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DAVID HAMILTON

New Mexico's New Industrial Revolution

New Mexico has been undergoing an industrial revolution. This fact has been largely ignored for several reasons. Man has never seen much social significance in technological change until after the event. But traditional blindness alone would not be sufficient to obscure from an industrially conscious age the transformation New Mexico has been and is now undergoing if it were not for a further difficulty in understanding the importance of recent events. We have a mind-set about what constitutes industrial revolution. In a sense, we are victims of Arnold Toynbee the First (uncle of the contemporary Arnold Toynbee). In detailing the Industrial Revolution of the eighteenth century he gave us a concept of industrial revolution which is drawn from one concrete historic event. Since what he called the Industrial Revolution consisted of a transformation of industry from handicraft to the factory system, we look for some similar kind of change in the modern day world. We also look for such change to come only under the sponsorship of private enterprise since the industrial revolution of Toynbee was so sponsored. We are prone to overlook government owned and directed industry as significant industrial change.

But industrial revolution is a function of technological change, technological change so startling that it transforms the entire social fabric into something entirely different from that of an earlier generation. Certainly in this sense New Mexico has been experiencing industrial revolution. New Mexico's industrial revolution is located on the frontiers of modern science and technology just as all industrial revolutions of the past have been.

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Prior to the last decade the economy of New Mexico was composed of essentially three underdeveloped economies which paralleled more or less the ethnic composition of the state. For want of anything better these may be designated the cattle, the village, and the tribal economies. The cattle economy, farming and ranching, was integrated with the larger economy of the United States. It was supplemented by the extractive industries. Such urban areas as existed were by and large "country towns," which found a living by servicing the agricultural and extractive industries. The cattle economy was largely, but not exclusively, an Anglo one.

A second underdeveloped economy was to be found among the Spanish-speaking peoples. This too was an agricultural economy, but it was not integrated with the larger economy of the United States. Many of the mountain and high-valley villages composing this economy eked out a living in a manner that did not differ too greatly from that of one hundred and even two hundred years ago. Families subsisted on a few acres and sought employment outside the village economy only as a means to secure the small cash necessary for the few items purchased from the larger economy.

Existing in almost total isolation were the Indian tribal economies except as they came in contact with the larger economy through the services of government agencies. Here, too, some outside employment might be secured to cover small cash needs. But the relationships were few and tenuous.

If this could pass as a brief description of the economy of New Mexico in 1940, certainly it could not do so today. It could hardly be argued that present day Albuquerque is merely a distribution point and railhead. Certainly distribution and service industries are still important in the urban economy. But the major occupation of Albuquerque is no longer to service the surrounding farm and ranch country. Albuquerque is now an industrial city in its own right—in the same sense that Pittsburgh or Detroit or Akron or any number of other recognized industrial centers can be said to be such. Albuquerque is an atomic city in an atomic age. It is probably the largest city, at least in the United States, which lives on the atomic energy industry.

If such a transformation is true of Albuquerque, it is no less true of other communities such as Alamogordo and Grants, Las Cruces and Farmington, and, of course, Los Alamos. Each has been experiencing industrial revolution. Not all have been products of the atomic age,

but all have experienced development from the technological and scientific innovation of recent decades. The differences are of degree. Nor is the fact of industrial change any less true because its most significant aspects have taken place either under the auspices of government or under private enterprise so closely aligned to government that it is neither private nor enterprise in the usual sense of those terms.

The effects of this change have not been limited to the cities immediately involved. Of course, since the locus of the new industry has been primarily in what may be called the Anglo-economy, the greatest impact has been felt in those centers. But the effects of industrial revolution spread out from the center and affect other parts of the economy in devious ways. To date New Mexico's industrial revolution has been making for integration of the three economies once found in the state. Places like Los Alamos have been sources of employment to the villages in the upper Rio Grande valley. New skills have been learned by the Indians of Laguna Pueblo and by the Navajos who have found employment operating mining equipment in the uranium mining areas. In all of these cases this has meant new cash income and new types of consumer demand. Homes in Laguna are being made of pumice block and are being equipped with household appliances run on REA power.

An example of the insidious way in which industrial revolution works its effects is to be found in the extension of REA into small villages and pueblos where it had not gone before. In New Mexico even the spread of REA was inhibited in some cases by a lack of cash income. Usually with the introduction of rural power, the electricity is used to employ machines which result in an increase in farm output and hence in farm income. Among the small subsistence farming of the old Spanish villages in particular, existent cash income was so small and the possibilities of increasing cash income were so slim that even the REA was excluded. But with new sources of employment, cash incomes have been increased, making an increase in rural electrification possible. The effects are apparent in the increase in household appliances in rural areas and in the general extension of urban living standards to rural areas.

Although New Mexico's industrial revolution resembles its predecessors elsewhere in its integrative effects, population growth, and urbanization, it also has some unique characteristics. Most of New Mexico's development has been carried on by absentee owners. We

have already alluded to the fact that a large part of it has been sponsored by the Federal Government. Other phases such as uranium mining and refining, and oil and gas exploration and development, although within the traditional orbit of private enterprise, have been under the control of absentee ownership. This means that New Mexico's development is part of a larger development and that the state is by no means the sole arbiter of its economic destiny. In fact, it has been the beneficiary of large decisions made elsewhere. It could also be the victim of these same centers of decision-making.

In other words, where the industrial revolution of England could be said to have been indigenous in the sense that it arose out of technological innovations which were home-grown cultural products, New Mexico's industrial revolution has been imposed from without. Los Alamos is merely an extreme case of the kind of transplantation of which New Mexico's development has been largely composed.

If industrial revolution means rising and improved living standards as well as cultural and economic integration, it also poses some rather serious problems. Albuquerque has already experienced some of the difficulties of urbanization. Beside those of New York City, those of Albuquerque may seem hardly worthy of attention, but they are no less persistent and getting no smaller. Solving the ordered development of education, traffic flow, urban housing, and zoning calls for a well planned program and not one of catch-as-catch-can. There are other grave problems. While areas in which technological advance is centered may be benefited, other more remote areas may be passed by. The entire northeast quarter of the state, for example, seems to have been so affected. We have pockets of underemployed and unemployed people elsewhere in the state as well as so-called dying areas, at least economically.

The cultural integration which is being thrust upon the village and tribal economies also poses problems. And, of course, there is the ever-present problem of water, exacerbated by industrialization.

These problems simply mean that New Mexico's economy is in ferment. Admittedly the state is not the uncontested master in its own economy. Absentee ownership, both private and public, places limitations on its control. But being a late-comer to industrialization does present some distinct advantages. If none other, there is the advantage of the experience of those who went before.

There is evidence that the state is aware of these problems. Some planning in various quarters is already under way. But the outcome is not certain by any means. Our cultural heritage includes the frontier philosophy of rugged individualism. There is still faith in some quarters that organized greed under some inexorable natural law will provide a way of order. Whether industrial revolution in New Mexico will be accompanied by order or disorder depends on whether frontier philosophy prevails over organized intelligence in the guidance of that part of its industrial destiny over which the state may exercise control.