

PUBLIC HEALTH

FTC Rule on Cigarette Ads May Be Meaningless

► THE EXPRESSED DETERMINATION of the Federal Trade Commission to require a health warning on cigarette advertising even if Congress does not act may be a meaningless threat.

In testimony before the Senate Commerce Committee, FTC chairman Paul Rand Dixon said that present legislation required his agency to act on package labeling and advertising unless Congress specifically preempts the field.

The authority under which the FTC would act, however, puts the burden on the commission to prove in court that any given advertising campaign violates the law. Under these circumstances, any campaign would long since have run its course before the legal processes grind out a final ruling.

Proposed legislation by Sen. Maurine Neuberger (D-Oreg.) under consideration by the Senate Committee would spell out the Congressional intent giving FTC authority to control cigarette advertising as well as to require health warnings on packages. Another bill, by Sen. Warren Magnuson (D-Wash.), would require labeling.

If Congress fails to act, the FTC determination to use existing statutes to require warnings in cigarette advertising could at best have only a long-range effect. If the agency is ultimately successful in the courts, a record of precedent would be set that would have a bearing on future cases.

Similarly, should the courts find against the FTC, its position as a regulatory body over cigarette advertising would be seriously weakened if not destroyed.

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PSYCHIATRY

Chronic Mental Offenders Present Peculiar Problem

► A HARD CORE of mentally abnormal offenders cannot be handled in the present prison system or cured in the mental hospital system as it now stands, a British physician reported.

In a study of 78 unprosecuted male offenders who were admitted on an emergency basis to a mental hospital near London, Dr. Henry R. Rollin, physician deputy superintendent, Horton Hospital, Epsom, Surrey, found that 78% were chronic schizophrenics.

The majority of men were admitted to the hospital under a section of the Mental Health Act of 1959, which enables a policeman to remove a person who appears to be mentally disordered to a place of safety. This section is "the only one which does not require medical intervention in order to admit a person to a mental hospital.

"By and large most of the offenses, however classified, had a certain bizarre quality," Dr. Rollin said.

Fifty-three of the men had a recorded history of previous mental illness and 43 had been admitted to mental hospitals at least twice before.

Official records also revealed that 30 of

the men had criminal records. Of these, 27 had committed more than one indictable offense and 21 had served prison sentences.

In a follow-up study of the men who had been discharged or had left the hospital, Dr. Rollin found that 21 of the 68 cases "at risk" had been readmitted to mental hospitals. Twenty-eight had committed further offenses.

For those who do leave the hospital, there are inadequate aftercare facilities. Frequently the absconders, who leave against the advice of doctors, are the most disturbed and potentially the most dangerous.

Their inadvised departures underline the difficulty and impossibility of keeping patients in a mental hospital which subscribes to the policy of "more freedom and less security," Dr. Rollin reported in the *British Medical Journal*, March 27, 1965.

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GEOLOGY

New Methods Could Aid Search for Silver

► THE PRESENT SHORTAGE of silver could be abated by speeded-up exploration of western areas where the precious metal lies hidden, believes a mineral specialist with the U.S. Geological Survey in Washington, D.C.

By using an infrared system mounted on airplanes, high-grade deposits of silver concealed under the earth could be located, said Thor H. Kiilgaard, chief of the Resources Research Branch of the Survey. He lectured on silver before the Geological Society of Washington.

Deposits of silver in the earth are associated with hot water, he explained. This situation creates areas of heat flow that can be detected by the air-borne infrared devices.

By analyzing the geology of that area to see if there is any mineral zone or fault, geologists could locate buried silver.

Another method of helping the silver crisis is to mine the very fine amounts of silver found in sandstone deposits where particles of oxidized silver have been disseminated.

During the past several years, the United States has mined about 35 million ounces of silver each year, while consumption has risen from around 150 million ounces in 1953 to about 220 million ounces in 1963.

With rich deposits of silver located in western states such as Nevada, Utah, Idaho and Arizona, the United States has been a major producer of silver since the famous discovery of the Comstock Lode in 1859.

The world is consuming an increasing amount of silver for industry and coinage, Mr. Kiilgaard said.

For the past six successive years, this consumption has exceeded the world's output of silver.

