

## Heligoland Now Bird Refuge

Concentration of bird airways during the spring and fall migration season has turned the island of Heligoland, before the war Germany's strongest fortification, into an important ornithological station.

On the higher part of the island is located a bird house and a small fenced-in area which is planted with bushes, trees and undergrowth. As this spot has practically the only verdure found on the rocky island the migrating birds are attracted to it and caught by means of two large weirs which are located here and effectually hidden by the undergrowth. Food and decoy birds help attract the migrants. Some of the rarer species are kept in the bird house for the purpose of observation or exhibition.

From time to time during migration an aeroplane has been used to observe the flights, and, in order to facilitate the recovery of small banded birds the station has for some time followed the practise of coloring the feathers of these captives with a green, red or blue preparation. This experiment has been successful as many such colored individuals have been recaptured.

The majority of migrating birds  
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### PHYSIOLOGY

## Man Eats Little of Total

Burning 8,900,000,000,000 tons of coal, 8,900 times as much as the world produces in a year, will release about as much energy as contained in the sunlight captured annually through the production of plant foods. Of this huge total, the human race uses less than two-tenths of a per cent., according to an estimate by Dr. John M. Arthur, of the Boyce Thompson Institute for Plant Research.

Every day each one of the 1,750,000,000 human beings on the earth consumes about 2,000 calories of food. Even meat comes indirectly from plants. The human race is therefore dependent on photosynthesis, the process by which the plant uses sunlight to form food. The total consumption of food during a year by man amounts to about 1,200,000,000,000,000 calories. All of the other animal life, vertebrate or invertebrate, large or microscopic, on the globe are estimated to consume about six times this amount.

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## Cheating by College Girls

Do almost two-thirds of college students cheat at examinations, either as a matter of course, or if they are anxious about grades? An experiment in honesty during an examination, conducted by Norman Fenton, psychologist at Ohio University, has produced the rather startling evidence that 63 per cent. of a class of girls consulted their notes, asked their neighbors for information, or looked over on other students' papers.

"When the instructor was in the room, and not especially observant, 31 per cent. cheated," says Mr. Fenton in reporting the experiment to *School and Society*. "When the instructor was in an adjoining room, 39 per cent. cheated. When he placed them upon their honor and went across the campus to the library, 45 per cent. cheated.

"These proportions are especially striking in this class because these students seemed to be comparatively a rather superior group."

A close connection between the  
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### BIOLOGY

## "Rooster" Lays Eggs

A hen that did not know whether she wanted to be a clucking biddy or a crowing rooster has attracted the attention of scientists at the University of Wisconsin. When Biddy came to the notice of Dr. L. J. Cole, of the department of genetics, she was sporting the floating plumage of a brown Leghorn cock on a body and head of proportions distinctly hen-like. In a report to the *Journal of Heredity*, Dr. Cole states that at this period of her career she was ascertained beyond all doubt to be laying actual sure-enough eggs.

Still wearing the gaudy feathers of the male of the species, her next step was to take as a mate a white Leghorn bona-fide rooster and raise a family of chicks.

The scientist assumed that the aberration of plumage was due to some earlier disturbance of the reproductive organs affecting the secondary sex characters and pulled out samples of "her" feathers to compare with those which would grow in their place.

True to the geneticist's prediction that the ovarian disturbance had righted itself, no rooster feathers showed up in the replacement and after the next moulting Biddy returned completely to the normal

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## Cold Increases Immunity

That the varying resistance put up by men and animals to toxic shock by bacterial poisons and other foreign substances introduced into the blood may be due to the temperature of their surroundings, is indicated by the studies of Prof. E. Friedberger, director of the Research Institute for Hygiene and Immunity at Berlin.

Dr. Friedberger made parallel tests of the toxic effect known to scientists as protein anaphylaxis, using in one series animals kept in unheated cages at from 38 to 42 degrees Fahrenheit, while in a second series the temperatures were those of an ordinarily comfortable living room. He found that the animals kept in the cold held out against doses of the poison 150 times as great as the quantity needed to kill their companions that had lived in the warmth.

Prof. Friedberger calls attention to the practice followed by some physicians, of keeping patients afflicted with infectious diseases, as well as soldiers with dangerous wounds, in unheated booths or stalls exposed to the outer air, rather than in well-warmed hospital wards. This practice has been wholly empirical, but these experiments may be the foundation of a rationale for such procedure.

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### SOIL SCIENCE

## Wind Makes Alkali Flats

Why are western alkali lands so frequently found near lakes, and why are such lands always found on the lee shores? This is a riddle as old as western farming, for which an answer is now proposed by Dr. W. L. Powers of the Oregon State Experiment Station.

It was the drying up of a shallow lake on the Oregon-California line that gave Dr. Powers his clue. A series of dry years culminated in the total disappearance of water from its bed, which is about 13 miles wide and 20 miles long. As the water disappeared, alkali salts were evaporated out. Then a windstorm came from the southwest and blew this chemically loaded dust far out on the shore.

Dr. Powers is now of the opinion that this climatic behavior, often repeated, is responsible for these wide alkali flats, where nothing but greasewood will grow.

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