

## POPULATION

# Population Problem

Difficult adjustment awaits the postwar world, AAAS president warns. Finding places for refugees is only one aspect of the puzzle.

► SOME VERY tough problems in population adjustment await the planners of the postwar world, with crowded peoples wanting more room and the holders of apparently desirable living space unwilling to move over, Dr. Isaiah Bowman, president of the Johns Hopkins University, gave warning in his address as retiring president of the American Association for the Advancement of Science. In Dr. Bowman's absence, his address was read by Dr. F. R. Moulton, permanent secretary, AAAS.

Finding places where refugees may settle and begin a new life is only one aspect of the manifold problem, Dr. Bowman pointed out: taking care of huge surplus populations in lands like India and China, that now press upon available means for livelihood, often to

the actual starvation point, is an even more difficult matter.

It can't be solved by the magic wand of simple migration into what appear to be empty territories. As a concrete example, the speaker took up the suggestion of transplanting India's annual increase of five millions into the Amazon basin. Transportation alone would present a simply impossible task; the bewildered migrants wouldn't know how to make a living in the strange new country; and the Brazilians might not like the idea of having a new Indian empire suddenly dumped among them.

Or, as another concrete example: "Economic easement in China seems a far more rational solution than merely keeping Chinese out of Australia. If white settlement in Australia is urgent, it is equally urgent to begin the industrialization of China."

Many persons, looking at what seem to be blank spaces on the map, murmur "irrigation," as if that were a magic talisman. Naive notions that simply digging irrigation ditches will open up vast areas in Tanganyika Territory in Africa have been put forward even in Tanganyika itself. Yet the experience in our own irrigated West has shown that instead of the optimistically expected "homes for millions," 24 national irrigation projects had by 1926 provided for a total farm population of only 137,000.

One of the worst records in attempted population transfers was made by Italy in Libya, Dr. Bowman pointed out. For political reasons, the Fascist regime crowded the native nomad population away from some of its best pasture lands and encouraged families from Italy to undertake farming them. Yet these colonial farmers had to be most expensively sustained by all sorts of grants and special concessions from the home government. The farms never did pay, on a strictly economic basis.

To arrive at a real solution of the problems of population adjustment, by migration or otherwise, requires skilled and scientific research, not hopeful but hastily conceived experiments, Dr. Bowman indicated. The potentialities and

drawbacks of each proposed settlement area must be thoroughly examined, as well as the social setup and mental dispositions of the two populations concerned.

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## CHEMISTRY

## Key Weapons That Decide Victories

► CATALYSTS are the real key weapons that decide the course of wars, Prof. Hugh S. Taylor of Princeton University declared in his address as retiring vice president of the section on chemistry of the American Association for the Advancement of Science.

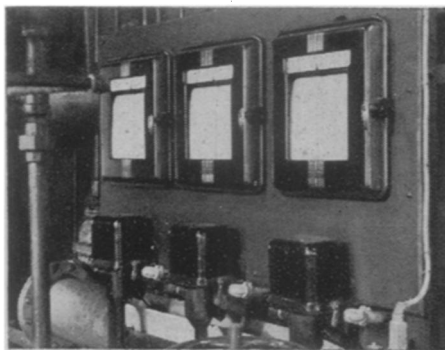
Chemists nearly won the first World War for the Kaiser because they had mastery of two catalytic processes, the utilization of coal tar in explosives and poison gases and the synthesis of nitrates out of the air, Prof. Taylor pointed out. Chemists are winning the second World War for the United Nations through their mastery of catalytic processes that give us an abundance of high explosives, hundred-octane gasoline, synthetic rubber, nylon and plastics.

A catalyst is a substance that promotes a chemical reaction without being directly involved or used up itself. Some catalysts, such as those that weld together the big molecules of synthetic rubber or nylon out of smaller molecules, are active in promoting unions—they are the marrying parsons of chemistry. Others, like those that split heavy petroleum molecules into the lighter ones of aviation gasoline, are specialists in taking things apart—they are the divorce lawyers. But the catalysts themselves remain chemical bachelors.

One of the great successes of recent catalytic chemistry, Prof. Taylor pointed out, has been the production of toluene from petroleum. Toluene is best known as the raw material for TNT—which is chemical shorthand for tri-nitro-toluene. During the first World War, toluene could be made only from coal tar, and cost more than a dollar a pound. Now, thanks to the catalytic cracking of petroleum it costs only a few cents a pound.

Besides being useful in a high explosive, toluene has great potential value in the production of super-gasolines, for which it will be available after military requirements are met. One grade of aviation fuel in which it is used has an octane rating of 125.

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