In July 1963, the U.S. Treasury began to release silver from the bullion reserve by redeeming silver certificates. At the rate these bullion reserve stocks now are being withdrawn, they will be depleted in about six or seven years.

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CHEMISTRY

Process Cleans Sulfur Economically and Simply

► MILLIONS OF TONS of newly mined "dirty" sulfur can now be cleansed by a simple and economical process.

Sulfur, extracted from the earth by the Frasch mining process, often contains hydrocarbon impurities. Although such impurities do not often cause big problems, they are a "nuisance factor" to Frasch sulfur producers, reported J.M. Dale, Southwest Research Institute, San Antonio, and R. Semrad, Pan American Sulfur Company, Houston.

The new sulfur cleansing process consists of reacting strong doses of sulfuric acid with molten sulfur, which serves to oxidize and dissolve hydrocarbons within the material.

The reacted material is then forced through an extractor where the impurities are removed through contact with superheated water.

The Frasch process is a method of mining deep-lying sulfur by forcing very hot water into a deposit and pumping out the melted sulfur.

The annual production of Frasch sulfur is about seven million tons, approximately one-third of the world sulfur output. More than half of this material contains hydrocarbon impurities that must be removed.

The new impurity-removing process was developed by Southwest Research Institute engineers in cooperation with the Pan American Sulfur Company. Research findings were reported by Messrs. Dale and Semrad at a meeting of the American Institute of Chemical Engineers in Houston, Texas.

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BIOLOGY

Poison From Fish Kills by Asphyxia

► THE POISON ciguatera from tropical marine fishes inhibits an enzyme in heart muscle and other tissues and can cause death in man by asphyxiation.

In experiments on rats, mice and rabbits, this poison was found to cause restlessness, increasing abdominal distress, followed by diarrhea, salivation, sweating, general weakness, stressed respiration and finally suffocation, reported Dr. Kwan-Ming Li of the Hawaii Marine Laboratory, University of Hawaii, Honolulu.

An effective antidote to this poisoning is Protopam chloride, Dr. Li reported in *Science*, 147:1580, 1965. The substance responsible for ciguatera poisoning was first isolated from red snapper fishes at the Hawaii Marine Laboratory.

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CE FIELDS

GENERAL SCIENCE

Carnegie Report Defends Foundations, Values

► THE CARNEGIE CORPORATION of New York issued a strong defense of foundations, a set of guidelines for ethical conduct and an announcement that it made record grants of \$12,420,999 during the year ending Sept. 30, 1964.

In the corporation's annual report, Dr. John W. Gardner, president, stated that despite misdeeds of a few philanthropic organizations, most foundations "would wish to adhere to the highest standards . . ."

Dr. Gardner said that a foundation should "fully disclose details of its operations," should operate under clear rules about funds, and produce a reasonable return on its investments. The grants, the largest in the organization's history, were made for programs in education and public and international affairs.

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PUBLIC HEALTH

New York Drink Survey Uses Religious Categories

► ONLY TWO JEWISH persons per 1,000 aged 20 years or over are "probable alcoholics," a survey in New York City shows.

This figure contrasts with 40 Negro Baptists per 1,000; 24 Roman Catholics per 1,000 and 20 other Protestants per 1,000.

A sampling of 4,387 families in the Washington Heights section of Manhattan included 10,759 persons, of whom 8,082 were 20 years of age and older. Widowers drank most heavily—105 per 1,000—and divorced or separated persons of both sexes also tended to drink more than the average—68 men per 1,000; 19 women per 1,000.

Those with least education drank more than high school and college graduates. Negro women drank more than women of other groups, but the researchers point out that they may be "less reluctant to acknowledge a drinking problem."

Questions asked were these:

Have you or any member of the household ever had any health problem because of too much drinking? Any job difficulty? Any money problems? Family arguments? Violence to members of the family? Marriage breakups? Trouble in the neighborhood? Trouble with the police? Any other difficulties?

One man who drank during the interview insisted that he had no problems as long as the wine bottle was in his hand.

Evidence of drinking problems was found in 132 persons included in the survey. The family informant was usually the woman of the house, but men living alone were frank in their answers.

Twenty-one separated or divorced women

said their marriages had ended because of their husbands' drinking.

