

GENERAL SCIENCE

Even in War, Science Saves More Than it Destroys

President of AAAS Asserts That Opposition To Totalitarianism Is Fight for Individuality

TOTALITARIAN governments fight against nature itself when they try to make everyone alike, Dr. A. F. Blakeslee, of the Carnegie Institution of Washington declared in his address as president of the American Association for the Advancement of Science.

"Opposition to totalitarianism is not merely because it attacks man's rights but also because it suppresses his personality," Dr. Blakeslee said. "Individuality is the kernel of democracy, the biological basis of the struggle for freedom. When we fight for individuality we fight on the side of nature."

In support of his thesis, the speaker cited many examples of unpredictable individual differences among superficially similar persons—differences reaching even to such things as inability of some to taste or smell substances that are extremely disagreeable to others. Everywhere in nature, individual differences are the universal rule. "Like as two peas" is not only trite but untrue: it should run, "Unlike as two peas."

Dr. Blakeslee also defended science against the charge of ruining the world through helping to make war more deadly and destructive. Admitting that

some of the contributions of science have been perverted by evil men to evil uses, he declared that this is more than offset by the life-saving functions of science even in war.

"Deaths due to battle injuries increased from 15 per thousand for the Mexican War through 33 for the Civil War to 53 for the first World War," he stated. "The death rate due to disease, however, decreased from 110 through 65 to 19 for the World War. The result is that the total death rate declined from 125 in the Mexican War through 98 in the Civil War to 72 per thousand in the World War.

"It is a satisfaction to feel that though implements of war have increased in destructiveness, those who are fighting to preserve our free way of life may not be subjected to greater risks than our forefathers assumed when they too fought for their country."

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No "Jungle Law"

THE "LAW of the jungle" does not apply to human relations, Prof. Alfred E. Emerson of the University of Chicago said in his address as president

of the Ecological Society of America. The principle of cooperation is found working in all living organisms, he said, and is far more important in the evolution of human society than is the "struggle for existence" between human individuals or human groups.

Over-emphasis upon the principle of natural selection proposed by Darwin, and failure to keep abreast of later scientific concepts, were held responsible by Prof. Emerson for the persistence of this over-simplified, over-sanguinary outlook:

"Darwin emphasized natural selection as the basic mechanism of evolution. Today we feel that our knowledge of the genetics of variation and the role of isolation gives us a clearer picture of evolutionary dynamics. However, natural selection is still of tremendous importance, not so much as the prime factor in the origin of all species as it is the explanation of practically all complex adaptation."

The tendency on the part of some persons to idealize the social development of such insect communities as beehives and ant colonies, even to the extent of regarding them as models for humans to follow, is apt to be misleading, the speaker warned. Human beings and insects are too unlike for one to gain much by aping the other.

"Human social evolution has taken place with great rapidity compared to the slow evolution of insect societies," he pointed out. "We also find such human social systems as political government, law, police, educational institutions and religion lacking among the insects."

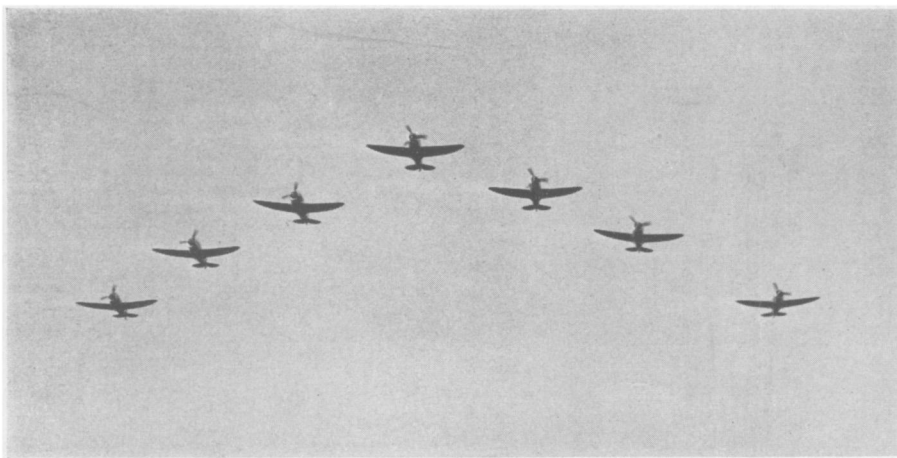
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Plant Tissue Aids Research

MASSES of plant tissue, separated from the parent plant and growing in laboratory dishes of nutrient solution, are yielding answers to old puzzles about life processes that could not be learned from whole plants because they are too complex, Dr. Philip R. White of the Rockefeller Institute for Medical Research, stated in the Stephen Hales Prize address before the American Society of Plant Physiologists.

