

## BACTERIOLOGY

**Cotton Plants of the Future from Bacteria**

► BACTERIA—germs to the layman—may be the cotton plants of the future, Prof. M. Stacey of Birmingham University declared at the British Association for the Advancement of Science.

He reported production of high grade cellulose from cane sugar by bacterial action. If carried out on the scale of penicillin production from mold, a huge cellulose crop could be harvested every few days. But economical production would depend on a very cheap sugar source.

In Prof. Stacey's bacterial polysaccharide laboratory, bacteria also are used to produce other useful starch and sugar products such as dextrans which can be turned into rubber-like, gasoline-insoluble plastics or dissolved to form a synthetic blood plasma substitute. Current output of this is 7,000 pints per month.

Tuberculosis germs have yielded six chemically different complex sugars which may be clues to a tuberculosis vaccine.

Radioactively labelled starch for use in vital biological studies has also been produced by bacteria from simple chemicals, called acetates, tagged with radioactive components.

Science News Letter, September 9, 1950

## ENTOMOLOGY

**Some Ants See, Some Scent Their Way Home**

► SOME ants, foraging for food, find their way back home by sight while other kinds of these insects, in Britain at least, guide themselves homeward by their sense of smell.

Prof. J. D. Carthy of Cambridge University told the British Association for the Advancement of Science that his experiments show that the worker ants of two common British species use predominantly different methods of orienting themselves. The scent trail is laid down by one kind by means of a bodily secretion.

Science News Letter, September 9, 1950

## MEDICINE

**Device Cuts Heart Valves With Less Bleeding**

► A NEW valve cutter for operating on sick hearts in small children is reported in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION (Sept. 2).

A 23-day-old baby boy was among the patients on whom the instrument was used with good results, Drs. Willis J. Potts, Stanley Gibson and William L. Riker of this city and Dr. C. R. Leininger of San Rafael, Calif., report.

The instrument is used to cut the constricted valve in the opening between the pulmonary artery and the right ventricle of the heart. Babies born with this condition may be "blue babies." The new instrument, made by Bruno Richter of Glen Ellyn, Ill., was devised to decrease the size of the wound in the heart made by previous instruments which had diamond-shaped cutting blades. Less bleeding and disturbance of heart rhythm are other advantages of the new instrument.

Science News Letter, September 9, 1950

## PSYCHIATRY

**Arctic Duty Spoils Morale of GI's**

► DUTY in the Arctic affects the disposition of the GI—for the worse. He becomes less cheerful, sleeps less and has less patience, an opinion poll revealed to Maj. Anthony Debons, of the Arctic Aeromedical Laboratory, Ladd Air Force Base, Alaska.

Duty in these northern latitudes also makes a soldier more disgusted and depressed.

These symptoms are, on the whole, typical of neurasthenia, Maj. Debons reports.

Those who reported themselves as more able to endure the cold of a coming winter were less depressed than those who felt less capable of enduring the cold again.

The men polled average 20 years of age and most are unmarried. Those reporting no change in outlook had the highest level of education.

Science News Letter, September 9, 1950

## GENERAL SCIENCE

**Fight for Science Foundation Renewed**

► AMERICAN scientists have been called to action to rescue the National Science Foundation appropriation of \$475,000 which has been refused by the House Appropriations Committee.

The Inter-Society Committee for a National Science Foundation has been reactivated under the leadership of Dr. Howard A. Meyerhoff, administrative secretary of the American Association for the Advancement of Science, and leading scientists throughout the country are telling the Senate Appropriations Committee about the important job that the newly authorized Foundation could do in the present emergency.

After delay of five years, Congress finally authorized the creation of the Foundation last spring, but money to organize this new civilian agency has not yet been appropriated, although President Truman has repeatedly asked Congress to do so.

Science News Letter, September 9, 1950

**IN SCIEN**

## PSYCHOLOGY

**Shostakovich Music Is He-Man Stuff**

► THE music of Shostakovich and Wagner is considered masculine, that of Mendelssohn and Chopin feminine, by 206 college students asked to rate recordings for "sex character."

This finding, supporting the contentions of psychoanalysts, was reported to the American Psychological Association meeting by Drs. Paul R. Farnsworth, J. O. Trembley, and C. E. Dutton, of Stanford University.

The students, and particularly the men, were more familiar with and preferred the composers of masculine music.

Women with the most masculine interests also tended to prefer the masculine music.

Science News Letter, September 9, 1950

## MEDICINE

**Aureomycin Conquers Klebsiella Pneumonia**

► DRAMATIC recovery of a man believed to be the first patient to get aureomycin treatment for Klebsiella pneumonia is reported by Drs. Maurice Nataro, David Shapiro and Armond T. Gordon, of the Veterans Administration Hospital at Louisville, Ky., and the University of Louisville School of Medicine, in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION (Sept. 2) in Chicago.

The patient had been sick 13 days and was almost in coma. Penicillin had failed to help him. Aureomycin, another of the famous mold drugs, was started. Within 24 hours he was much improved and by 48 hours his fever was gone and his temperature remained normal thereafter.

Klebsiella pneumonia is caused by a germ called Klebsiella, or sometimes, Friedlander's bacillus. Even after the discovery of sulfa drugs and penicillin, effective in pneumococcal pneumonias, reports showed deaths from Klebsiella pneumonia as high as 51% to 97%.

Streptomycin began to change the picture, and now the death rate is down to about 20%. That is, only one in five patients dies of the disease when treated with streptomycin. Laboratory tests had shown that aureomycin was effective in halting the Klebsiella germ, and since it is less toxic than streptomycin, the Louisville doctors decided to try it on one patient.

They call the results "dramatic" and advise further trial of it.

