



Planning for Permanence: the Speeches of J.C. Nichols
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Value of Research for the Milling Industry

Eisenhower Meeting, Kansas City Club June 17, 1946

In flat country a man with his naked eye can see a tree 15 miles away; thru research and science today he can see stars 4,000 billion billion miles away and with the coming new Palomar telescope he can see nebulae 6,000 billion billion miles away.

On a calm day sound travels 1,100 feet per second. Telephones stepped this up to a speed of 180,000 miles per second; radio up to 900,000 times around the globe in 1/8 of a second; and amplifiers now make audible even the sound of a fish grinding its teeth or the growing of a flower, and science makes sound penetrate steel deeper than X-rays. A man can run 100 yards in 9.4 seconds. On wheels the fastest speed is 369 miles per hour; air turbojets travel 606 miles per hour, and the future rocket ship recently announced by the Navy may exceed 3,500 miles per hour, about 10 miles per second.

Today we are working with molecules and if a molecule were the size of a grain of sand, this glass of water would cover the whole U.S. 100 ft. deep. Science discovered that a lump of uranium the size of a walnut has energy equal to 1,250 tons of coal. The electronic microscope has recently expanded magnification from 3000 times to at least 100,000 times. While the magic war radar could see thru dark and storm, the supersonic waves detected steel under water and beat hell out of the German submarines.

The Office of Federal Scientific Research spent \$500,000,000 during the war, employed 15,000 scientists in 500 institutions, and developed over 200 new weapons and devices of war with a multitude of new discoveries of peacetime use and opened new scientific doors for our research world.

Just two or three years ago the world was startled with the miraculous results of sulfa drugs and penicillin – today they are already becoming outmoded by streptomycin and other similar drugs, spelling new health and length of human life. Medical science has reduced the army's death rate from disease alone down from 14.1 per thousand in World War No. 1 to .6 of 1% in the war just ended. In fact, the development of deadly bacterial germs during the war may ultimately be regarded as a greater discovery than the atomic bomb, and hand in hand science must now bring forth a means of combating bacteriological warfare in the hands of our enemy.

Science has recently shown the extreme, almost infinitesimal amounts of chemicals needed in foods for life and health running into only a few millionths of a part, such as iodine, fluorine, cobalt, etc., most important discoveries to those engaged in the baking and milling industry.

The importance of a small amount of vitamins in bakery foods is well known to you, and research and science have barely opened the doors for a greater use of vitamins

for prolonged life and greater health. The Russians, great in research, are developing today an extract like a hormone, which they predict will prolong life to an average of 150 years. Jesse Greenleaf, a great ranch owner in Kiowa County, Kansas, told me yesterday about a successful use of a cattle spray to kill flies which had increased the average growth of a herd 1/2% per day during the fly season. Certainly such discoveries are important to agriculture.

The great advances in plant breeding in developing hybrid corn resulting in large increase in corn production should be applied to the culture of all field crops important to your industry. As industrial uses of farm products increase you are vitally interested in new food uses from sorghum, soybeans, lespedeza, oats, sweet potatoes, peanuts, sugar beets, etc., all tied back to scientific research. When a new synthetic rubber industry can grow to 70,000 tons per year, who can foresee ultimate changes in the food industry itself.

If licking the female mosquito built the Panama Canal, can science beat every insect destroying growing crops?

And, in all the building of new food processing plants in the Middle West, don't forget we have almost unlimited reserves of coal, oil and gas to run the factories. Dehydration of foods may be advanced by science and research to a point to popularize them even in peacetime. Research has an immense field ahead in the frozen food industry, certainly of interest to all of you. Some scientists anticipate great use of many common weeds in our future food supplies and livestock feeds.

Just as most everything in this room can be made today from recent plastics, who can sit here and foresee all food products a few years from tonight.

The Midwest Research Institute developed utilization of ammonium nitrate for fertilization at the big \$35,000,000 chemical works plant at Pittsburgh, Kansas. They overcame the coating of the small nitrate pellets that prevented dissemination in the soil and worked out reconditioning of the ammonium nitrate, making it applicable for the farms throughout this area, where formerly the nitrate became water-bound by absorbing moisture from the air during storage. The new treated material developed by the Institute now flows like sand. The Pittsburgh Midway Coal Mining Company has now leased this \$35, 000, 000 plant from the Government to make this fertilizer and has been so well pleased with the results the Institute obtained for them that they are placing further research projects in the hands of our staff.

The Corn Products Refining Company is sponsoring research at our Institute looking for the greater use of sorghums in their operations to supplement corn. This is not only helping meet the problem of the manufacturer in getting a supply of industrial starches but makes a new outlet for the sorghum in the western part of Kansas, Oklahoma and Texas for starving Europe.

For the Grain Products Company we placed fellowships in several surrounding State Universities, carrying on fundamental research to develop new varieties of sorghum adaptable to various starch uses and to produce various types of starch.

Our agricultural research section has already successfully completed a project for the Gas Service Company relating to the vitamin content of vegetables and foods to the

greater conservation of the vitamin content of vegetables and meats through improved cooking methods. The Institute is greatly interested in working for greater nutrition for both humans and animals.

We are carrying on an extremely interesting project for Carnation Milk looking to new breakfast food cereals from the grains of this area.

Unsolicited, the head of the research department of the Standard Oil Company of Indiana placed an immense research project with us looking to better control of agricultural fungi affecting orchard crops by using petroleum derivatives. We have already carried this project in our laboratory tests and we are testing our findings in pilot plant operations and extending our studies into a large-scale field test. We are now trying out some 15 of these materials in the field.

