

somes. American upland has two sets of 26 chromosomes. A cross between the two has one set of 13 chromosomes from the Asiatic and one set of 26 from the upland, or a total of 39 chromosomes. Such a hybrid has two good reasons for being infertile. In the first place the chromosomes from the Asiatic are not sufficient in number to pair with those of the upland. The behavior of unpaired chromosomes in dividing cells is irregular. In the second place a 39-chromosome plant cannot distribute 39 chromosomes equally to form reproductive cells.

By doubling the chromosome number with colchicine this hybrid then has 78 chromosomes or two times 39. It has two sets of 13 and two sets of 26, or the same number as both parents. In this way each chromosome is provided with a mate from its own set thereby restoring regularity of chromosome distribution.

*Science News Letter, August 12, 1939*

## BOTANY

## Former Remedy for Gout Aids Sugar Plant Growth

**G**IANT stalks of sugar cane, with diameters two or four times that of ordinary cane and with greater sugar content, promise to result from treatments with the drug colchicine in experiments by D. M. Weller, plant cytologist of the University of Hawaii and of the Hawaiian Sugar Planters' Association.

Among 10,000 seedling sugar cane plants treated, many giant stalks resulted. But Mr. Weller cannot yet state positively whether the larger stalks are the result of colchicine treatment or whether they are freaks of nature.

The drug colchicine has been applied to buds, seeds, and shoots of plants by

scientists in the past few years with surprising results. The size of ears of corn has been increased and the vitamin con-

tent improved. Flowers of large size have also resulted from colchicine treatment.

*Science News Letter, August 12, 1939*

## AERONAUTICS

# Germany Abandons Airships Because They Lack Helium

## Airline Formed in Germany to Operate Commercial Air Routes Using Airships Has Been Disbanded

**G**ERMANY has completely abandoned the construction of airships and the famous factory at Friedrichshafen, out of which came the Graf Zeppelin, the ill-starred Hindenburg and more than 100 other lighter-than-air craft, is being converted into a conventional airplane factory, it is reported.

Failure to obtain helium, the safe lifting gas of which the United States has a virtual monopoly, or to develop a non-inflammable form of hydrogen, is blamed for the abandonment of the giant ships.

The Deutsche Zeppelin Rederei, formed to operate commercial air routes using airships, has also been disbanded and its personnel scattered throughout other branches of industry.

The decision was seen in U. S. aeronautical circles as possibly a "death blow" to the future of lighter-than-air craft. Germany and German technicians have been at least nine-tenths responsible for their development during the 40 years since Count Zeppelin first started experimenting with the cigar-shaped aerial vehicles.

Following the destruction of the Hindenburg when its hydrogen lifting gas

caught fire as it came in for a landing at Lakehurst, N. J., on the evening of May 7, 1937, the German government attempted to purchase helium. A law permitting its export, for non-military purposes only and subject to the approval of the Munitions Control Board was rushed through Congress. But sale of the gas has been consistently blocked by Secretary of Interior Ickes, a member of the board.

The German embassy declared the abandonment of airship construction, reported by a British aeronautical journal, *Flight* (July 20) "is news to us."

The abandonment of the airship indicated also that reports of discoveries of helium in Germany are either untrue or do not involve enough helium to make airship operation independent of American supplies of the gas.

The destruction of the three largest U. S.-built airships, the Navy's Shenandoah, Akron and Macon, has almost killed interest in them in the United States. A bill authorizing construction of a new lighter-than-air craft for the Navy was passed by Congress, but bids submitted under it were rejected by the Navy Department.

Germany has indicated previously that experiments with the lighter-than-air craft would be dropped unless a safe substitute for the inflammable hydrogen could be found or secured.

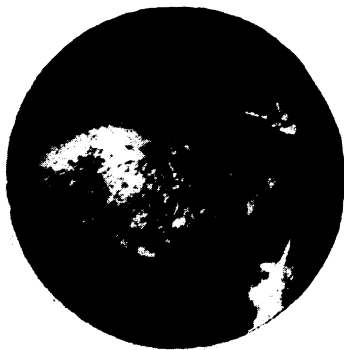
*Science News Letter, August 12, 1939*

## HISTORY

## Blackbeard The Pirate, Public Enemy Number 1

**B**LACKEARD the Pirate was public enemy number one in the news of 1718. This antiquarian find is reported by the National Park Service, which has been "digging" into early American news files.

You will hear more about this old-style public enemy, since the scene of his capture at Ocracoke Inlet, North Carolina, is in the new Cape Hatteras Na-



**BIGGER SUGAR CANE**

*At the left is an untreated shoot of sugar cane, at right is an enlarged shoot produced by treatment with colchicine.*

tional Seashore. This first national seashore to be authorized by Congress waits on one practical detail. Land or money for buying it must be donated, so Congress decrees.

Meanwhile, CCC men work at the sand dunes and Hugh R. Awtrey of the National Park Service regional headquarters at Richmond gets ready for questions tourists will ask about Blackbeard.

