

## MEDICINE

# Sugar Blamed for Ulcers

CARELESS eating habits or taking too much sugar are more likely to be the main causes of ulcers than strain, stress or excessive responsibility. This was reported by a "private enterprise" research team, the York (England) Peptic Ulcer Research Trust.

Led by Dr. Charles Pulvertaft, radiologist to York City and county hospitals, the research team made a survey of more than 2,600 ulcer sufferers. Of this number, 1,400 had already been operated on for ulcers, and the remainder were known to suffer from them.

All the people investigated live in and around York, the small city of Roman origin in the north of England. This gave the team the opportunity to investigate patients who live in urban and rural areas.

The researchers found, in general, that there were fewer ulcers among top-ranking business men than among lower paid people doing routine and often unimportant jobs.

"The idea of the 'executive ulcer' as the exclusive property of the big business man keeping his nose too hard to the grindstone is out," said Dr. Pulvertaft.

His researchers found that shift-workers are particularly ulcer-prone. Worst of all, it seems, are people who, due to their work, go without food for more than five hours in the afternoon. Or just eat sandwiches.

And they found too that ulcers are "not uncommon among children."

Summing up, Dr. Pulvertaft said that he was not convinced "on the evidence available that stress is the dominant factor in producing ulcers."

The researchers think they may have found the key to the secret of ulcers in the diets of city dwellers as distinct from country people. There are more ulcers in towns.

Previous researchers have thought this was due to the greater stress of city life. But Dr. Pulvertaft's team has found that city people eat more sugar than country folk. Investigations are now being made into the effect of the "sugar factor" on the body.

The York team thinks that their research reverses the usual cigarette smoking-ulcer theory. Smoking is usually indicted as the cause of ulcers. Dr. Pulvertaft's researchers think it much more likely that it is having ulcers that makes people smoke heavily.

The research has been conducted as a private investigation by a trust sponsored by a group of Yorkshire family doctors and local health authorities without financial support from the Medical Research Council or Britain's Welfare State National Health Service.

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criticized. The drugs have been labeled expensive, particularly for aged persons on retirement fixed incomes. However, and many doctors are unaware of this, these drugs can be obtained without cost from any pharmaceutical house for those patients who cannot pay for them.

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## EDUCATION

## U. S. Science Material Aids Overseas Effort

AMERICAN industries and professional organizations are cooperating with SCIENCE SERVICE and the United States Information Agency to supply its world-wide posts with a representative assortment of science aids which are made available to science club sponsors, teachers and science-minded students.

This collection of pamphlets, brochures and charts provides information concerning principles and developments in the fields of chemistry, biology, physics, mathematics and medicine. It includes descriptive data concerning recent achievements in atomic energy, electronics and the space sciences.

The material is designed to provide background information for science clubs, workshops, seminars and similar activities and to offer stimulating ideas and teaching aids to science-minded student and teachers abroad.

Pamphlets and other items in the collection, assembled for the Information Agency by SCIENCE SERVICE of Washington, D. C., were obtained from American commercial firms, publishers and associations at low cost or free of charge as support for the Government's overseas information program.

Most of the items are listed in the Sponsor Handbook for 1960 which is supplied free of charge to sponsors of some 25,000 clubs affiliated with Science Clubs of America, an activity of SCIENCE SERVICE's science youth program.

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## TECHNOLOGY

## Dresden Atom Plant Sustains Chain Reaction

THE REACTOR for this country's first full-scale, privately-financed nuclear power station has sustained its first chain reaction.

Criticality was reached at the Commonwealth Edison Company's 180,000-kilowatt Dresden nuclear power station, 50 miles southwest of Chicago, after General Electric Company and Commonwealth's engineers placed the 28th fuel element in the reactor core. The completely loaded core will contain 488 elements, weighing 65 tons. Initial production of electric power is to start early next year, with full operation by mid-1960.

Triggering of the first Dresden chain nuclear reaction was accomplished by withdrawing a number of the plant's 80 stainless steel control rods a predetermined distance out of the bottom of the core.

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## PHARMACOLOGY

# Bacteria Resist Drugs

RESEARCHERS in the field of "wonder drug" antibiotics are barely keeping one step ahead of disease-causing organisms.

Each year pharmaceutical houses feverishly work on an antibiotic in the hope that it will be one that will be active against many strains of disease-causing bacteria, some of which have become resistant to the drugs now available.

Five new drugs were introduced at the Seventh Annual Antibiotics Symposium that recently ended in Washington, D. C. Perhaps one will eventually "make the grade" and prove to be useful to physicians, a surgeon told SCIENCE SERVICE. Many of the antibiotics brought into the spotlight at these meetings, however, later prove too toxic or ineffective, and are never heard of again, he said.

On the other hand, one may prove beneficial, but will be used indiscriminately. Over use of such a drug can produce a resistance to it on the part of the bacteria it was designed to kill. Just a few years ago, the tetracycline antibiotics, which include Aureomycin and Terramycin, were introduced to the medical profession. These drugs are virtually useless in many hospitals today, due to unwise use, the surgeon said.

When asked how extensively he uses the old standby, penicillin, he said, "like water."

Commenting upon the new synthetic penicillin that was reported at the symposium, the surgeon emphasized that the real significance in this development is the broad field which is now open to research. Penicillin can now be made from chemicals off the laboratory shelf. In view of the fact that bacteria develop resistance to new drugs at a rapid pace, this field may well supply many new drugs that will last longer and be less toxic.

Last year 19 different antibiotics were being made and used for medical purposes in this country. Many of these will drop from use in the future. Others will replace them. Meanwhile, researchers in labs throughout the world will continue to try to keep ahead of the bacteria.

More than 40 pharmaceutical houses, all producers of antibiotics, were represented at the symposium.

It has been estimated that \$20,000,000 is spent by drug firms on the development of each antibiotic that is now on the market. Other millions of dollars are spent on those that fail.

The price of antibiotics has often been