

was no such girl as Minnehaha.

The real Hiawatha married twice but not to any lovely maid of the Dacotahs by the name of Laughing Water. Dekanawida devoted his life to his mission of bringing peace to the tribes, and nothing is said about his marrying.

It is believed that Longfellow got the singing name for Hiawatha's bride out of a book on the Sioux. In this book he read the legend about the beautiful waterfall in Minnesota known as the Minnehaha or Laughing Waters.

School children learn about Indians from Hiawatha, and that means that they get their introduction to Indian life as it was among Chippewa Indians, on the forest shores of Lake Superior. When Schoolcraft mixed a Chippewa god in with his Iroquois Indians to make Hiawatha, he gave him a Chippewa background. Schoolcraft found the Chippewas more interesting than the Iroquois. In fact, he became so intensely interested in one Chippewa that he married her.

When Longfellow studied the Schoolcraft legends, therefore, and wrote the lines beginning, "Give me of your bark, O Birch tree," he was describing a Chippewa canoe. An Iroquois would have made his canoe of slippery elm bark, for no canoe birch grew in New York State.

Longfellow's poem, as science sees it, is fantasy with a remote and confused historic background. But the spirit of "Hiawatha" is the spirit of the red man at his best. The forest life of the Chippewa described by the poet has given many a school child a glimpse into the Indian's lost world. And now science has given back to Dekanawida and Hiawatha their proper place in the roll of fame. So all's well that ends well.

Science News Letter, August 25, 1934

▼ R A D I O ▲

THE DEPRESSION AND THE NATION'S HEALTH

an address by

Edgar Sydenstricker

Director, Public Health
Activities, Milbank
Memorial Fund

Wednesday, Aug. 29, at 3:30
p. m., Eastern Standard
Time, over Stations of the
Columbia Broadcasting System. Each week a prominent
scientist speaks over the
Columbia System under the
auspices of Science Service.

PHYSIOLOGY

Curse of the Hapsburgs Claimed Spanish Prince

Alfonso's Son Inherited Fatal Bleeding Tendency From His Mother, Though Women are Never "Bleeders"

HEMOPHILIA, the hereditary disease of bleeding, that contributed to the death of ex-King Alfonso's fourth son, Prince Gonzalo, is one of the strangest of maladies.

It affects only the male but it is transmitted only by the female who herself does not have the difficulty. It thus skips a generation.

In the case of the ex-royal family of Spain, Queen Victoria, though herself not hemophilic, nevertheless passed on to some of her sons the liability of severe and recurring bleeding. The eldest son, Prince Alfonso, who renounced his right to the now non-existent throne of Spain in order to marry a commoner, is also known to be a "bleeder," while the other two sons are reported as not being so afflicted.

In another way the "bleeding disease" has brought tragedy into the life of Spain's ex-royal family. Ex-King Alfonso in 1931 forbade his two daughters to marry because he realized the danger that they might transmit this ailment to some of their sons. This command broke off the engagement of the Infanta Beatriz to Prince Alvaro d'Orleans. By a coincidence it was the Infanta Beatriz who was driving at the time of the slight but fatal auto accident to Prince Gonzalo.

The disease also existed in the family of the last of the Romanoffs, Tsar Nicholas II. Alexis, the late Tsarevitch, was hemophilic. It is said that the bleeding strain entered the royal families of Europe from the Hapsburgs, the ancient imperial family of Austria, and the disease has been called the "curse of the Hapsburgs."

Science has searched in vain for some simple method of determining whether or not a woman is a carrier of the ailment and is capable of passing it on to her sons. The only way to distinguish between those who carry and those who do not carry the hereditary strain is the practically useless method of waiting until sons and grandsons have been produced. Two tests, one of blood type and

the other a reaction with cobra venom, have been produced, but neither has proved successful.

Experiments by Dr. Carroll La Fleur Birch of the University of Illinois College of Medicine hold out hope that injections of one of the female sex hormones may be useful in treating the disease. Working on the theory that there must be some factor in the woman which suppresses the disease when it is present in her hereditary make-up, Dr. Birch hit upon ovarian extract as the probable element in the female mechanism that held the disease in abeyance. He therefore tried this substance in treating two boy "bleeders" with encouraging results. Other physicians did not have the same success but the experiments are in progress.

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PHYSICS

New X-Ray Method Makes Quick Analyses Possible

BY HOLDING a piece of metal up to a beam of X-rays it is now possible to tell quickly what are its chemical constituents. This is the seemingly magical method of analyzing metallic substances announced by Dr. L. V. Hamos of Stockholm.

