

Anniversaries of Science

June 23, 1924—Lieut. R. L. Maughan, of the U. S. Army Air Service, flew across the American continent from New York to San Francisco, in 21 hours, 44 minutes.

Using a plane with a wingspread of only 32 feet and a loaded weight of less than 2,800 pounds, Lieut. Russell L. Maughan, speed pilot of the Army Air Service, is making preparations to fulfill his unsatisfied ambition of flying across the continent between daylight and dark of a single day. . . .

The total flying distance from Mitchell Field, Mineola, N. Y., to Crissy Field, The Presidio, San Francisco, is 2,540 miles, which at 160 miles an hour would require 15 hours and 53 minutes flying time. Stops for fuel will be made at Dayton, Ohio, St. Joseph, Mo., Cheyenne, Wyo., and Salduro, Utah. During the next four weeks along the latitude of the flight, the sun will rise about 4:30 and set about 7:30, which with nearly an hour of twilight at each end will make more than 16 hours of daylight available.

Three hours time will be gained by flying westwards, which will give Lieutenant Maughan really 19 hours in which to complete his flight, for when it is 7:30 p. m. at Mitchell Field by Eastern Standard Time it is only 4:30 p. m. at San Francisco and the sun is still three hours high. To offset this gain there will be some loss due to flying against the prevailing westerly winds at the flying levels, but in summer these winds are usually moderate and sometimes absent.

—*Daily Science News Bulletin, Science Service, June 13, 1924.*

June 26, 1824—Birth of William Thomson, afterward Lord Kelvin, the distinguished British physicist.

The most fundamental change in the attitude of applied mathematicians has been in the recognition and working out of the consequences of simple fundamental principles or laws. Foremost amongst the latter is that known as the conservation of energy, brought into prominence in the middle of the nineteenth century by the labors of Helmholtz and Kelvin. It is now regarded as the chief invariant of the universe and has been applied to every branch of physics.

—Brown: *Mathematics in The Development of the Sciences.*

June 27, 1829—James Smithson died. Although an Englishman, he lived on the Continent and left his fortune "to the United States of America, to found at Washington, under the name of the Smithsonian Institution, an establishment for the increase and diffusion of knowledge among men."

Smithson claimed to be of noble descent; and in his will declares himself the son of Hugh, first Duke of Northumberland, and of Elizabeth, niece of Charles the Proud, Duke of Somerset. He was educated at Oxford, and paid particular attention to

the study of the physical sciences; was reputed to be the best chemist in the university, and was one of the first to adopt the method of minute analysis. As an example of his expertness in this line, it is mentioned that on one occasion he caught a tear as it was trickling down the face of a lady, lost half, examined the remainder, and discovered in it several salts. He made about thirty scientific communications to different societies, principally on chemistry, mineralogy, and geology. His scientific reputation was founded on these branches, though, from his writings, he appears to have studied and reflected upon almost every department of knowledge. . . .

The objects [of the Smithsonian Institution] specified in the act of Congress evidently do not come up to the idea of the testator, as deduced from a critical examination of his will. A library, a museum, a gallery of arts, though important in themselves, are local in their influence. . . . [The plan] adopted is to stimulate all persons in this country capable of advancing knowledge by original research, to labor in this line—to induce them to send the results to the Institution for examination and publication, and to assist all persons engaged in original investigations as far as the means will allow; also to institute, at the expense and under the direction of the Institution, particular researches. This plan has been found eminently practicable, and by means of it the Institution has been enabled to produce results which have made it favorably known in every part of the civilized world.

—Joseph Henry, Secretary of the Smithsonian Institution, in an address published in 1854.

Science News-Letter, June 18, 1927

HYGIENE

Watch For Typhoid!

The exodus into the great open spaces that begins about now has moved Assistant Surgeon General W. F. Draper, of the U. S. Public Health Service, to urge vacationists to be on the safe side and have a typhoid inoculation before they set out. Typhoid follows in the wake of vacations, especially those taken via automobile, almost more than any other disease, he declared.

"Therefore," the health authority continued, "if means have been devised to avoid the hazard of typhoid fever they should be consciously known and applied as guiding principles in our vacation plans. The germs that cause typhoid fever are usually conveyed through contaminated water, milk or food.

"A safe rule to follow relating to water is to drink water only from known safe supplies. Most city supplies are safe, for chlorination of public water supplies is now almost universal. If you are out of reach of known safe water you should boil the water and make it safe. The only safe milk is pasteurized milk. If then you use only milk that has been effectively pasteurized you may

be reasonably assured of safety from this source."

The epidemic of thousands of cases of typhoid fever that has raged all spring in Montreal has led to serious apprehension on the part of federal health officers in this country. Tourists and organizations contemplating sessions in that city are advised to be inoculated if, considering the danger involved, it is still absolutely necessary to include Montreal in their itineraries. For a time an embargo was placed on the shipment of milk into the United States from any point in the area included within a radius of 200 miles of Montreal but this has been modified so that properly certified milk is accepted from Canada except that which has been trans-shipped or handled in the city of Montreal. Many of the cases during the early part of the epidemic are said to have had their origin from contact with typhoid carriers, people who have recovered from the disease but who are still capable of transmitting the contagion.

Children from 10 to 14 years old are the most susceptible, according to statistical studies on typhoid made by the Metropolitan Life Insurance Company. Adolescents in the succeeding years from 15 to 19, though not so susceptible, show the highest death rate, however. The actual danger of a fatal termination in typhoid cases increases continuously with age, as might be expected, and is greatest in old age in the very period where liability to infection is the least.

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EVOLUTION

Purposive Evolution

A billion years ago, sequestered in
A lonely stream,

A young Amoeba sprawled upon a
stone,

And dreamed a dream.

* * *

There's something in the air of India
That is unique.

In early times, this fecund potency

Of which I speak,

Was aptly proved, when Sivapithecus,

An anthropoid—

An ape of unexampled cleverness,

Was well employed

In swift mutations leading on to man.

* * *

Amoeba's bright
Young dream was true at last; for
he could seize

A club and fight.

—Richard Ashman.

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