

## GENERAL SCIENCE

**Europeans Adopt U. S. Tastes in Cigarettes**

► THE AMERICAN SOLDIER who smoked his own favorite brand of cigarettes in Europe is responsible for a major change in European smoking tastes.

European smokers are shifting away from Oriental types of cigarette that they used to smoke and adopting American blends. This is reported by J. Bernard Gibbs of the U. S. Department of Agriculture's Office of Foreign Agricultural Relations who has recently returned from a study of tobacco marketing in Europe.

Since 1938 the amount of straight Oriental cigarettes consumed by Europeans has shrunk from 24% to 8% of the total. In the same time the consumption of cigarettes containing United States grown leaf has almost doubled, jumping from 29% to 52% of all those smoked, European manufacturers' reports reveal. In the Netherlands, Belgium, Denmark, Norway, Portugal, Sweden and Austria cigarettes blended in the American way make up 70% to 90% of total cigarettes smoked.

Science News Letter, August 21, 1948

## GENERAL SCIENCE

**Commodity Specifications Directory Has Supplement**

► SOME 44,000 specifications of commodities produced or that can be bought in America are summarized either in a 1945 directory or its 1948 supplement just published by the National Bureau of Standards. The complete publication is for manufacturers, and particularly for purchasing agents who want to know just what they are getting.

A specification is a concise, definite, and complete statement of what the buyer requires from the seller. It includes limiting values for the properties necessary to meet the required service, with proper tolerances or variation from the exact standard. It serves as the common meeting ground for manufacturer, distributor, and user. It eliminates the haphazard method of wasteful searching and chance buying with incomplete information.

The federal government is the largest single purchaser of consumer goods in this country. Prior to 1921 each agency of the government had its own specifications for all materials it purchased. Then the Federal Specifications Board was established and given the duty of compiling and adopting standard specifications. The board is made up of representatives from the various branches of the government, with the director of the National Bureau of Standards ex officio chairman.

In compiling the National Directory of Commodity Specifications and its new supplement a strenuous effort was made to obtain current information concerning useful standards and specifications from all

national organizations that represent industry, and those interested in the formulation of commodity specifications.

The 1945 Directory, a revision of earlier publications, contains 1,311 pages. Its new supplement is a 322-page publication. Both may be obtained from the Superintendent of Documents, Government Printing Office, the first for \$4.00 and the supplement for \$2.25. They include some items that are not strictly commodity specifications but closely related information essential to most users.

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## GENERAL SCIENCE

**Doctors May Be Drafted If too Few Volunteer**

► DOCTORS may be drafted if too few of them volunteer under the new Selective Service Act, the American Medical Association warned.

The Armed Forces may need as many as 6,000 more doctors to meet the needs of the draft, an editorial in the Association's JOURNAL (Aug. 7) estimated. There is no provision for a draft of doctors in the new law, but President Truman "may again insist on such a draft," the Association predicted, if volunteers do not meet the needs of the services.

The editorial stressed the obligation of young doctors who received training at government expense during the war to volunteer for service now.

These young doctors who saw no active service but received their education "owe an obligation to the government and to the people of the United States," the editorial declared.

Plans for better use of physicians in the services were hailed by the Association. These include studies to avoid leaving some doctors with too little to do, and air evacuation of wounded personnel in place of hospital ships.

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## GENERAL SCIENCE

**Latin Scientists to Study On Guggenheim Fellowships**

► STUDIES ranging from tonic forces to horseflies will be made in this country by scientists from Latin American countries. Grants were announced by the John Simon Guggenheim Memorial Foundation. Money awarded by the Foundation to further the work of these scholars totals \$65,000.

Dr. Mauro Pereira Barretto of the University of Sao Paulo in Brazil will prepare a paper on the horseflies of tropical America. Dr. Jose Leite Lopes of the University of Brazil will work on the fundamental theory of nuclear forces. The other Latin American scientists include biologists, medical doctors, an electrical engineer, a mathematician and an astronomer.