The pirate's doings were leading news for months, Mr. Awtrey finds, by studying the colonial press. At last, the public enemy was wiped out by five pistol balls and 20 "dismal cuts." His head, worth 100 English pounds reward money, was hacked off and the rest of him went down into Davy Jones' locker.

But it was a leisurely press that followed news of Blackbeard, or Capt. Edward Teach. Here was a sea rover whose lurid crimes make a Dillinger seem just a village rowdy, says Mr. Awtrey. Yet the only regularly issued newspaper in America, the weekly *Boston News-Letter*, was printing rumors of Teach's capture and contradictory denials for weeks after British Lieutenant Maynard had got his man.

Three months elapsed after Teach's death before the details got into the paper. Part of one sentence shows the journalistic style:

"Demelt struck in between them with his Sword and Cut Teach's Face pretty much; in the Interim both Companies ingaged in Maynard's Sloop, one of Maynard's Men being a Highlander, ingaged Teach with his broad Sword, who gave Teach a cut on the Neck, Teach saying well done Lad, the Highlander reply'd, if it be not well done, I'll do it better, with that he gave him a second stroke, which cut off his Head, laying it flat on his Shoulder."

If early American news was slow, it was vivid.

*Science News Letter, August 12, 1939*

An athletic field in Liverpool, England, can be thawed in cold weather by means of a network of electric wires underground.

## ● RADIO ●

Dr. Philip Fox, director of the Museum of Science and Industry in Chicago, will be the guest scientist on "Adventures in Science" with Watson Davis, director of Science Service, over the coast to coast network of the Columbia Broadcasting System, Monday, August 21, 5:45 EDST, 4:45 EST, 3:45 CST, 2:45 MST, 1:45 PST. Listen in on your local station. Listen in each Monday.

### GENERAL SCIENCE

# Who Discovered Antarctic Is Still Unanswered Question

## Pacific Science Congress Learns That Region Is Not All Ice; Little Evidence Supports Land Bridge Idea

**W**HO discovered the Antarctic continent?

In spite of centuries of exploration, extending back to the visit of Dirck Gheritz in 1599, this question remains unsettled, according to a paper presented to the Pacific Science Congress in Berkeley, Calif., by Dr. Bharne Aagaard, of Stavern, Norway. The paper gave a detailed account of the various claims, among which is included Bransfield's discovery of Trinity Land, January, 1820; Palmer's discovery of Palmer Land, November, 1820; Bellingshausen's discovery of Alexander Land, January, 1821; John Biscoe's discovery of Enderby Land, February, 1831.

Another question that remains to be settled is whether the Antarctic continent once formed part of a land bridge between South America and Australia. According to a paper presented by Dr. G. G. Simpson, geologist, American Museum of Natural History, New York, students of zoogeography have supported such a theory as a result of fossil finds along such a speculative bridge, but there is little substantial evidence to bear this theory out from a geological standpoint.

While Dr. L. M. Gould, geologist of Carleton College, Northfield, Minn., and geologist with Admiral Byrd in the Antarctic, advised the Congress that Antarctica possessed a unity of climate, life and geographic conditions which are without parallel among the continental land masses of the earth, the surface of the great continent is not all snow and ice. The inland ice does not completely submerge the rocky sub-structure. In and around Palmer Land, mountain glaciers of great variety, island ice and shelf ice are the characteristic forms in which glaciation is manifested. But little is known of the ocean margins, where the ice meets the major waters of the Pacific Ocean. It is reasonable to assume that the inland ice moves directly into the sea over wide areas.

However, the former lofty mountains of Antarctica have been greatly lowered through erosion and glacial action, according to a paper presented by Dr. F.

Alton Wade, geologist of Miami University, Oxford, Ohio. Today some of those mountains are represented only by their igneous cores. Dr. Wade is also of the opinion that Palmer Land and related islands comprise a continuation of the Andean mountain chain of South America, while to the east in the Australian Quadrant is the great Antarctic Horst or depressed tract of the earth's crust, which is thought to be a continuation of the East Australian Horsts.

Climatically the continent of Antarctica exerts a tremendous influence over the whole south Pacific, according to Dr. Paul A. Siple, of Clark University, Worcester, Mass. While present knowledge of climatic conditions is restricted to only five or six areas where meteorological stations are maintained, Antarctica appears to be under the control of a shallow, glacial anticyclone which periodically exchanges across the southern Pacific Ocean great masses of cold polar air for warmer masses.

Both Drs. Wade and Siple have been with Admiral Byrd in the Antarctic and will be members on the forthcoming U. S. Antarctic expedition.

*Science News Letter, August 12, 1939*

## Volcanic Eruption Forecast

**T**ILTING of the ground near active volcanoes suggests the possibility of forecasting coming eruptive activities, it was reported by Prof. Takeshi Minakami, Earthquake Research Institute, Tokyo Imperial University.

Tilting on a large scale preceded by about two months the explosive activity of the volcano Mount Asama, which began on April 20, 1935, he said. The marked changes in the inclination of the ground during the active stage of the volcano clearly differ from the seasonal and other variations.

Marked changes in the crater floor of Asama during eruptions were described by Prof. Minakami. Two phenomena were noted, one wherein the floor rose as a whole and the other in which ex-