

Do You Know?

Mammals are the only animals that have hair.

About 350,000 city high school boys and girls helped on *farms* last summer.

Some *coal mining* in central Chile is complicated by the location of coal beds under the sea.

Fossil camels found in North America show that some of the family were 15 feet in height and others were the size of jackrabbits.

The percentage of Army motor *vehicles* in the United States which are in repair shops for periods longer than four days is less than 4% of the total.

Coke is now being produced in Utah from the Geneva coal mine in the southeastern part of the state, for a steel plant near Provo which will supply ship plates for West Coast shipbuilding.

More than 500,000 barrels of *oil* a day are being delivered to the eastern states now than a year ago; the "Big Inch" pipeline is responsible for three-fifths of the increase, tankers for the rest.

Camel hide is used to make leather for shoes and harness, camel hair is woven into cloth, camel milk is a highly prized food, and camel flesh from a young animal is a delicate meat, tasting somewhat like veal.

A *drilling rig*, which got mired in the mud en route to Kansas after an unsuccessful exploratory trip for lead and zinc in Oklahoma, was set up and put to work on the spot; the result was the discovery of a rich ore field.

Range *fire* destruction on federal grazing lands in 10 western states in 1943 covered less than half the acreage burned over in 1942, due largely to better organized and equipped fire crews; the 1943 burned-over area was 837,000 acres.

The Bureau of Reclamation has started on a preliminary outline for a post-war *public works* program calling for the expenditure, for irrigation and power developments in 17 western states, of perhaps \$3,000,000,000 over a period of five or ten years.

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year, in comparison to 26% last year, and 22% in the case of the First Search. The scholarships, with the exception of the two grand scholarships, will be distributed among boys and girls in the same ratio.

"A major need for America today is the discovery and development of scientific ability among boys and girls now in high school," the Science Service announcement states. "Real ability for creative research and engineering is rare. Many who do not now have the opportunity to develop their scientific talents will be discovered and made available for America's future progress through this Science Talent Search.

"This is more than a scholarship contest. It is a major step toward making available potential scientific talent to important tasks in war and peace. Within the next five years, either in war or peace, boys and girls now in high school must begin to take leadership

in scientific research and engineering."

The Annual Science Talent Search is conducted by Science Service, 1719 N St., N. W., Washington 6, D. C., as one of the activities of Science Clubs of America. Awards are provided and the Science Talent Search made financially possible by the Westinghouse Electric & Manufacturing Company, a leader in scientific research, engineering and manufacture in the electrical industry, as a contribution to the advancement of science in America.

Science Service is the non-profit institution for the popularization of science, with trustees nominated by the National Academy of Sciences, National Research Council, the American Association for the Advancement of Science, the E. W. Scripps Estate and the journalistic profession.

Science Clubs of America, administered by Science Service, today has more than 4,000 affiliated clubs, with a membership of more than 100,000.

Science News Letter, January 29, 1944

MATHEMATICS

World Unified by 1950?

► IT IS not at all improbable that the whole world will be united under one government by 1950, a study of the trend throughout the ages toward larger and larger empires reveals.

Conquest by land alone could never have attained world-wide unification. But conquest by both land and sea might have brought the world under one power about 800 years from now, Dr. Hornell Hart, Professor of Sociology at Duke University, states. The use of air power, however, seems destined to bring about a world federation in the near future, mathematical studies show.

"Statistical evidence indicates clearly that the trend for thousands of years has been toward larger and larger governmental areas," states Dr. Hart, whose studies reveal that the areas of empires have been growing at ever-increasing rates of speed.

Since the dawn of history one empire after another has broken all previous records for territory administered by one ruling authority, Dr. Hart states. Studying the largest regions under one rule for different periods of history, he finds that even in prehistoric times the areas controlled by individual governments were increasing in size at accelerating rates.

The maximum area controlled by a single political organization around 50,000 B.C. the Duke professor estimates to be about 7,000 square miles, while in 5,500 B.C. the greatest region under one rule was probably 22,500 square miles.

From 5,500 to 750 B.C. the size of the most extensive political organizations increased about 154 square miles per year. In 750 A.D. the Saracen Empire included about 4,300,000 square miles.

When both land armies and fleets were used in extending power, the regions under one rule became increasingly greater. If these sea-borne empires had continued to grow at the rate of 46,750 square miles per year, Dr. Hart estimates, the total land area of the world would have come under one government by about 2750 A.D.

The territory seized by Japan was the first empire established through major use of air power. The area of this empire in October, 1942, totalled approximately 2,640,000 square miles.

Mathematical analysis reveals that the increase in production of aircraft, speed of world travel and maximum range of projectiles has already exceeded the rate of acceleration required to attain a world-wide government as early as 1950.

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