For the Muehlebach Brewing Company we are making a study of the malt and chemical biological reactions in beverages from all kinds of grain.

For the Hart-Bartlett-Sturtevant Grain Company we are making a particular study of the wheat berry, producing new chemicals to improve fermentation methods.

For the United States Corps of Army Engineers we have completed a complete survey and scientific analysis of industrial potentialities of the major natural resources of the Missouri River Basin and have several members of the staff in the field studying the greater agricultural potentialities and the methods relating to soil conservation.

We are carrying on several projects in our laboratories for the W. J. Small Company of Neosho, Kansas, looking to the improvement of the nutritional characteristics of dehydrated forage crops.

You all know that Kansas City is famous for its steaks – the best in the world. For Carrolls we are carrying on research to develop a steak sauce significant and outstanding enough to make famous Kansas City steaks better known throughout the world.

We are making a scientific study for improved techniques in the bottling of milk for the Robert S. Leonard Company.

For the Kelly Plow Company and Ford-Ferguson Tractor Company of Texas we are working on a project to develop disc terracers for the contouring of land and are now carrying out demonstration work in the field on a nearby farm owned by our president, Dr. Harold Vagborg, and our prospects are extremely promising. Our metallurgical and chemical engineering staff is studying the potentialities of directing the terracers and discs by an instrument on the tractor, thereby saving the great expense of having surveyors set stakes to establish the proper contours of the land.

Airosol, Inc., has given us the job of developing and testing of improved formula of material to squirt in a room and destroy the bacteria.

Kansas Soybean Mills of Emporia, Kansas have employed us to carry on research on the improvement and stability of the soybean oil for foods and to study additional food uses of soybean oil.

Ballman-Cummings Furniture Company have recently set up a project in our Institute for the development of new techniques in furniture manufacturing, looking to further use of the forests in this area, particularly our cut over lands and the use of these forests in adhesives. We are working on a project looking to the building of a desk that now has some 200 parts by reducing it to 25 parts, thus saving time and money in manufacture.

Among our many regional projects being carried on entirely at the expense of the Institute for the benefit of the general public of the area, we have just completed an examination with reference to greater industrial uses of agricultural fibers now growing or that can be grown in this area. We hope to be able to turn hemp, flax and ramie and other fibers into textiles, cordage, packing, insulation materials, etc.

Another extremely interesting regional project under way is the relation of the properties of wheat to the baking properties of flour. We have already gone far enough to temporarily, at least, abandon the physical approach through the electron microscope, etc., and have now turned for the present to the chemical approach, which is an extremely important line of research, so vital to the baking industry.

Another extremely interesting regional project is our endeavor to develop an inexpensive surface hardening treatment for barn and feed lots, hoping to develop a hardening treatment at one-tenth the cost of concrete. With the use of certain organic compounds we hope to set up water resistant materials to withstand the trodding of the hoofs of various types of animals, far more difficult to combat than the airplane wheels on an airplane. In fact, we are starting with some of the materials used during the war on airfields. We are now carrying on experiments out at KMBC farm on 8 plots of land, some devised for use of heavy livestock and others for light livestock. Two of these practical demonstrations showed up extremely well through our early rains this Spring.

Greater control of pests on humans is at present being applied to an investigation of the control of chiggers, of which we have several in this area. We find very little research has ever been applied to overcome this great annoyance to people living in the Middle West.

We are depending on private industry to sponsor projects at our Institute for the greater control of insects injurious to crops throughout this area.

In our general consulting service we have been in constant advice of many individuals and organizations interested in agriculture throughout our six states as to all kinds of nutrition problems, both in animal and human foods, also as to soil fertilizers and soil erosion control. The few projects listed above are those largely relating to agriculture. Our numerous other laboratories are pushed almost night and day to carry on research in many, many other fields. We are endeavoring to largely confine our research activity for the development of the resources of our part of the United States. Our main interest at this time is solely for the benefit of our six States. We want to make discoveries that will make new industries here. We want to be of help to those already located. It's a thrill to us to help a small industry to become a large one. The field of opportunity is immense and we think it's the greatest cause ever launched for the benefit of our area. We invite you or the heads of your research departments to visit our

laboratories and help and guide us in our regional research to help you build larger business for yourselves out here in God's country.

The J.C. Nichols Company Records (KC106) – Speech JCN079

Arguably Jesse Clyde Nichols (1880-1950) was the single most influential individual to the development of metropolitan Kansas City. Moreover his work, ideas, and philosophy of city planning and development had far-reaching impact nationally – so much so that the Urban Land Institute has established the J.C. Nichols Prize for Visionary Urban Development to recognize a person or a person representing an institution whose career demonstrates a commitment to the highest standards of responsible development.

Nichols' objective was to "develop whole residential neighborhoods that would attract an element of people who desired a better way of life, a nicer place to live and would be willing to work in order to keep it better." The Company under Nichols and his son, Miller Nichols (1911-), undertook such ventures as rental housing, industrial parks, hotels, and shopping centers. Perhaps the most widely recognized Nichols Company developments are the Country Club District and the Country Club Plaza Shopping Center, reportedly the first shopping area in the United States planned to serve those arriving by automobile rather than trolley car.

The J.C. Nichols Company Records (KC106) contains both personal and business files concerning J.C. Nichols' private and business life. Included are personal correspondence, family related material, and speeches and articles written by him. Business and financial files pertain to actions of the Company, including information about different developments and the securing of art objects; and printed materials produced by and about the Company.