Diseases accompanying alcoholism included heart trouble, diabetes, allergies of various kinds and chronic stomach trouble, but the information did not show whether these illnesses followed or preceded the onset of alcoholism.

Economic stress was greater in alcoholic families although the income levels were not greatly different from those of the community as a whole.

The alcoholic member contributed less to family income, however, and presumably spent a greater proportion of the family budget for liquor. Alcoholic families moved often and paid lower rents.

Reporting these findings in the Quarterly Journal of Studies on Alcohol, 26:19, 1965, were Margaret B. Bailey, director of research, and Paul W. Haberman, research associate, National Council on Alcoholism, New York; with Harold Alksne of the department of sociology, C. W. Post College, Long Island University.

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PHYSICS

New Job for Computers With Atom Smashers

► A NEW JOB for computers, supervising atom smashers, is predicted by Dr. L. G. Lewis of Argonne National Laboratory, Argonne, Ill.

The basic methods for using computers to do such control work have been developed during the last 10 years in chemical and steel plants. They could easily be modified for use with atomic accelerators, Dr. Lewis told the Particle Accelerator Conference, Washington, D.C.

A special link would be needed between the computer and the accelerator. This is because highly precise timing is essential to hurl a beam of atomic particles at a stationary target.

The link, or buffer, would keep in its "memory" the instructions necessary to adjust the variables being controlled by the supervising computer.

At the target end of the atom smasher, a computer—possibly the same one—could be used as part of the experiment, giving the signal that the nuclear debris resulting from the atomic collisions contains a reaction scientists want to study and should be photographed.

The particle beams in accelerators have to be accurately in line to hit their targets. A new method for making sure that such beams are on target was reported to the meeting by Dr. Pierre F. Pellissier of the University of California's Lawrence Radiation Laboratory, Berkeley.

The apparatus consists of a system of tubes and measuring wells filled with mercury. When such a system is sealed, a 90-foot model has shown that the particle beam can be made stable to within a ten-thousandth of an inch.

This system could be used to level a proposed accelerator that would be about a mile in diameter and impart energies of 200 billion electron volts to protons.

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EDUCATION

One Million Youths Enter Local Science Fairs

► PRELIMINARY SCIENCE FAIRS around the world are drawing more than one million youthful entrants competing for the right to move on toward this year's National Science Fair-International.

The best from the local exhibitions will move up to one of 227 regional, state or foreign fairs held to pick the finalists for the big fair.

Sponsored by SCIENCE SERVICE, this year's fair, the 16th annual National Science Fair-International, will be held in St. Louis, Mo., May 5-8, at Kiel Auditorium.

The NSF-I awards to winners will be more than \$5,500, broken down into \$100, \$75, \$50, and \$25 prizes in various categories of the biological and physical sciences. These awards are given to stimulate scientific experimentation through acquisition of apparatus and books. In addition, there will be awards ranging from plaques and trips to sums of \$100 in cash given by 24 national associations, Federal agencies and the armed forces.

This year's participation is expected to top last year's total of more than 10,000 local fairs before the opening of the St. Louis NSF-I.

The average finalist in St. Louis—last year there were 419—will represent a total of 2,885 exhibitors. Finalists' science displays will be judged by more than 400 leading scientists.

A record of 15 years' experience by SCIENCE SERVICE in conducting the fairs indicates that this year, as in the past, the exhibits will show a high degree of scientific sophistication.

Moreover, a continuing SCIENCE SERVICE survey shows that 90% of the NSF-I finalists make a career in science.

In the belief that interest in science can and should be instilled at an early age, SCIENCE SERVICE encourages participation in the local fairs by boys and girls in grade and junior high school. Often experience gained there is a valuable stepping stone to selection for the NSF-I, open to participants in 10th, 11th and 12th grade.

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ENGINEERING

Electrical Connections In Space Improved

► ELECTRICAL CONNECTIONS in the high vacuum of space will last 20 times longer than present types and produce only one-hundredth as much electrical noise by using an alloy developed by the Air Force.

The alloy contains silver, copper and molybdisulfide, and replaces the carbon-compound brushes now being used.

Space simulation chambers were used to create low-pressure testing conditions. Lockheed Missiles and Space Company, Sunnyvale, Calif., developed the material, called CLB-alloy, for use in sliding electrical contacts aboard orbiting satellites or spacecraft.

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