MEDICINE

Internal Photos Taken

Two devices, designed to be used with a gastroscope, should make possible improved diagnoses and treatment of the stomach, giving a tool for photographing the organ.

➤ A SAFE method of taking colored pictures and slides of the inside of the human stomach has been achieved. Two devices have been designed for this purpose.

One is an electronic flash attached to the exploratory end of a gastroscope, directly beneath the opening through which the stomach is viewed.

A prism reflects the image through a series of lenses encased in the tube. A 35 millimeter camera is attached to the viewing end of the gastroscope. The doctor can view the diseased area of the stomach, focus the image with the camera and snap the shutter button that is synchronized with the flash.

The inventors, Prof. Ch. Debray and Pierre Housset, Faculty of Medicine of Paris, France, demonstrated the already well-tested instrument at the 17th annual meeting in Washington, D. C., of the American Gastroscopic Society and the World Congress of Gastroenterology.

Another instrument, a gastroscope with a built-in light bulb, was introduced by Dr. Robert S. Nelson, University of Texas, M.D. Anderson Hospital, Texas Medical Center, Houston.

The bulb, like the flash, is encased in the tube beneath the viewing window at the exploratory end of a gastroscope. However, the bulb is constantly glowing and when used for color photography, the brightness of the light is increased by additional power from the same battery source. These batteries are separate from the gastroscope.

When the doctor inserts the gastroscope down the throat and into the stomach, he first locates the diseased area of the stomach. The image is reflected, the same as in the flash unit, against a prism and through a series of enclosed lenses. Any 35 millimeter camera can be used.

These new devices will enable doctors to document and record the progress of lesions of the stomach over a period of years, Dr. Nelson pointed out.

Science News Letter, June 7, 1958

MEDICINE

Capsule Method Makes Digestive Exam Easier

➤ A NEW METHOD of performing the difficult digestive tract examination has been announced.

A small plastic capsule is swallowed that can be opened at the discretion of the examining physician. Then it travels the length of the digestive tract. It is recovered after being excreted, usually 24 hours after swallowing.

The capsule method, called Pyxigraphy, was developed by Dr. Jean-Pierre Perrenoud, General Medicine, Neuchatel, Switzerland.

The capsules are carried through the digestive tract along with food. X-rays tell the physician where the capsule is located at all times. At a given time, the physician is able to open the capsule, thereby sampling the liquid present at any stage of the digestive process.

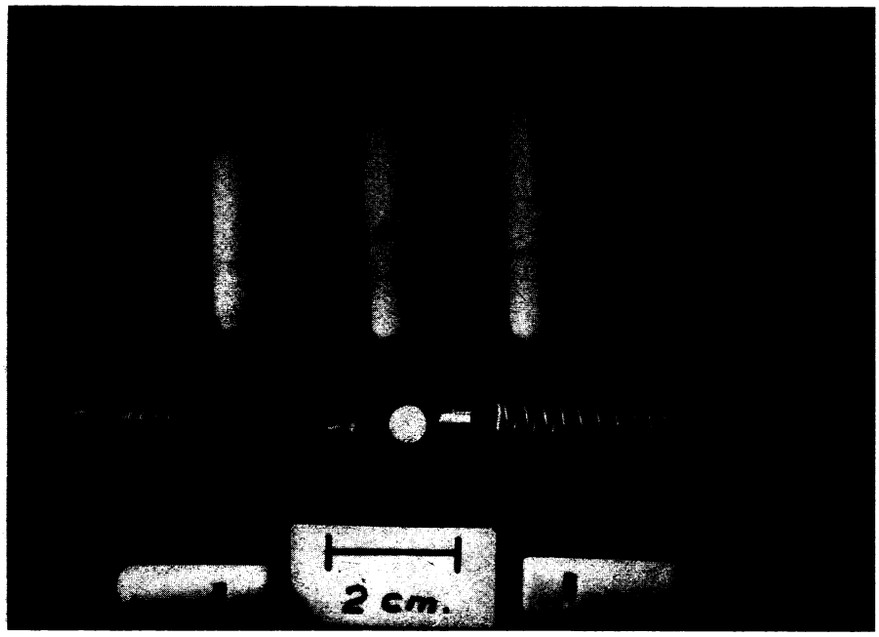
With the capsule, it is possible to sample the acid content of the stomach, or detect intestinal infections, Dr. Perrenoud said.

The device which controls opening or closing of the capsule is a small magnetic metal block placed inside the capsule, heated by a high frequency field.

The capsule itself is 25 millimeters long, eight millimeters in diameter. The cylinder is rounded at both ends.

Advantages of this capsule over the standard American method include the ability to take actual samples of the liquid in the stomach, and the capsule's small size and comfortable acceptance by the patient, the inventor reports in *Gastroenterologia* (Vol. 87, No. 6).

Science News Letter, June 7, 1958



PYXIGRAPHY CAPSULE—Capsules in various stages of being opened are shown in the photograph along with the small magnetic block that controls the capsule's opening or closing inside the digestive tract.

PUBLIC HEALTH

Arsenic Revealed in Two British Detergents

➤ A BASIC research experiment in Glasgow, Scotland, resulted in the unexpected finding that two popular British household detergents contained large amounts of arsenic.

The manufacturer of the two detergents modified the responsible processing stage after notification of the surprise findings.

The discovery was made after scientists found abnormally high arsenic concentrations in the hair of female laboratory assistants. Hair samples submitted by male colleagues showed only "normal" arsenic concentrations, about one part per million.

Drs. J. M. A. Lenihan, Western Regional Hospital Board, Hamilton Smith, University of Glasgow, and J. G. Chalmers, Royal Beatson Memorial Hospital, all of Glasgow, had requested the hair samples for basic research experiments in their study of the tiny amounts of arsenic normally present in nearly all hair.

A preliminary analysis showed arsenic present in the female hair at concentrations up to 23 parts per million, "surprisingly high but probably not dangerous."

Investigation revealed the women frequently washed their hair in one of two detergents prepared by a single leading manufacturer. A second series of experiments found very high concentrations of the poison, 59 to 74 parts per million, in the two detergents, while other detergents contained only about one to eight parts per million.

The scientists' report in *Nature* (May 24) states that sulfuric acid used in the detergent-making processes was obtained from roasting iron sulfides.

Those sulfides, sometimes called iron pyrites or "fool's gold," naturally occur with traces of arsenic. The manufacturer immediately switched to sulfuric acid prepared from pure sulfur.

Most sulfuric acid used in the United States, where detergent manufacture also involves the acid step, is prepared from pure sulfur virtually free from arsenic.

Science News Letter, June 7, 1958