

## POPULATION

# Population Needs Curbing

If Eastern countries would restrain their high birth rate to the pace set by the Western world, there would be no danger of starving for the world.

► THE world will not starve due to inadequate food production if population increases as it does in Western countries, Sir John Russell, leading agricultural expert and director of famed Rothamsted experimental station, told the British Association for the Advancement of Science at Newcastle, England, in his presidential address.

But the world's food can easily be outstripped locally if the high birth rates of Eastern countries prevail, he warned. If standards of living such as in the United States, Europe and other western areas are desired, the rest of the world must adopt population restraints, such as birth control, he intimated.

Great increases in food production have resulted from the application of science to agriculture, Sir John told his fellow scientists. Whereas a food producer can feed four to five people under the old system of agriculture, modern methods can feed about 15 to 20 persons per farmer, provided the industrial civilization gives him the mechanized tools with which the up-to-date farmer can work.

There are on the average only about one and one-half acres of land per person in the world used to produce food, whereas there exist about five acres per head that might be used so far as climate is concerned. One great problem is to bring the unused three and one-half acres under cultivation.

"The limit to the world's food production at any time is set by the efficiency of the plant as a transformer of radiant energy," he said. "At present this does not exceed 5% and, reckoned on the basis of the amount of food produced, it is much less. Whether this can ever be raised, whether we can ever do more than increase the proportion of assimilation products useful as food, cannot be said. But the present limitations to food production: utilization of 7% to 10% only of the earth's surface; conversion by the animal of 10% to 25% only of its food into human food; and fixation by the plant of no more than 5% of the radiant energy it receives. These are all challenges to agricultural science—which its workers are vigorously taking up."

Sir John warned that food will not be produced in the world merely as a sense of duty.

"If more food is needed, more work must be done," he said. "Food producers will labor to obtain a surplus for the outside world only on a condition that they are provided with adequate appliances and

incentives. The replacement of craftsmanship by mechanization is inducing in agriculture, as in industry, a flight from labor. In many cases now the problem is not so much to increase output as to maintain markets and reduce hours of work. Happily, in spite of modern tendencies, a strong sense of individual responsibility in regard to hungry peoples still survives among food producers."

Great as are the powers of science, he warned, they are of only limited help in the case of human problems, such as population control. "Science can do much to overcome material difficulties and, better still, to satisfy man's thirst for knowledge of the universe in which he lives," he said. "It can insist continuously on our high duty to seek out the truth fearlessly and honestly, and having found what we believe to be the truth, to proclaim it—but in all humility, and recognizing that we may be wrong. Apart from that, science can give little guidance in those great moral and spiritual problems which lie at the root of our most serious troubles today. It opens up many possible ways of life

but gives no help in choosing which to follow; it deals with the facts of existence but not with the values of existence. It gives some light to them that sit in darkness, but it has little consolation for those in the shadow of death and it does not guide our feet into the way of peace.

"Even if science should make large scale fighting wars impossible it can do little against the more subtle wars by infiltration. It offers us great possessions but as the old aristocracy knew, great possessions imply great personal responsibilities. Democracies still have this to learn."

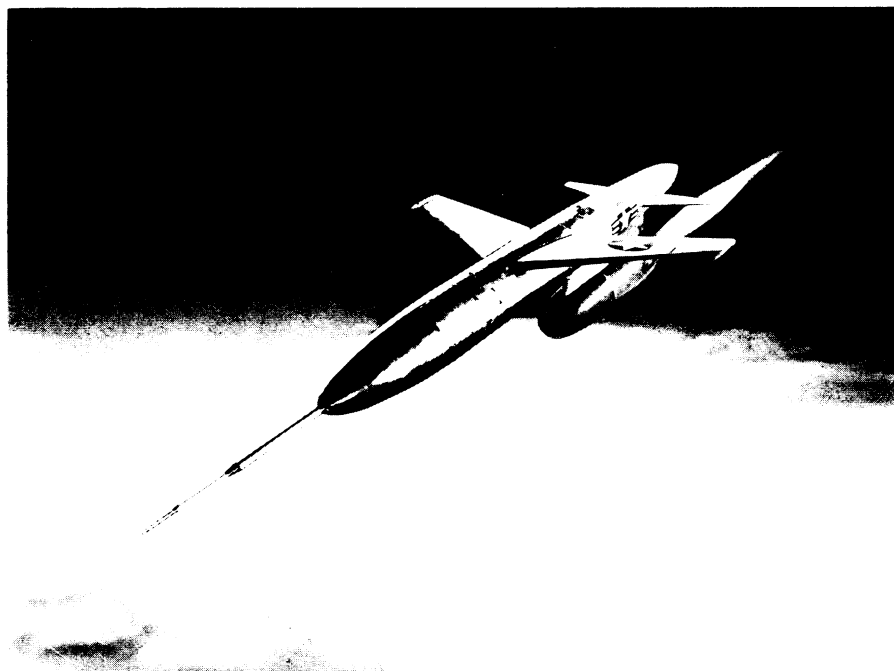
Science News Letter, September 10, 1949

## AERONAUTICS

## Navy Gunners' Skill Against Fast Target to be Tested

► THE effectiveness of Navy anti-aircraft gunners in bringing to earth pilotless, radio-controlled targets, traveling at speeds well up to that of sound, is to be tested soon. The speedy target will be the Navy's plane-like, ram-jet powered KDM-1, built by the Glenn L. Martin Company of Baltimore.

This Martin KDM-1 ultra-high-speed target drone resembles the ordinary jet-propeller fighter with a lance-like projection from its nose, but is smaller. It has swept-back wings and a horizontal tailpiece. Its engine, however, is to the rear and under the bomb-shaped body. It is the ram-jet type, unable to operate until its carrier has a speed of some 300 miles an hour and the engine can gather in enough air to cause



**SPEEDY TARGET DRONES**—These will be used by the Navy to simulate maneuvers of the fastest fighter planes in order to sharpen the eyes of the anti-aircraft gunners of the surface fleet.