

## CHEMISTRY

**New Bleaching Agent  
Important in Paper Making**

**B**ACKGROUND to what may be important progress in paper making, now that high-grade paper is made from pine pulp in the South: a new bleaching agent—sodium chlorite—recently developed in the Mathieson Alkali Works laboratories acts without harmful effect on the cellulose fibers. Heretofore loss of strength has been the penalty for bleaching. The new bleaching agent also promises to give stronger cotton and rayon fabrics in the lighter colors.

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## INVENTIONS

**Bomb Sight Is Patented  
But Is Believed Outmoded**

**A**BOMB sight for airplanes was among the 670 patents issued by the U. S. Patent Office recently but the device, now made public, is believed to be outmoded by present U. S. Army Air Corps bomb sights.

The bomb sight is described in patent No. 2,194,141 granted to Georges L. Estoppey of Dayton, Ohio. Army records show that Estoppey was employed at McCook Field at Dayton up to 1926, working on bomb sights and their tests in planes.

Queries at the Air Corps about the Estoppey bomb sight were answered with "no comment."

Among other patents of the week were:

A way to impregnate fibers and fabrics with a protein coating obtained from soybeans won patent 2,193,818 for three Tokyo inventors, Toshiji Kajita, Ryohei Inoue and Akira Yamanoichi. Two of these men recently were awarded another patent for the production of wool-like fiber from soybeans, so that it is believed the newest patent enables a fiber like rayon to be given a wool-like coating to increase its warmth.

An optical frame in which currency bills may be quickly inserted and studied by magnification to detect counterfeits won patent No. 2,194,227 for E. W. Horan of Norwalk, Conn.

A new way of packing coffee in individual portions by means of an elongated continuous tubular sheet of strip rubber material, which is sealed at intervals, won patent No. 2,194,451 for L. D. Soubier of Toledo, Ohio. Tearing off sealed sections provides the individ-

ual portions. The patent is assigned to the Owens-Illinois Glass Company.

For a remote control method for operating radio transmitters two British inventors, H. J. H. Wassell and F. H. Cannon of Chelmsford, England, were awarded patent No. 2,194,174 which is assigned to the Radio Corporation of America.

For the invention of a new type of submarine ocean telegraph cable Hakon H. Haglund, New York City, was awarded patent No. 2,193,902, assigned to the Western Electric Company.

A means of heating walls electrically, invented by W. A. Barnes of Mansfield, Ohio, was awarded patent No. 2,194,193.

For his invention of a magnetic bowling alley, in which the tenpins are accurately positioned by magnetism, J. R. Kaiserman of Helena, Mont., was awarded patent No. 2,194,146.

Patents may be secured for 10 cents each by writing to the U. S. Commissioner of Patents, Washington, D. C.

*Science News Letter, April 13, 1940*

## ENGINEERING

**Auto Accessories Dried  
With Infra-Red Lamps**

See Front Cover

**H**UGE banks of infra-red heat ray lamps are used to dry quickly the lacquer on automobile accessories which pass, in a continuous stream, down the center line between the lamps. The Nela Park laboratory of the General Electric Company developed the lamps shown on the front cover of this week's SCIENCE NEWS LETTER.

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## PSYCHOLOGY

**New World Customs Add to  
Difficulties of Refugees**

**T**HE GERMAN refugee, brought up in an authoritarian social world where the husband is the supporter and dominating head of the family finds it difficult to get along in the United States, especially if the wife is first to find employment, Dr. Gerhart H. Saenger, New York psychologist, told the meeting of the Eastern Psychological Association.

New attitudes encountered in America toward change in employment and toward the prestige of certain occupations are hard for the German to adopt, and an already shaken self-respect adds to this difficulty.

*Science News Letter, April 13, 1940*

**IN SCIEN**

## GENERAL SCIENCE

**Intellectual Blackout  
Worst Blight of War**

**T**HE INTELLECTUAL blackout in Europe—"perhaps the most frightening aspect of modern war"—has made inroads on the Europe that used to be, Dr. Raymond B. Fosdick, president of the Rockefeller Foundation, makes clear in his annual report. Certainly the night in Europe, he says, cannot be long continued without the sacrifice of cultural values on so vast a scale that the chance of an enlightened and gracious life, not alone for this generation in Europe, but for the children and grandchildren of this generation, will be irretrievably lost.

Fragments of the intellectual disaster: The University of Warsaw has ceased to exist. According to reliable reports, the entire Polish faculty of the University of Cracow is in a concentration camp. The Polish members of the faculty of the University of Vilna have been dismissed. Scarcely a year ago, the Moors, entrenched in the ruined University of Madrid, used the books from the University library as defenses in their rifle pits. The University of Prague has been shut by the German government. The University of Strasbourg has been torn from its site and planted in Clermont-Ferrand. For reasons of economy and because their students are in military service, more than half the universities of Germany are closed. The institutions comprising the University of London have been uprooted and scattered over a wide area in southern England. The 20,000 student population of the University of Paris has shrunk to 5,000.

*Science News Letter, April 13, 1940*

## ZOOLOGY

**First Census Taken  
Of Desert Bighorn Sheep**

**F**IRST census report—not of the U. S. human population—but of Desert bighorn sheep in Death Valley National Monument, Calif.: Tentatively 500 bighorns are in the national monument, the greatest number known to be alive in any one area.

