

GENERAL SCIENCE

Warn of Red Advances

United States must maintain qualitative superiority in the technological race with the Soviet Union to survive. Russian step-up threatens our present lead.

► A WARNING that if the Russians pass us by in scientific and technological supremacy, we would be at their mercy was sounded by Lt. General Thomas S. Power, commander of the U. S. Air Force's Air Research and Development Command, at the National Security Industrial Association meeting in New York.

He said, "I am confident that, at this moment, we still possess qualitative superiority in most fields of military technology. But there is every indication that the Soviets, the principal threat to our security, are making every effort not only to catch up with us but to surpass us.

"With both quantitative and qualitative superiority on their side, we would lose the protection of the deterrent force and be at their mercy."

He pointed out that we won World War II by having superior numbers. But today, he cautioned, we cannot hope to match the Soviets in either manpower or resources and must rely on superior quality.

In the current race to gain world domination in technology, Gen. Power stated, the Soviets have three distinct advantages.

They can allot a far greater amount of their national income to military spending. They can do the same with resources, and in both instances, without public approval. And they heavily emphasize scientific education, starting to influence the young on technical training in kindergarten.

By using these advantages and devoting their budget, development program, weapons production and policy decisions for the sole purpose of military expediency, the Russians have made great strides since the end of the Second World War.

Using the Soviet Air Force as an example, the General reported that it "represents a formidable threat against this country."

Since 1945, the Russians have:

1. Built up their fighter force, completely jet-equipped, to the largest fighter defense force in the world.
2. Built an imposing fleet of modern conventional bombers, many of which are comparable to the most advanced aircraft we have.
3. Made progress in the field of electronics, in which they are rapidly closing the gap between their own and Western technology in this field.
4. Exploded both A- and H-bombs much earlier than we expected.
5. Appeared to be making progress in the development of long-range missiles.
6. Cut the lead-time required for aeronautical development.

Although Gen. Power sees the technological advances of the Russians as a very real and immediate threat, he said he is optimistic that our industry, and scientific and educational institutions will keep us ahead. This will happen, he stated, only if we make "an all-out effort" to maintain our still existing technical predominance.

"For the Soviet Union," he concluded, "the finish line of this race is world domination; for the United States and the rest of the free world, the finish line is survival in freedom."

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MEDICINE

Patients See Doctors Most Often for Colds

► PATIENTS call or see a doctor more often because of colds, influenza, bronchitis and pneumonia than for any other disease. This is true in spring and summer as well as in fall and winter.

Accidental injuries are next ranking reason for seeing a doctor.

These figures are from a survey of sickness in Washington State reported by Seymour Standish Jr. of the Washington State Health Council, Blair M. Bennett and Kathleen White of the University of Washington Medical School and Dr. L. E. Powers, now at the American University of Beirut in Lebanon.

Cancer, ranking second as cause of death in Washington in the year of the survey (1953), ranked eleventh as a cause for consulting doctors.

"The average Washingtonian consulted a physician about five times in 1953," the survey reporters state. "Women were patients markedly more often than men, even omitting all conditions peculiar to their sex. The very old and the very young were the best customers in relation to their proportion of the population generally.

"General practitioners, constituting slightly less than half the physicians in the state, attended more than half the patients. Specialists and osteopaths saw fewer patients per day than G.P.'s.

"Preventive medicine is a substantial part of medical practice in regard to the supervision of pregnancy, delivery and well-baby care. These conditions account for about two-thirds of all visits by patients who are not ill.

"However, other types of preventive care, such as routine examinations and immunizations, are a relatively minor part of medical practice."

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HEAD WORK—Paralyzed by polio more than three years ago, Sanford Shaleen of Minneapolis can still do a good day's work. Although he can move only his head and feet, engineering co-workers at Minneapolis-Honeywell developed a unique page-turning machine that operates at a turn of the head, while a toe movement switches on a dictating machine on which he records observations on technical material he reviews.

NUTRITION

Kind of Starch in Diet Affects Vitamin Use

► THE KIND of sugar and starch in your diet may have a bearing on how your body utilizes the vitamins in your diet, Dorothy Jutton and Helen T. Parsons, University of Wisconsin nutritionists, suggest on the basis of studies made with animals.

Raw egg white in purified rat diets would tie up the vitamin, biotin, so animals could not use it, it was found several years ago. The carbohydrate in the original diet was sucrose, ordinary sugar. Dextrin, a complex mixture of compounds from starch, gave better results when substituted for sucrose, the latest studies show.

Use of dextrin in the diet containing raw egg white permitted better growth with fewer symptoms of biotin deficiency. Compared to dextrin-fed rats, the animals on sucrose-egg white diets stored only one-fourth as much biotin in their liver tissues.

It could be that dextrin reduces the binding power of the raw egg white, or dextrin may stimulate microorganisms that can prevent the raw egg white from working.

Dextrin may allow microorganisms to make more biotin under these conditions or it may allow the animal to absorb more of this vitamin.

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