

CHEMISTRY

American Chemists Skeptical Over Hitler's Self-Sufficiency

Metals, Petroleum, Other Materials Essential in Both Warfare and Industry Cannot be Supplied Within Reich

CHEMISTS attending the American Chemical Society meeting in Milwaukee were almost unanimous in declaring that Germany is not in any condition technologically to fight a war, Hitler's boast of self-sufficiency notwithstanding.

Dr. Harrison E. Howe, editor of Industrial and Engineering Chemistry: "While Germany has done some remarkable things in science and technology during its four-year plan, the results to date do not supply an adequate foundation to support such a bluff."

Dr. Charles A. Kraus, of Brown University, president-elect of the American Chemical Society: "I doubt if any nation in the world is self-sufficient in all materials vital for fighting a long war. Germany is one of the nations seriously lacking in many essential materials. You can't make metals synthetically."

There was general agreement that petroleum is Germany's greatest lack. Information received by J. H. Bruun and A. V. Hill, of the Sun Oil Company, shows that hydrogenation of coal into oil is not sufficient to supply war needs of transport and mechanized units. Hydrogenation in peacetime can supply only 80 per cent. of the need, which would be only 25 per cent. of war needs. A few months of fighting would exhaust oil supplies.

Dr. Foster D. Snell, Brooklyn, N. Y., consulting chemist: "Because of diversion of foodstuffs, particularly fat, from Germany's food supply which have already been made, Germany would start a war with one strike against it. A nation ordinarily starts a war with its people physically at normal. There is a serious question whether Germany is at present in this condition or whether its

population may not be already showing the effects of past diet changes."

Rubber supply in Germany is now better than it was during the World War, according to J. C. Hunt, du Pont chemist. Artificial buna rubber is rather effective material although its cost is high. But Germany does have the raw material for making it.

Germany lacks tungsten and molybdenum, metals essential in making steel for her war machine. Its source of these metals is Sweden. Aside from the matter of foreign exchange for paying for imports, a rising feeling against the Nazi in Sweden may hamper obtaining these needed metals.

American scientists thus expressing skepticism received unexpected support from a source within the Reich. In the German popular science journal, *Die Umschau* (Aug. 28), Dr. Werner Hofmann, official food chemist of the Bakeries Institute in Berlin, tells of his efforts to find replacements for the fats now used in the baked-goods industries, and to reduce the total quantities used.

Among the substitutes he mentions peanut oil, palm oil, soybean oil, even whale-oil. It was necessary to harden all of them by hydrogenation before passable results could be obtained. Soybean oil, from which great results were anticipated, proved especially disappointing. The oil has a persistent, strong, "beany" taste; also it tends to come out on the crust, making the products "greasy and messy."

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MEDICINE

Watch Your Weight for Your Heart's Sake

PROBABLY most people who watch their weight do so because of concern over their figures. Consideration for your heart is a much more important reason for being scale-conscious.

Excess weight gives the heart too much work. If you are underweight, on the other hand, the heart beat and the circulation are slowed, your heart shrinks in size and you are more liable to serious complications following minor infections and injuries and you are what is called a poor surgical risk.

The importance of diet in relation to the heart was recently pointed out by Dr. Louis A. M. Krause, of the University of Maryland, in an address under the auspices of the Baltimore City Health Department and the Medical and Chirurgical Faculty of Maryland.

"In the past," Dr. Krause said, "heart and blood-vessel disease was thought to be due solely to the changes caused by germs, or by developmental defects. Of late we have learned that nutrition is a problem of primary importance and, in many instances, that improper nourishment results in defective heart action. It may be that the faulty nutrition permits the entry of some disease germs."

The average adult's heart pumps about six quarts of blood every minute, or 2,000 gallons every day. Someone has figured, Dr. Krause said, that there are five miles of blood vessels in every pound of fat. So you can see how much extra work you are giving your heart with every pound of surplus weight.

It is the fatty foods and the sweets that add on the surplus weight, it appears, except in cases of glandular disorders. An excess of vegetables or animal protein (meat) apparently never causes heart or blood-vessel disease.

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