Invention Needed for Automobiles. In the symposium on "Chemistry's Contribution to Automotive Transportation" at the Detroit meeting of the American Chemical Society, H. C. Mougey of the General Motors Corporation specified some problems in the field of automobile finishes that still remain to be solved by the chemist. Among these needed inventions are:

"A substitute for black baking enamel which will retain the advantages of low cost and ease of application but which will make the steel more resistant to corrosion under conditions of high humidity, and which will produce a film that holds its luster longer on exposure.

"Primers and surfacers for lacquer finishes, which will decrease the time of drying without increasing the cost of application.

"Some method of obtaining the smooth surface of high luster without the cost of the present system depending on hand rubbing and polishing."

Prof. D. B. Keyes of the University of Illinois said that the ideal anti-freeze compound for automobile radiators has not yet been reached. The three substances now most widely and successfully employed are alcohol, glycerine, and ethylene glycol.—Science Service

Step Towards Artificial Rubber Taken at Notre Dame University. The production of artificial rubber is apparently brought a step nearer by researches made at the University of Notre Dame reported to the American Chemical Society by the Rev. J. A. Nieuwland. Working in association with Daly and Sister M. Florentine he has found that a ninety per cent yield of ethylene chloride can be obtained by passing ethylene and chlorine gases into antimony pentachloride. The product can be readily converted into vinyl chloride by alcoholic potash.

This chemical reaction will seem unintelligible and unimportant to the general reader, but yet it may have a bearing on one of the most exciting commercial controversies of the day. For Plotnikoff proved in 1922 that vinyl chloride could be converted into rubber by the action of ultra-violet rays from an electric light. The electricity may come from water power which may also make calcium carbide of coal and lime. Adding water to the carbide generates acetylene gas which is easily made into ethylene. So the chain is complete from the waterfall to the rubber tire. But it is very questionable if rubber can be made in a factory as cheaply as it can be grown in a tree.—Science Service

Tuberculosis Vaccine to Be Tried on British Herds. The preventive tuberculosis vaccine that has been developed by Dr. Albert Calmette, director of the Pasteur Institute at Paris, is about to be tried out on herds of dairy cattle through the cooperation of the British veterinary ministry of health.

The vaccine is known as BCG, from the names of its discoverers, Dr. Calmette and Dr. M. Guerin of the Pasteur Institute at Lille. It consists of an attenuated strain of bovine tubercle bacilli that have, after years of cultivation on beef bile medium, somewhere in the succeeding generations lost their virulence, though they still apparently retain their power to confer immunity.

The vaccine will be used in selected herds in which tuberculosis is known to he present. All calves will be vaccinated within two weeks after they are born. The operation will be repeated every twelve months, over a period of five years. By that time most of the older and tuberculous cows will have been worked out of the herds. At the end of this period the herds will, it is expected, consist largely of adults that have been kept free from infection by vaccination.

Members of the staff of the health ministry will supervise the vaccinations to check up on the efficacy of this new method of attacking tuberculosis in cattle.—*Science Service*