

RESOURCES

Coal Wants Lost Markets

► COAL WANTS to regain lost markets for millions of tons a year replaced by liquid and gaseous fuels during the past 20 years. The result is the pursuit of much research on coal; coal mining, efficiency in coal use, decreasing nuisances associated with coal-burning, and improvement in securing the full utilization of coal chemicals. This research is conducted by the government, the coal industry, the chemical industry and others interested.

A report on research for the coal industry was presented at the New York meeting of the American Institute of Mining and Metallurgical Engineers by C. E. Leshner, president of the Pittsburgh Coal Carbonization Company. "Coal," he said, "has been fighting a rear-guard action since the last World War." Organized research is the new weapon it is now using.

Coal research in the more efficient use of this fuel has already produced some outstanding results, the speaker said. In 25 years a decrease of 34% in coal is required by the railroads to haul 1,000 gross ton-miles of freight; 50% less is required to produce a kilo-

watt of electrical energy by central power stations, and 20% less is used in making pig iron.

The smoke nuisance can be eliminated if the coal is "burned smokelessly by means of proper mechanical equipment or converted to smokeless fuel." Research has developed "principles for smokeless heating stoves and ranges of new designs."

"Already there are more chemicals, drugs, dyestuffs, plastics, explosives and disinfectants made from what are commonly called coal-tar products than are made from petroleum," he declared. "Coal has been the source of the chemicals from which the greater part of plastics—the phenol formaldehyde resins—have been made." The phenol obtained as a by-product in making coke was sufficient in 1941 for the production of 8,000,000 pounds of nylon, enough to make 256,000,000 pairs of stockings.

The coal chemicals are now obtained as by-products in coking. "If through research it is found worth while to process coal to get the coal tar products, a wider use of coke must be found." There is reason to believe, he said, that the

yield of tar acids from coal by a hydrogenation process may be ten or more times greater than by the present process by carbonization. If this process is developed and employed there would be no coke and the coal would be a direct source of the chemicals required for phenolic plastics.

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SOCIOLOGY

Women Can Help Apply Science to Human Problems

By DR. MARGARET MEAD

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Excerpts from address given before the Science Talent Institute.

► THE major problem in the application of the physical sciences to nature in the last century was simply to develop them far enough so that they were applicable. But in the social sciences, we have two tasks, (1) to develop the social sciences to the point at which they will be available to the world, (2) to take responsibility for the way in which all science is applied to the solution of human problems. It is in this second phase that women should have a special contribu-

Advancing Knowledge

of nutrition confirms over and over again what important role the RIGHT KIND of proteins play in the process of living.* The proteins of meat are of the right kind, of highest biologic efficacy, adequate for every protein need in the organism.

*"The relative importance of the protein fractions is only now becoming sufficiently known and understood. The proteins guard the body's ability to replace its losses through ordinary wear and tear as well as through disease and operative procedures, and they increase the readiness of wounds to heal. The proteins protect us against infection by increasing the antibody protection of the body. By virtue of their lipotropic power, they help to restrain any tendency to store abnormal amounts of fat in the various organs, notably in the liver. They furnish the factors which control hemorrhage. And an abundant, rich protein supply gives a sense of well-being and vigor and does away with fatigue." (Wilensky, A. O.: The Food Problem in the Present and in the Postwar World. Editorial. Rev. Gastroenterol. 10:314, December 1943).



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