

POSTWAR PLANNING AND CHEMURGY

Address

by

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I hope someday to have a subject to discuss or a problem to handle that lends itself to simple, direct, and one-sided treatment. I haven't found one yet, and I do not have that kind of a subject today.

It goes without saying that I share your wish and hope that the partnership of laboratory and factory will in the future demand new and heavy farm production for industrial, non-food uses. As I look back over my lifetime, however, it seems to me that our mechanical and chemical ingenuity has been responsible for many developments which have contributed mightily to the ease and comfort of our living, but which at the same time have lessened the demand for the natural products of the soil. We have lightened the toil of farming through the years as more and more of the farm work has been transferred to the factory and the oil field. At the same time a constantly lessening percentage of our population is needed for our farm production.

The invention and improvement of the internal combustion engine have made our oil fields the source of road and farm power which formerly was supplied by grain and hay fields and pastures. We used to figure that 35,000,000 acres of farm land had to find new uses with the coming of the automobile, tractor, and truck.

Even before the war, rayon and similar synthetic fibers had cut heavily into the market for cotton, and nylon had just opened another door of mysterious promise. No layman knows what the test tube under the stimulus of war has spawned in the way of formidable future competition for our leading natural fibers, cotton and wool.

To be sure, if after the war we continue to produce in this country all vegetable oils the like of which we formerly imported, and if we make synthetic

rubber at home instead of buying natural rubber abroad, and use grain-based alcohols in that process, we will continue to employ a great deal of land and farm labor that otherwise must find something else to do. But there is another side to that question, too. If we produce everything we need and can make at home, more or less disregarding comparative costs as we have done while at war, we will have to abandon any hope of future export business for farm commodities. Again my mind turns to cotton; we are pretty close to the Cotton South here in St. Louis. The greatest and most difficult farm adjustment problem arises from cotton. Historically, half or more of our cotton production has been exported. The job of getting that export market back and maintaining it will be difficult at best. It will be impossible if we adopt the policy of producing everything we can here in the United States, buying from abroad only the little that we cannot make at home.

International trade policy is inseparably a part of the questions with which you are concerned in this convention. It is a by-path from my own subject, and I will spend little time exploring it. I have no particular devotion to our export trade as such. There is no magic that makes export sales more potent than others. But before we choose a course that will certainly lose us our chance at an export market for cotton, for example, let's do some thinking about what the cotton areas and their people are going to do. After all, the 13 cotton states, with a third of the nation's farm land, have 51 per cent of the nation's farm population.

A friend of mine who is a large planter in the Mississippi Delta and a thoughtful student of the cotton situation summed up the outlook in these words:

After the enormous consumption for World War II, the present situation is that we have on hand about 10 million bales of surplus cotton, and we are still producing more than we can consume. The Federal government has subsidized the synthetic

fiber industry by allowing a 20 per cent cost of plant charge-off annually out of profits before income taxes. This simply means free factories for fiber competition. After the war is over, natural fiber production will gradually have to reduce its cost of production by substituting machines for human labor in order to meet this domestic competition.

Probably he is right. Probably competition with synthetic fiber at home, and with foreign cotton as well as synthetic fiber abroad, will force our own cotton production to lands where the cotton picking machine will do much of the work, with an enormous displacement of human labor. What developments, be they chemurgic, agricultural, or industrial, can we promote to offset that displacement? What can be developed to take the place of wartime demands for farm crops other than cotton?

If we think of Chemurgy in simple terms as the invention and development of new industrial uses for farm crops grown especially for that purpose, then I have to line up reluctantly among the skeptics. On balance, it is impossible to say that chemurgic developments can even offset the further encroachments of non-agricultural synthetics upon the market for farm commodities. Synthetic fibers, as I have indicated, may cut more deeply into the markets for natural fibers than was true before the war. Wartime developments in the use of petroleum and wood as a source of industrial alcohol create doubts that agricultural products grown for that purpose can maintain their position in this field even though alcohol consumption may be expanded substantially if the alcohol process for synthetic rubber proves to be economical.

Sentiment will play absolutely no part in determining whether farm-grown raw materials or their synthetic or by-product competitors fill the future industrial demand. Henry Ford will not pay ten cents more for a thousand feet of insulation board made from cornstalks than for competing product made from wood waste. And

there is no good reason why he should. If the use of alcohol for motor fuel becomes economically feasible as it is now mechanically feasible, then alcohol made from grain or any other crop grown for that special purpose will have to compete with alcohol from wood, from Cuban and Puerto Rican and domestic molasses, and from petroleum.

This is not the counsel of despair. There is pressing need for continued work on research in Chemurgy. Products of the soil provide a renewable source of materials in contrast to exhaustion through use of irreplaceable mineral resources. The wartime rate of consumption of mineral resources has again focused national attention upon dwindling domestic reserves. Experience has taught us, however, not to underestimate the possibilities of new discoveries. Moreover, in a peaceful world important new foreign sources of supply may become available as the vast unexplored areas of the world are developed.

My own feeling is that the contribution of Chemurgy is likely to be indirect rather than direct, complex instead of simple. Let me give just one illustration of what I mean before I turn finally to consideration of what is, after all, in my opinion, the greatest Chemurgy.

