

Script for Minnesotaradio stations
Taping of April 10, 1963

Bill
Full
Ladies and gentlemen and fellow-Minnesotans:

When we look at all the changes that have been taking place in the world and right here in our own country, we sometimes have to shake our heads and ask: "How did all this happen in so few years?"

A few years ago Europe was a group of countries divided, devastated by bombings, short of food, worried about a Communist takeover. Today Europe is become a third Great Power, with full employment, living standards zooming upwards, ~~xxx~~ -- in short, Europe has gone through a revolution. It has turned literally upside down and inside out.

Here in America in my own lifetime we have moved from the use of the horse and buggy to the jet aircraft. I can fly from Washington to Minneapolis in less time than it took my father to drive the family thirty miles. We have seen machines' taking over the jobs of people at an increasing rate. When I was born almost half our labor force worked on farms. Today agricultural workers make up less than 7 percent of our labor force. One American farm worker supplies food and fiber for 27 people. That's another revolution.

What has really been happening -- and happening faster each year -- at an increasing rate -- is that the base for national power, for national prestige and for national prosperity has been shifting from natural resources to human resources.

Man has made a tremendous breakthrough in applying basic scientific knowledge to his great ~~problems~~ economic problems. I call this the technological revolution. And this is a revolution that has transformed this America of ours from a society based largely on raw manpower extracting wealth from raw materials to a society that is based essentially on brainpower.

Raw materials have become less and less critical. Transportation problems have become less and less decisive. In Minnesota, for example, where discriminatory freight rates have always penalized us, a new industry -- electronics -- has been established which couldn't care less about freight rates. But what it does care about is the supply of trained, imaginative hardworking and hard-thinking engineers, scientists and technicians. The wealth that the electronics industry creates is made up of a relatively few dollars worth of glass and steel and brass and aluminum -- in small quantities -- and many hundreds of thousands of dollars invested in brains.

~~You know that~~ ^W we have to keep our economy growing -- because our population is growing. Just to keep even with the new babies means that we have to keep expanding the total of our production of goods and services -- what we call our Gross National Product.

We have been able to expand the GNP -- the Gross National Product -- faster than our population has grown. And this has meant that our standard of living has been going up. How have we done it? Largely through technological development.

We call this surplus of growth of our Gross National Product ~~above~~ and ~~beyond~~ ~~what~~ ~~the~~ ~~rate~~ ~~of~~ ~~our~~ ~~population~~ ~~growth~~ prosperity. And prosperity is tied directly to that mobile, flexible, and critically important supply of brains.

Some parts of our country are in ^{economic} deep/distress -- most of them because in the past they depended on one basic natural resource for their livelihood -- timber, or coal or iron ore, for example. Time and technological change have moved on and left these "distressed areas" behind. Now we are working day and night to make up for lost time ~~in those areas~~, and to create new industries ~~in those areas~~ -- industries that depend on trained manpower.

Unlike other one-crop economies, brains will never be obsolete.

Well, how well are we doing in shifting our thinking over to recognize the facts of life in the 1960's. Not too well, I am afraid. We automate our industries, and ~~hundreds~~ of thousands of people are thrown out of jobs. We make our farmers more efficient, and ~~farm~~ there aren't enough farm jobs to keep them down on the farm. We haven't really faced up to the problems that this new ~~new~~ mechanized age has forced on us.

Oh yes, we still have the highest standards of living in the world, and the highest over-all productivity.

But our annual rate of economic growth is trailing behind most industrialized nations -- behind Europe, behind Japan, behind the Soviet Union.

We have been growing at the rate of 3 percent per year lately. Russia's rate of growth in the 1950's was 6 or 7 percent, and is expected to reach 8 percent in the 1960's. Our standard of living has been rising about 1 percent. In Japan it has been rising by 7% per year, in West Germany 6%, in Russia 4%. How are they doing it? By technology, by automating, by investing in new industry, by working at ~~it~~, by planning for it, and by putting tremendous investments into research and education.

In future broadcasts I want to go into this subject in more detail, but let me just briefly outline two major steps that I believe we must take.

First of all, we ~~have~~^{must} to make a ~~very~~ strong effort to get more of our trained manpower -- our scientists and engineers -- working on the domestic economy. We have been putting plenty of our brainpower into weapons planning and production, but compared with other countries of the West we have been putting very little into making our regular commercial production more efficient, more low-cost. Most of the research and development money in Europe, for example, goes into making their civilian economy more efficient. Almost all of ours goes into making our military production more efficient. And then we wonder why we are falling behind in the international trade field!

Secondly, ~~and I want to conclude on this note this week -- we have got~~
~~to do something drastic about increasing~~^{increase} our training of scientists and engineers -- not just because young people need education, but because this nation needs their trained brains and hands. By 1970 we are going to be short by more than 250,000 engineers -- just for one example -- of those we need.

We are not going to solve, ~~my~~ friends, the ^{many} ~~my~~/specific economic
problems caused by increasing automation, ^{changes} ~~changes in raw materials useages,~~
competitive international trade, and other economic trends without a
massive upgrading of our human resources.

Until next week, thanks for listening.



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