The Swedish investigator has already built himself metallic "sandwiches" consisting of paper-like strips of metal piled one on top of the other. By shining X-rays at the laminated edge of the metal "sandwich" Dr. Hamos has been able to tell what kind of metal was used for each layer. In some cases the edge of the metal strips was only 1/250 of an inch thick.

Reporting his new method of chemical analysis to *Nature*, Dr. Hamos explains that when the initial beam of X-rays (all of the same wavelength) strikes the laminated edge it produces secondary X-rays, which come off from each of the various kinds of metal illuminated by the primary beam. These secondary X-rays are characteristic for

each different kind of metal known, so that if the "fingerprint rays" could be sorted out in some fashion a chemical identification is possible.

The apparatus for analyzing the tell-tale secondary X-rays consist of a crystal of pure salt shaped into the form of a cylinder. This cylinder does for the mixed-up secondary X-rays what an ordinary prism of glass or a spectrum grating does for white light—it breaks it up into its colors, or wavelengths.

As the X-rays come from the salt crystal they strike a photographic plate at different places and leave marks which distinguish each metal present in the original sample of metal.

Dr. Hamos is carrying out his research in the Rikmuseets Mineralogiska Avdelning in Stockholm. His method is adapted for the rapid analysis of metals and metallic ores where the sample's appearance must not be changed.

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AIRPLANE NOISE ANALYZED DURING FLIGHT

The fact that an airliner is noisy is common knowledge, but the elements of which the noise is composed are of great interest to scientists because they may show the way to curing airplanes of many of their sound ills. Westinghouse engineers are taking data on all the sound vibrations occurring in an airliner cabin while the ship itself is in midair.

PHILATELY

Government Now Honors Science on Postage Stamps

WITH the issue on Aug. 15 of the General Goethals 3-cent Canal Zone stamp, commemorating the twentieth anniversary of the opening of the Panama Canal, another phase of American science was dedicated to the mails.

Postage stamps have recorded history for the people more widely than history books, but most of their illustrations have been kings and presidents.

When the new commemorative stamp went on sale at Colon, the Post Office Department of the Canal Zone placed on visual record George Washington Goethals, chief engineer and administrator of one of the world's greatest engineering feats.

His first two names bring to memory another engineer and builder, who was later to become the first president of the United States. First a surveyor, and then a civil engineer, George Washington built power dams and canals, many of which are still visible in Virginia. He appears on the standard 2-cent and 3-cent U. S. postage stamps.

Benjamin Franklin, whose likeness appears on the present 1-cent stamp, is better known for his scientific work than Washington. As a pioneer in the field of electricity, much of the credit

for our present comforts should be given him.

Thomas Jefferson, although chiefly famed as a barrister, diplomat and statesman, was a student of the sciences. He is said to have made use of higher mathematics, especially the calculus, all through his life, and he studied fossil bones in the White House East Room.

There is a custom in this country which forbids the use of any living person's picture on a United States postage stamp. Even a living person's name was once barred. Because of the importance attached to Lindbergh's flight across the Atlantic in 1927, a 10-cent stamp bearing his name made him the first living man to be immortalized by the Post Office Department. Two years later the rule was broken a second time, when a postage stamp appeared which carried the name of Thomas A. Edison. This issue honored the fiftieth anniversary of the first Edison electric light.

Stamps are used for other purposes than postage. For the benefit of game birds, especially ducks, a dollar hunting license stamp will be issued, the receipts to be used for the development of bird sanctuaries. J. N. ("Ding") Darling, noted cartoonist and now chief of the

U. S. Bureau of Biological Survey, designed the stamp.

Foreign countries have given philatelic honors to their famous scientists. The physicist Volta, pioneer in electricity for whom the "volt" was named, was commemorated by Italy in a stamp issue. Pasteur, father of bacteriology, and Berthollet, the chemist, have both appeared on French stamps.

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PHYSICS

Speech "Compressed" To Carry Across Atlantic

USE OF the radio-telephone for commercial communication with Europe is commonplace today. But few people who sit down in New York and call London over the air realize the tricks of electrical engineering which make possible the proper transmission of their voices across three thousand miles.

Radio telephone users do not know that voice, for example, must first be "compressed" before it is sent out on the radio waves and then "expanded" back to something like its normal characteristics at the receiving end.

Transatlantic telephone companies use a device called a compandor to raise the energy in the voice tones so that they can more successfully compete with static on their lightning-like journey to Europe.

Ordinarily the energies coming into a radio telephone may have a range from