Science News Letter, September 9, 1950

# CE FIELDS

## MINING

### U. S. Less Dependent on Foreign Cobalt Supplies

► MUCH of the strategic cobalt needed in producing special steel alloys, and in permanent magnet alloys, may be mined in the United States in the near future, it was indicated in Salt Lake City at the meeting of the American Mining Congress.

A larger quantity of domestic cobalt would relieve the present dependency of America on foreign ore. Consumption by American refiners of cobalt contained in alloys and ores is approaching 3,000,000 pounds annually. Belgian Congo is now the chief source of supply. Canada and other countries produce some for American markets.

"Years of almost complete dependence upon foreign sources of cobalt will come to an end when production of this vital element begins at the Blackbird Mine of the Calera Mining Company near Forney, Idaho," Edwin B. Douglas, manager, told the meeting.

Proved reserves at present are sufficient to permit operation of a 600-ton mill for a considerable number of years, he stated. No serious complications are anticipated in mining the ore bodies proved so far.

Difficulties of unusual scope were encountered in treating ore to produce a cobalt and copper concentrate. These, however, have been solved. A satisfactory separation method has been developed. The separation is made by differential flotation methods employing long conditioning at relatively high temperature of pulp.

Science News Letter, September 9, 1950

## MEDICINE

### Warn Against "Shotgun" Use of Miracle Drugs

► THE strong possibility that the "shotgun" administration of two or more antibiotics may boomerang, with cancellation of benefits of the drugs, has been raised in research at the University of California School of Medicine.

The custom of giving two or more "miracle drugs" has been growing in medical circles in recent years. "Shotgun" treatment is used especially when the infectious agent cannot be definitely identified.

The physician knows that one antibiotic is especially effective against one organism, while another is more effective against another. The theory is that by giving several drugs, one will be certain to destroy the infecting culprit.

A further reason for "shotgun" treat-

ment has been the finding of complementary action between some antibiotics when they are given simultaneously. For example, the California researchers had already found that streptomycin and penicillin are more effective together than when given separately.

However, the opposite effect has been found when penicillin and chloramphenicol are given together. In mice infected with a deadly streptococcus, either of the two drugs saved 80% of the animals. When the two drugs were given simultaneously, only 40% of the mice were saved from death. The same results were obtained over and over again.

The California scientists say that this same mechanism may occur in man, and that physicians therefore should be cautious about giving antibiotics in the "shotgun" fashion.

The research was done by Drs. Ernest Jawetz and R. S. Speck and Miss J. B. Gunnison, of the department of bacteriology.

Science News Letter, September 9, 1950

## CHEMISTRY

### Anti-Gas Chemical Cures Lead Poisoning

► A SUCCESSFUL treatment of lead poisoning through use of BAL, developed by the British for use against lewisite poison gas, is reported from Denmark in LANCET (July 29).

BAL has already been found of great importance in countering intoxications produced by arsenic, gold and mercury. Dr. Poul Bastrup-Madsen of Arhus Municipal Hospital, Copenhagen, has now used this drug, dimercaprol, as British anti-lewisite is called, in bringing about successful recovery of two women who had swallowed litharge, a lead oxide.

The symptoms of the poisoning were not aggravated by the treatment, which resulted in the more rapid removal of the lead from the body than other treatments, such as ammonium chloride and parathyroid hormone.

Science News Letter, September 9, 1950

## PLANT PATHOLOGY

### Oak Wilt Hits Ozark Trees

► THERE is tree trouble in the Ozarks. Aerial surveys show that oak wilt, a serious forest disease that cannot be controlled, is spreading in Missouri and Arkansas. Giant oaks are the first attacked by the fungus. U.S. Department of Agriculture forest pathologist Dr. T. W. Bretz is urging vigorous research to work out control of this forest menace. Cleveland is the latest new location of the disease.

Science News Letter, September 9, 1950

## MEDICINE

### Safer Hot Wet Packs For Polio Victims

► BETTER and safer hot wet packs for polio victims are possible through new equipment reported at the American Congress of Physical Medicine in Boston.

The new equipment consists of a portable electric apparatus that generates heat within a moistened pack. The current is an interrupted one in alternating, automatic cycles. This produces a significant rise in temperature within the polio victim's muscles.

The electrically heated packs, just developed by the General Electric Company, were tested by Drs. Alex Harell and Sedgwick Mead and Miss Emily Mueller, physical therapist, of Washington University School of Medicine. The apparatus is not yet available for general use.

From the preliminary trials, Dr. Harell reported the following advantages over the conventional hot packs; safety to patient because of internal regulation of the heating mechanism; minimum of discomfort to the patient because the pack does not need to be reapplied after reheating and can be laced or tightly wound in place, permitting free movement of arms and legs while the pack is on; portability of the device; simplicity of use and minimum number of persons needed to apply the pack.

Science News Letter, September 9, 1950

## PSYCHOLOGY

### "Blue Monday" Affects Labor, Absenteeism

► THERE is something to that idea of "Blue Monday" so far as labor output and absenteeism are concerned.

On Mondays the average hourly output of British industry is lowest, and more employees are away from their jobs, Dr. W. Baldamus, sociologist of Birmingham University, reported to the British Association for the Advancement of Science meeting.

In general both turnover and absenteeism decrease with length of service, Dr. Baldamus found. Many of the reasons for poor or good performance by workers are linked to the industrial situation and attitudes toward work and leisure, instead of such general concepts as practice, interest, will- ingness and boredom.

Accidents in British mines fluctuate with the way the nation is feeling and reacting, Dr. T. T. Paterson, anthropologist of Cambridge University, reported. Accidents, absenteeism, production, strike intensity and other human conditions in the mines vary with highway accidents and strikes throughout all industry.

Science News Letter, September 9, 1950