



Industry Must Support Pure Science

VERNON KELLOGG, secretary of the National Research Council, has just returned from Europe convinced from what he has seen there that America must play a more prominent part in pure-science research because Europe's contributions have materially fallen off.

As has been frequently pointed out in *Power*, a study of industrial history shows beyond a doubt that research is the cornerstone of material progress and that pure-science research is even more important than investigations in applied science, because it is more fundamental. Industry, it is true, has little direct contact with pure science. Engineering comes between, taking the discoveries of science and working them into practical machines and processes. If the supply of newly discovered facts is shut off at the source, engineering may continue for a while to furnish industry with new applications of old principles, but the great forward steps will cease.

Before the War Europe's laboratories produced most of the fundamental discoveries in pure science upon which American industries are built. But the War changed the situation. The financial pinch in most European countries has diverted to more immediate needs much of the support formerly given to the research laboratories. This simply means that the supply of our most important raw material, knowledge, has been curtailed.

America must carry on this work. A big start has already been made, but industry must find some way to give pure science far more substantial support than it has yet received.

New York State Has a Double Interest

DIVERSION of water from Lake Michigan through its sanitary canal into the Mississippi River, by the City of Chicago, has long been a much-discussed question. Although the United States Supreme Court early in 1925, ruled against the city for a greater diversion than 4,167 cubic feet per second, this intricate problem is not settled and will probably not be for some time, as a number of the states bordering on the Great Lakes have brought suit to limit Chicago's diversion from the Lakes. Recently, New York State added its objections to those of a number of others, by bringing suit in the Supreme Court. This action was taken after a ruling of the Court that permitted New York to join five other states in opposing the diversion. The present diversion is based on a temporary permit, granted by the late Secretary of War Weeks, shortly after the Supreme Court decision of last year.

Although the chief interest of the other states in

this diversion is its effect upon navigation, New York, like the Province of Ontario, has a very large interest in water power that could be developed in the Niagara and St. Lawrence waterways. The ten thousand cubic feet per second that Chicago is seeking the right to divert from the Great Lakes could produce five hundred thousand horsepower in plants at Niagara Falls and along the St. Lawrence River. The value of this power at twenty dollars per horsepower-year is ten million dollars per year. This is not ten million dollars for one year, but each year for all time.

To these figures must be added the economic value of this power in a district that has no coal mines and, as in the case of the Province of Ontario, must import its fuel supply.

A Worth-While Conference

ECONOMIC conditions in Europe have long been responsible for a considerable lead over this country in the processing of coal. It appears, however, that we are now on the brink of witnessing marked commercial activity in this line on this side of the Atlantic, following several years of preliminary study and experimental installations.

To this end the international conference called by the Carnegie Institute of Technology for November 15 to 19, in Pittsburgh, is most timely. Its program as announced will include studies of the manufacture of substitutes for gasoline from coal, complete gasification of coal, high-temperature distillation, low-temperature distillation, coal-tar products, power, smokeless fuel and fertilizer. Thus it will hold interest for the chemist, the automotive engineer, the power engineer, the fuel expert and many others. The presence of such noted foreign investigators as Bergius and Fischer, of Germany, and Patart, of France, as well as a number of our own outstanding scientists, assures the character of the meeting. If it results in a free and frank discussion of the many factors involved, the cause of coal distillation should be materially advanced and many pitfalls avoided.

Already large quantities of methanol are being used in competition with wood alcohol, and judging from the present rate of gasoline consumption, coal byproduct substitutes will shortly come into wider use in the automotive field. There is also the broad problem of coal processing in connection with central-station power generation. This at present holds some uncertain engineering and commercial aspects concerning which opinion is divided. However, one central station has already set the lead, and it is reasonable to expect that others may follow as soon as the atmosphere has been cleared of a few doubts now existing in the minds of power engineers. A conference such as that scheduled for Pittsburgh next month should go far toward clearing up these points.