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**IN SCIENCE**

## BIOCHEMISTRY

**Microscopic Animals Are Used in Drug Testing**

► LABORATORY MICE and guinea pigs have microscopic competitors in the business of testing drugs and poisons. These are rotifers, minute freshwater animals that rotate certain body appendages so rapidly as to create the illusion that they literally have wheels in their heads—whence the name.

Three workers at the Beecham Research Laboratories, R. H. Marriott, S. Morris and Y. Larthe, report in the British journal, NATURE (July 31) that they have been able to make effective and highly economical tests of a number of drugs, including aspirin, codeine, morphine and alcohol, using only a few drops of solution and 10 or 15 rotifers in a test-tube of water.

The tiny animals respond with four patterns of behavior: 1. dead from natural causes—which doesn't count; 2. killed by the drug; 3. narcotized; 4. alive and not narcotized.

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## METALLURGY

**Radioactive Atoms Aid in Metallurgical Problems**

► RADIOACTIVE ATOMS, famed in the field of atomic energy, are expected to assist solve mineral engineering problems and lead to more efficient production of metals from ores, it is revealed by the Massachusetts Institute of Technology. An expanded research program is now starting.

Some work has already been done, but the application of radioactive tracer techniques to mineral problems is to be considerably expanded, Dr. Thomas K. Sherwood, the institute's dean of engineering, stated. Modern radioactive tracer techniques provide engineers with an analytical tool hundreds of times more sensitive than the older chemical methods, he said. The program is to determine the best methods of application.

Studies by this method are made by following the electron emissions from radioactive atoms which are introduced into any substance being studied. For example, it is possible to "tag" copper sulfate with radioactive copper with the copper sulfate added to the mineral, sphalerite, in water. By means of a Geiger counter, an instrument widely used to detect and measure radioactivity, it is a simple matter to determine the amount of copper extracted from the solution. Many metallurgical problems of a similar nature but less simple will be studied by this method.

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# CE FIELDS

## PHARMACOLOGY

### Identify Crude Drugs by Fluorescence Under Rays

➤ A SPEEDY and efficient method for identifying botanical drugs by their fluorescent glow under ultraviolet light has been developed by Charles R. Chase, Jr., of San Francisco while a student at the University of California College of Pharmacy.

This new system for identifying crude drugs won Mr. Chase the Kilmer Prize and a presentation of an inscribed gold key by the American Pharmaceutical Association.

Using the knowledge gained by earlier researchers who observed that some drugs give off a characteristic fluorescent glow when exposed to ultraviolet light, Mr. Chase tested 151 crude drugs but could get only about a third of them to fluoresce under the rays.

He next discovered that after treating a drug with one or more of three different solutions the drug would give off a characteristic glow of color that would easily identify it.

This may prove to be a very important advance, for traditional methods call for tedious studies of cell structure under the microscope or for time-consuming microchemical tests. Fast and reliable methods of detection are important to pharmaceutical firms, research workers and law enforcement officials, for such drugs reach the United States from all over the world.

Mr. Chase is continuing his experiments to perfect his system to include identification of drugs which show similar color changes or do not fluoresce at all after application of the three standard methods.

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## GENERAL SCIENCE

### Corner Druggist Seen Joining Ranks of D. P.'s

➤ YOUR neighborhood drugstore pharmacist may soon be a displaced person, predicts Dean J. Lester Hayman of the University of West Virginia College of Pharmacy, who spoke as president-elect before the American Association of Colleges of Pharmacy in San Francisco.

Dean Hayman pointed out that the independent drugstore pharmacist fills only a very limited number of prescriptions, while there is a growing demand for pharmaceutical service elsewhere.

He referred to the "increasing millions of our people under the coverage of prepayment or insurance plans for health coverage, many of which include or will include the providing of routine medication." In addition he listed the trend in

labor organizations for the inclusion of health benefits in their labor contracts; health services established in industrial concerns for employees and their families, and the government's program of medical care for veterans.