*Science News Letter, April 13, 1940*

# CE FIELDS

## MEDICINE

### Vitamin A Mobilized When Dogs Get Cocktail

A COUPLE of strong cocktails help to make vitamin A available to the tissues of the body, it appears from research reported by Drs. Samuel W. Clausen, William S. Baum, Augusta B. McCoord, John O. Rydeen and Burtis B. Breese, University of Rochester School of Medicine and Dentistry. (*Science*, March 29)

The investigations were made on dogs, who got their cocktails—about two ounces of alcohol in a 20% water solution—by stomach tube. The amount of vitamin A in the blood serum of the dogs promptly increased, the maximum concentration being reached seven hours later for one dog and 24 hours later for the other.

These and other experiments showed the Rochester investigators that alcohol is the best of many substances so far tried for mobilizing vitamin A from its storage place in the body tissues to the blood for distribution throughout the body. This vitamin is believed to be stored in the liver. The Rochester scientists think their findings will lead to development of methods for study of vitamin A reserves in the body and also of liver function.

*Science News Letter, April 13, 1940*

## VOLCANOLOGY

### Moon, Sun Help Release Pent-Up Volcanic Energy

NEW evidence of the moon's intervention in earthly affairs is presented by Dr. Frank Perret, research associate of the Carnegie Institution of Washington, as part of a new publication of the Institution, *The Volcano-Seismic Crisis at Montserrat, 1933-1937*.

Studied intensively for four years by Dr. Perret, this small volcanic island in the British West Indies showed a high degree of correlation between the occurrence of local earthquakes and gas eruptions and the positions of moon and sun.

Earthquakes came most frequently, and abnormal gas eruptions were most likely to occur, near the times when sun

and moon were in opposition (on opposite sides of the earth) or in conjunction (in line on the same side of the earth).

Dr. Perret does not believe that these are direct effects of the gravitational pull of sun and moon on the earth, setting up tidal strains in the solid rocks of its crust, but that these strains, added to strains already accumulated through volcanic forces at work below, finally play "last straw" roles and release the pent-up geophysical energies.

*Science News Letter, April 13, 1940*

## PUBLIC HEALTH

### Five Hungarian Villages Test New American Vaccine

ONE of the most dramatic tests ever conducted in man's fight against disease is taking place in five Hungarian villages, close to the Polish border. The story is brought back to America by Dr. Adolph Eichhorn of the U. S. Bureau of Animal Industry, just returned from his mission of arranging trial of American typhus fever vaccines in Hungary and Rumania. A terrific toll during the World War was taken by typhus fever, conveyed by fleas from rats to men.

This spring the disease has reappeared near the Polish-Hungarian passes in the sub-Carpathian region.

Two typhus fever vaccines have been developed recently, one by Dr. Hans Zinsser of Harvard and used by Lederle Laboratories, another by Dr. Herald R. Cox, at the U. S. Public Health Service Laboratories in Montana, who raised the virus on fertile eggs.

From Budapest came requests for immediate trials of the new vaccine and Dr. Eichhorn, formerly a Lederle Laboratories department head, made the trip carrying 5,000 doses of each type of vaccine.

Hungarian health officials had everything in readiness. The entire populations of five villages were compulsorily vaccinated. One person got the U. S. Government vaccine. The next got the Lederle vaccine. The next got typhoid vaccine, this last third of the population serving as controls. Actually protection against typhoid had nothing to do with the test of the typhus vaccine. Everyone was vaccinated with something in order that there would be no apparent favoritism noticeable by the population. Now health officials are anxiously waiting, hoping that none of the vaccinated people will contract the disease in the weeks to come.

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## MEDICINE

### New Attack on Cancer Hinted in Serum Research

HINT of a new attack on cancer is contained in research on an anti-tumor serum reported by Drs. Charles A. Stoneburg and Frances L. Haven from the University of Rochester's department of biochemistry and pharmacology. It is a direct attack on the nucleus or central portion of the tumor cell. Here's how it is done: Nuclei from the rat tumor cells were isolated, then injected into rabbits over a period of a year.

Then the rabbit serum was taken and injected into rats, inoculated with the same species of tumor from which the nuclei were derived. The results were promising. The average tumor size in the rats treated with immune serum was less than that in the control rats. This means that tumors in the rats injected with the immunizing rabbit serum were inhibited.

It may mean that a new line of therapy has been opened for experimentation. Although not predicted by the experimenters, the future may see: First, additional animal experimentation; eventually, perhaps trials upon human beings. If eventually successful, the article in the *American Journal of Cancer* (March) may well be considered an historic one.

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## PSYCHOLOGY

### Rats Are Not Gamblers; Take no Chances on Food

RATS do not like to gamble, it was discovered when Leo P. Crespi, of the department of psychology at Princeton, tried to trace this human trait in lower animals.

When 21 rats of both sexes were given their choice of a reward which always contained three pieces of hamburger and of another which sometimes contained six pieces, only one at other times, only one animal consistently chose the gambler's goal, Mr. Crespi told the meeting of the Eastern Psychological Association.

At first it was believed that a lone consistent gambler had been found among the four-legged rats. But no, when the gambler's goal was changed to the other side of the box, the "gambler" continued to run to the same side. He was not a gambler after all. There was not one clear-cut case of consistent gambling in the entire group of rats.

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