grass Roots Planning Is Self-Correcting

Planning in America is a grass roots process. It utilizes the initiative, experience and competitive incentive of the men and women in our three and one-half million industrial and business enterprises and in our six million farm enterprises. It is planning for people by people. It is based on each planner's certain knowledge that his first objective must be to serve customers better if his planning is to bring success to himself.

History proves that planning from the top cannot compete

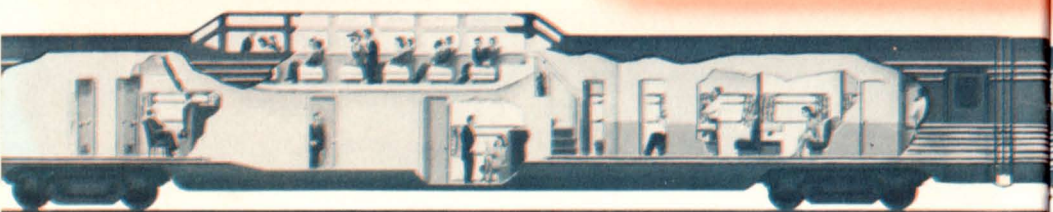


in result-getting with our dynamic system. The top planner is like a horse with blinders. He can see only in one direction. Too often it is in the wrong direction. When a grass roots planner makes a mistake it is corrected through free competition. Some competitor steps in and does the job better. The customers get the advantage, and only the planner who was wrong suffers. But planning from the top does not have this self-correcting feature. The top planner cannot allow any competition. Accordingly, mistakes tend to perpetuate themselves. And finally not the planners but the people suffer.

Our Democratic Concept Unique

No nation on earth has yet succeeded in regimenting an economy without eventually regimenting the individual whom the economy was supposed to benefit. We founded this country on the philosophy of very little power at the top. We sought instead to encourage each individual to build for himself, and so to create wealth.

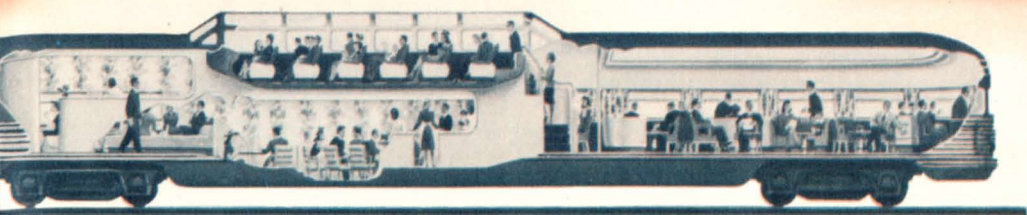
Holding to this philosophy we have evolved a democratic



society here that is unique in the world. For the first time in history hundreds of thousands of enterprises, big and small, competitively operated and individually managed, are effectively creating wealth in terms of better living standards for all. Yet we seem almost to have lost ground in our effort to make this basic idea of our society understood. It is true we have successfully manufactured weapons and powder and fought to keep it secure. But we have not yet learned how to keep it secure through the interpretation of ideas.

Danger of Dividing People into Groups

In recent years a tendency has cropped up in this country to divide our people into groups—"Labor," "the Farmer," "Industry," "the Consumer," "the Veteran," "the White Collar Class" and so on. It is often held that the best interests of one group are not compatible with the best interests of another. Group psychology and group antagonisms represent a great danger to our vitality as a people and to the freedoms from which we derive



our strength. Once we stop working and thinking together as one people we shall begin to waste our energies. We shall fast get poorer. Continued group jealousies and antagonisms inevitably would put us on the road toward state interference and state domination. Statism accomplishes nothing except to perpetuate poverty.

No Group Benefits at Expense of Other

The promotion of group interests is a barren effort. No group can benefit permanently at the expense of any other. All of us go forward or backward together. We in industry know this from experience. What success we have had—and it has been considerable—has not been achieved by gouging the customer, or by beating down the worker, or by taking unfair advantage of any group of people. To the contrary. We know that we progress as we learn to make progress possible for others—more and better goods at prices that more can afford to pay, better tools and methods for workers to produce more and therefore

to earn more. This is the kind of progress that can flow only from the wellsprings of enterprise—the energy, the initiative, the planning of individuals, millions of individuals.

Reflects Planning from the Bottom

I cite our Train of Tomorrow as a symbol of the free enterprise for which General Motors stands and as a conspicuous example of a project in which many had a part and that could never have been created in any other country of the world. For it reflects planning from the bottom. Not long ago I had dinner with a delegation of Swedish gentlemen on an industrial tour of this country. They commented on the fact that in America we have a word that we use over and over for which there is no synonym in the Swedish language. The word is *opportunity*. Opportunity for any individual.

I learned subsequently that likewise there is no synonym for our word opportunity in the Russian language or the German. These very intelligent Swedish delegates told me that in translating our word opportunity, they use a word which in our own language is best translated as chance. And that of course connotes something very different.

America's greatest contribution to the advancement of civilization is not automobiles, radios or bath tubs—or even Trains of Tomorrow. It is a way of life that guarantees those individual freedoms that make a people and a civilization strong. Without this enterprising spirit of the individual a nation cannot progress for long materially no matter what its resources or its technical

knowledge. Nor can people unable to assure for themselves a sound economic basis for existence maintain leadership in cultural development.