Presumably, pharmaceutical service would still be provided by pharmacists, but these trends, Dean Hayman predicts, may mean that "in the not too distant future a greater portion of the medication will be obtained through hospitals, clinics, dispensaries, or Veterans' Administration facilities."

The outgrowth of this, he fears, would "lead to unemployment and excessive economic competition," unless professional schools of pharmacy limited their enrollments. His proposal is to increase the period of pre-pharmacy education, to require a national admission test similar to those now required by medicine and dentistry, and to award graduates a distinctive professional doctorate degree.

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## PSYCHOLOGY

### Children's Eating Habits Influence Handedness

➤ IF YOU ARE RIGHT-HANDED, it may be because you learned to be when you put the first spoonful of cereal in your mouth.

Parents and teachers often influence children to be right-handed when they hand the youngsters objects such as a spoon, Dr. Gertrude Hildreth discovered in a study of 44 children at the Manhattanville Day Nursery in New York.

Dr. Hildreth watched the children as they ate and played. She found that while a child may eat a cookie with either hand, he is more likely to hold a spoon in his dominant hand.

"Children who get an early start in right-handed eating tend to become right-handed," Dr. Hildreth concluded.

In activities such as eating, where parents or teachers direct the child, he learns to use his right hand more, Dr. Hildreth explained in her report to the JOURNAL OF GENETIC PSYCHOLOGY (March). Where adults do not direct the child, he may use either hand.

Even though teachers at the nursery school tried to let the child use either hand, they tended to place silverware where the child could reach it best with the right hand.

When eating appeared to be an important factor in handedness, Dr. Hildreth decided to find out how much the youngsters used their hands in the process. One of the poorer eaters was counted at one meal to make 49 moves with his hands. He used his fork 10 times; spoon, 7; cup, 8; and fingers, 24.

The psychologist urged that more studies be made of the effects of training on handedness.

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## CHEMISTRY

### New Sunburn Compounds Give Greater Protection

➤ GOOD NEWS for sunburn victims comes with the announcement of two compounds that give five to eight times more protection against sunburn than any now in use.

The compounds are ethyl-p-diethylaminobenzoate and methyl-p-dimethylaminobenzoate. Their protective action against sunburn was reported to the American Pharmaceutical Association in San Francisco by Drs. W. D. Kumler and T. C. Daniels of the University of California College of Pharmacy.

These chemicals have proved less likely to change or deteriorate in the presence of sunlight, air and moisture than many now used. They can be applied in lotions, ointments or solutions, the scientists said. The compounds are not harmful or irritating to the skin and permit good tanning.

Laboratory experiments and observations of persons who have used these chemicals show they give more protection than other compounds when the sunlight is in the "sunburn" region of the light spectrum. Good tanning is possible because they do not absorb sunlight beyond the wavelengths where rays don't burn.

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## CHEMISTRY

### New Poison Makes Insects "Burn Themselves Out"

➤ RYANODINE, one of the newer insecticides, apparently kills by forcing its six-legged victims' body fires to burn under forced draft while it holds them in motionless paralysis. This is the indication of experiments carried out by Dr. Charles C. Hassett at the Army Chemical Center in Maryland.

Dr. Hassett injected minute measured amounts of the poison into the bodies of large cockroaches, which he then connected up with exceedingly delicate apparatus that measured the amounts of oxygen each insect took in. Although the insects became paralyzed from the moment of the injection, their oxygen intake rose steeply, to nearly two and one-fourth times normal.

The oxygen consumption remained high for a considerable period. By the end of 24 hours it had dropped back to normal, and later, between 30 and 40 hours, it had fallen to less than one-half normal. Dr. Hassett is of the opinion that this second drop signals the coming of death.

Ryanodine, unlike DDT and many other recently developed insecticides, is not a synthetic compound. It is extracted from a tropical plant known as Ryania, found in Mexico and Central America.

Dr. Hassett's experiments are reported in SCIENCE (Aug. 6).

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