The ideal goal of the tissue culturist, Dr. White said, is to obtain a single plant cell and make it live and grow all by itself. This has not yet been attained; the nearest scientists have come to it is the culturing of bits of fairly uniform, undifferentiated tissue, with thousands of cells all essentially alike.

With such tissue cultures, the limits of plant tissues' appetite for iron have already been determined. Any solution



FOR VICTORY

These pursuit planes can climb high into the lower layers of the stratosphere and battle the enemy above the clouds. They are Republic P-43 planes.

with a concentration of more than one part of iron to 50,000 of water is poison to the cells. Yet if the solution entirely lacks iron the tissue stops growing and will not resume growth until at least a trace of iron is supplied. Other tests have suggested that plant cells prefer to feed on sucrose (cane sugar) rather than the

simpler sugar, glucose; a conclusion at variance with the statements in most textbooks. Still further researches are being conducted on mineral requirements, vitamin, enzyme and hormone reactions, and other physiological problems simplified by the undifferentiated samples of plant life in the laboratory dishes.

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can greatly improve diet, Dr. Clark said.

The improved diet is not always reflected in improved school work, however. Where children are suffering an extreme lack of some vitamin, supplying the vitamin in large amounts greatly stepped up their rate of learning. In cases not so extreme the effect was little.

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PSYCHOLOGY—MEDICINE

Scared Feeling, Tearfulness Cured in 30 Minutes

Injections of Vitamin B₁ Give Quick Relief When Difficulty Is Caused by Vitamin Lack

A CONSTANT scared feeling, short tempers, poor memory, easily hurt feelings and tearfulness can be cured in from 30 minutes to 20 hours by injection of vitamin B₁ (thiamin) when the upset state of mind and feelings has been caused by lack of that vitamin in the diet, Dr. Tom D. Spies, of the University of Cincinnati and Hillman Hospital, Birmingham, told members of the Association for Research in Nervous and Mental Disease.

The patients whom he and his associates, Dr. John Bradley, Dr. Milton Rosenbaum and Dr. John R. Knott, examined did not have any symptoms of beriberi or polyneuritis, the serious ailments due to lack of vitamin B₁. But questions about what they usually ate showed they were not getting enough of this vitamin.

Not every nervous, frightened, irritable person can be cured by the vitamin because such upset emotional states, generally called neurasthenia, may occur from other causes than lack of vitamin B₁, Dr. Spies emphasized. The vitamin treatment, therefore, is advised only for patients who have not been getting enough of it in their food.

The swift recovery of the patients he reported apparently shows that the vitamin lack had kept their brains from functioning efficiently but had not damaged the brain cells. In some cases actual damage to brain structure might occur from the vitamin lack and in such cases recovery will not come "overnight," Dr. Spies pointed out. In such cases all the doctor can do is to supply the lacking vitamin to halt the damaging process and help the body repair the damage.

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PSYCHOLOGY

Better Teaching In School Will Help Children's Diet

Experiment Shows That Even in Poor Community General Diet Can Be Improved Without Other Aid

GIVING a child better food to eat may not improve his school grades, but improving the instruction he gets in school will insure that he eats better food, Dr. Harold F. Clark, of Teachers College, Columbia University, told the American Association for the Advancement of Science in Dallas.

In wartime, as well as in peace, schools

can be a crucial factor in bringing about an adequate diet to make America fit, he said in revealing details of an experiment conducted by the Sloan Foundation to show that through the schools the diet of even a very poor community can be improved without outside aid.

Even among the bottom third of the population, the proper school instruction

Need Understanding Peace

WHEN peace comes it must be based on understanding if it is not to be another Munich Pact sort of peace, Dr. H. Meltzer of the Psychological Service Center, St. Louis, told the American Association for the Advancement of Science.

In industrial relations, he said, in family relations, school relations as well as international relations, there is no promise in the peace that is a fiction, an hypocrisy.

Language should be the best means of providing understanding. But as it is used by some people, Dr. Meltzer indicated, it only serves to excommunicate them from their fellows rather than to promote mutual understanding.

"There is only one kind of peace the mental hygienist would advocate," he said, "and that is based on the kind of understanding that makes further understanding possible."

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Bilingual Teaching

IMPORTANCE of teaching both Spanish and English to grade school children in America's Southwest and Puerto Rico was stressed by Prof. Herschel T. Manuel, of the University of Texas, speaking before the American Association for the Advancement of Science.

"If English-speaking and Spanish-speaking peoples of the United States are to build an effective democracy," said Prof. Manuel, "they must speak a common language."

In Puerto Rico, he pointed out, a child starts his schooling in his vernacular, Spanish, and does not begin to read the second language, English, until the middle of the second year. From that point on, the part English plays gradually increases.

In the Southwest, however, the Spanish-speaking child generally has no opportunity to study his vernacular until he reaches high school. Many of these children, Prof. Manuel said, fail to develop proficiency in either language.

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