We in General Motors hope you will remember the Train of Tomorrow as more than just a sample of technical progress. Rather, it is a living symbol of what can be done in our way of life. For only free imagination and initiative can create more and better things for more people. May our Nation continue to be so blessed.



Cities visited by The Train of Tomorrow

Abilene, Texas
Albany, N. Y.
Albuquerque, N. M.
Anderson, Ind.
Ann Arbor, Mich.
Atlanta, Ga.
Atlantic City, N. J.
Austin, Texas
Baltimore, Md.
Baton Rouge, La.
Bay City, Mich.
Bedford, Ind.
Big Spring, Texas
Bloomfield, N. J.
Boston, Mass.
Bristol, Conn.
Buffalo, N. Y.
Charleston, S. C.
Chicago, Ill.
Cincinnati, Ohio
Clark, N. J.
Cleveland, Ohio
Colorado Springs, Colo.
Columbus, Ohio
Cumberland, Md.
Dallas, Texas
Danville, Ill.
Davenport, Ia.
Dayton, Ohio
Denver, Colo.
Des Moines, Ia.
Detroit, Michigan
Elizabeth, N. J.
El Paso, Texas
Elyria, Ohio
Flint, Mich.
Framingham, Mass.
Fredericksburg, Va.
Ft. Worth, Texas
Grand Junction, Colo.

Grand Rapids, Mich.
Hamilton, Ohio
Harrison, N. J.
Hastings, Neb.
Homestead, Pa.
Houston, Texas
Indianapolis, Ind.
Jackson, Miss.
Jacksonville, Fla.
Janesville, Wisc.
Kansas City, Mo.
Knoxville, Tenn.
Kokomo, Ind.
La Grange, Ill.
Lansing, Mich.
Lincoln, Neb.
Linden, N. J.
Little Rock, Ark.
Lockport, N. Y.
Los Angeles, Calif.
Louisville, Ky.
Madison, Wisc.
Memphis, Tenn.
Meriden, Conn.
Miami, Fla.
Michigan City, Ind.
Milwaukee, Wisc.
Minneapolis-St. Paul,
Minn.
Mobile, Ala.
Montgomery, Ala.
Muncie, Ind.
New Brunswick, N. J.
New Orleans, La.
New York City
Oakland, Calif.
Ogden, Utah
Oklahoma City, Okla.
Omaha, Neb.
Orlando, Fla.

Pasadena, Calif.
Philadelphia, Pa.
Phoenix, Ariz.
Pittsburgh, Pa.
Pontiac, Mich.
Portland, Ore.
Pueblo, Colo.
Richmond, Va.
Riverside, Calif.
Rochester, N. Y.
Sacramento, Calif.
Saginaw, Mich.
Salt Lake City, Utah
San Antonio, Texas
San Bernardino, Calif.
San Diego, Calif.
San Francisco, Calif.
Sandusky, Ohio
Savannah, Ga.
Seattle, Wash.
Shreveport, La.
St. Catharines, Ont.
St. Louis, Mo.
Stockton, Calif.
Sweetwater, Texas
Syracuse, N. Y.
Tacoma, Wash.
Tampa-St. Petersburg,
Fla.
Tarrytown, N. Y.
Toledo, Ohio
Topeka, Kansas
Toronto, Ontario
Trenton, N. J.
Tulsa, Okla.
Warren, Ohio
Washington, D. C.
Wichita, Kansas
Wilmington, Del.

Uncommon Sense

In the miasma of election-year appeals to individual pressure groups, the sound sense of a New Orleans talk by Paul Garrett, vice president of General Motors Corporation, comes as a veritable breath of wholesome, clean air.

Mr. Garrett was in New Orleans in connection with the cross-country tour of GM's "Train of Tomorrow," which will be open to public inspection through Friday at the Union Station here. Apart from the bold ingenuity which devised it, the engineering genius and the craftsmanship which translated it into shining reality, and the venture-capital which made it all possible, the train projects a fascinating glimpse into the future of land transportation.

Using this marvel of achievement as his text, Mr. Garrett went on to sound a note of warning on the perils inherent in the political trend which sets the interests of any group of Americans against those of any or all other groups, by dividing the homogenous whole of our private enterprise way of life into isolated components, each struggling to gain an advantage over the others.

The American farmer would undeniably still be a peasant, but for the mass-production of power tools which

capital and labor in the cities put into his hand. The American workingman would still be a handicraft artisan sharing in the small amount of wealth his unaided strength and skill could produce by a day's work, instead of sharing the infinitely larger production of which he is capable when his strength is multiplied by the machine which great capital can put at his disposal.

Mr. Garrett could have cited some ominous examples of what happens when one group in any given social organization holds that its interests are incompatible with, and superior to, those of other groups within the same organization. French labor struck and stalled production in 1939, rather than merge its individual interests with those of the nation as a unit, and disaster followed.

"Continued group antagonisms would put us on the road to state interference . . . and statism accomplishes nothing except to perpetuate poverty," is a one-sentence homily from Mr. Garrett's address. Every self-seeking pressure group, and every politician currying favor with such a group, would do well to take it to heart. A star team is unbeatable; but a team of rival, jealous stars falls easy prey to any smoothly functioning opponent.