Over most of the United States we have plowed and ruined hills and slopes that should have been left in trees, that should be growing trees today. We know what trees are doing and can do to supply annual growth for paper and cellulose. But science knows how to convert that wood into sugar, and the sugar into livestock feed with protein content comparable with cottonseed or soybean cake or meal, and with probably a higher content of certain valuable vitamins. Beefsteak from sawdust is a chemical, physical possibility and fact. Further research and pilot plant tests must develop and prove the economic potential. What such magic could mean to the farmed out, miserable areas where the ax and plow have stripped the land and wasted the soil simply staggers the imagination.

Now let me turn finally to what I think of as the greater Chemurgy. It is not exactly the kind this association is primarily concerned with, although even those chemurgic developments can be fostered more readily against a background of high national income than against a backdrop of depression.

The degree of prosperity enjoyed by American agriculture after the war will depend largely upon the maintenance of high production and employment in the non-agricultural areas of our economy. Farm leaders have long preached the need for a prosperous farm population in order to provide a market for industrial products and hence a high level of city employment. Certainly it is true that prosperous agriculture means higher production and employment in industry. Yet high nonagricultural production and employment are destined to play the more dominant role as this nation becomes progressively more industrial and urban in character.

The war has forcibly demonstrated that now with our employable population working regularly, most of it at high wages, agricultural income, both gross and net, has moved up sharply to the highest level on record. Although the demands of the armed forces and of lend-lease are important, the bulk of agricultural production still goes into civilian channels.

The major problem we face as a nation as we contemplate the postwar period is to find a way to use our factories and our manpower for the maximum production of peacetime goods. If this can be achieved, American agriculture will be able to make the readjustments from its wartime pattern that appear to be necessary.

The task before the country will not be easy. It will require leadership and cooperation of all groups. I prefer to see high national income achieved through the utmost possible expansion of private employment and production by individual initiative with a minimum reliance on government-made work.

I am not naive enough to believe that the government will not play a substantial role in meeting the postwar employment problem. But I know that the more men we can employ profitably in private enterprise, the fewer there will be for whose employment the government will assume responsibility. I know also that the output of high employment must be distributed widely to prosperous customers in the city and on the farms. We have the ability and resources to produce goods at a rate that will afford a rising standard of living for everyone who is willing to work. And such a rate of production as we can afford should mean falling, not rising unit costs and prices.

I do not have a blueprint of any plan by which this can be accomplished. I do not even know anyone who has such a plan. I know that it cannot be done unless both business management and labor leadership change the views and policies which have dominated their behavior throughout my lifetime. Our national economy must be expansive, not restrictive. That condition cannot be had by striving to get the highest possible return per unit by restricting the output, as both business management and labor leadership have done too often in the past.

There are many hopeful signs, and I took this assignment today mainly to talk about one of them. There has never before now been a time when so many leaders of business saw the problem, and asked themselves what they could do to help solve it. They are talking about it in their trade organizations and in their state and national associations. Many of them have come together in the Committee for Economic Development, not to try to write a national program, but to study how business management can best contribute to a high level of production and employment after the war.

Here is the problem as they see it: Twenty million workers will need new employment when peace comes. This figure assumes that eight million out of the eleven million men in the Armed Services will want their old jobs back or will need new ones;

that out of twenty-five million workers now in war production, seven million will remain in the same or similar work, six million are temporary war workers who will drop out, and twelve million will seek peacetime jobs.

The Committee for Economic Development is assisting in a two-way attack on the problem. Its sole concern is with postwar production and jobs. Its field development program is aimed to stimulate planning by individual companies, small and large, first to avoid lost time switching from war to peace production, and then to proceed from that point on the assumption that a high level of national production and employment will continue. Its research program is aimed to find out what is necessary to provide an economic climate favorable to expansion of production and employment.

The spread of the movement can be seen by some figures recently issued by Paul G. Hoffman, National Chairman of the Committee for Economic Development. The field development program has been organized in 1,354 communities throughout the country and nearly 25,000 businessmen are members of its committees. The committees are now working actively with about 48,000 industrial firms and corporations whose total output in 1939 represented \$41.5 billion or about 73 per cent of America's total factory output, and nearly 6 million jobs or 60 per cent of its factory employment.

The men who lead in this business self-analysis realize, on the one hand, that if our postwar economy fails to provide jobs for those who are able and willing to work, the consequences may be incalculably serious. On the other hand they know that there are undreamed of frontiers to conquer if business management and labor will venture boldly with peacetime policies that continue the full employment in non-agricultural production the war has brought. The favorable consequences for agriculture would be enormous, for then the demand for farm products will stay high.



as will the real purchasing power, the exchange value, of farm commodities.

Let me return in summary to my major theme. I have tried to emphasize that part of the farm problem, and a large part at that, lies outside the farm field; that the policies of nonagricultural industry, of organized labor, and of the government with respect to both, will have enormous influence in determining whether the farmer prospers or suffers in the exchange of his goods.

The principles I have suggested for industry and labor are the principles agriculture has generally followed. If they are put to work, the farm problem will be far simpler to handle than it has been in the past. All of us need to work on this central problem; we will not have all eternity to solve it in.

So in conclusion I submit that this challenge to use our resources in peace as fully as we are now using them for war will become, after all, the nation's economic problem No. 1. Work it out, and many of the difficulties of the farmer will tend to shrink and disappear. Of one thing we can be perfectly sure: Sooner or later the American people are going to lose patience with an economy that can only function fully under the whip of a desperate war; which in peace tolerates unemployment and poverty in the midst of potential abundance - an abundance which you who are working for an expanding economy are doing so much to promote.

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