MEDICINE

Movies Detect Cancer

Equipment used by amateurs to take pictures of family can allow doctors to study tissues at length without prolonged exposure of patient to X-rays.

➤ MOVING PICTURE equipment used by amateurs to take pictures of the family is now helping detect cancer of the digestive system, leading cause of cancer deaths in the United States.

The method and its advantages were reported by Dr. W. Edward Chamberlain of Temple University School of Medicine, Philadelphia, at the Sixth National Gastrointestinal Cancer Conference held in New York under the auspices of the National Advisory Cancer Council of the National Cancer Institute.

One important tool doctors have been using to detect cancers of the digestive tract has been the fluoroscope. In the early days the image seen this way was not too clear. Recently, Dr. Chamberlain explained, the physical principles of radio and television amplifiers, electron microscopes and World War II "sniperscopes" have been combined in a device that amplifies the brightness of the fluoroscopic image as high as a thousandfold.

This means much less intense X-rays need be used to produce the image, which saves patient and doctor from some undue exposure to the radiation. What is to be seen can be seen quickly without the uncertainty that formerly prolonged the time of exposure to the X-rays.

Now, Dr. Chamberlain finds, these bright images can be recorded on ordinary motion picture film with ordinary amateur movie equipment. The film can then be studied at length with no further exposure of patient or doctor to X-rays.

A further advantage is that this equipment is relatively inexpensive and therefore can be used many places where it has not been available before because of cost.

Stomach cancer detection in the future may be aided by electrical records traced on paper and called Electrogastrograms. While still in the experimental stage, these may prove as useful in the future as the electrocardiograms are now in diagnosing heart conditions.

The Electrogastrogram gives a synchronized recording of the electrical and mechanical activity of the stomach. One electrode is swallowed in a tube to the stomach and the other is put on the abdomen. Two hundred consecutive cases of stomach disorders have been diagnosed electrographically without benefit of any other clinical findings, Drs. Edmund N. Goodman, Henry Colcher, George Katz, Melvin Schwartz and Miss Carolyn Dangler of Columbia University College of Physicians and Surgeons, New York, reported.

Science News Letter, April 16, 1955

• RADIO

Saturday, April 23, 1955, 5:00-5:15 p.m. EST

"Adventures in Science" with Watson Davis, director of Science Service, over the CBS Radio Network. Check your local CBS station.

Mrs. Nena W. Badenoch, consultant in the National Society for Crippled Children and Adults, New York, and Mr. John Knox Shear, editor-in-chief, Architectural Record, and formerly head of School of Architecture, Carnegie Institute of Technology, will discuss "The Stepless House."

ARCHAEOLOGY

Ancient Bones Can Be Tested for Syphilis

➤ A TEST used to detect syphilis in living persons can also be used on dry bones to find out whether the person, when alive, suffered from the disease.

This test may settle the old controversy over whether the white man brought the dread disease syphilis to the American Indian or whether the disease was already established in America before the coming of Columbus.

The test used is known to doctors as the "Trepanomal Pallidum Immobilization" (TPI) test. Its successful use on dead bones was reported to the meeting of the American Association of Physical Anthropologists in Philadelphia by Dr. Frederick P. Thieme of the University of Michigan.

It is not yet known, however, just how long after death the test can be used successfully.

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ASTRONOMY

Lightest Star Found

➤ A STELLER light-weight, the least massive and second faintest star known, has been seen with the giant 200-inch telescope atop Mt. Palomar in California.

Only one-twelfth the mass and 70,000 times fainter than the sun, it was discovered exactly where astronomers at Sproul Observatory, Swarthmore, Pa., had calculated it would be, Dr. Peter van de Kamp, director of the observatory and Miss Sara Lee Lippincott announced.

The new star, known as Ross 614-B, is the third "unseen" star ever spotted, Dr. van de Kamp told the American Astronomical Society meeting in Princeton, N. J. The other two were found in the 19th century.

Miss Lippincott, also of Sproul Observatory, plotted the wobble in the path of the visible star caused by its then unseen companion. Dr. W. Baade of Mt. Wilson and Palomar Observatories aimed the 200-inch telescope at the spot where her calculations showed it should be. The faint companion was found on photographs taken March 23, and is of absolute magnitude 17, compared to that of 15 for the primary star.

The two stars are separated by a distance four times that between the earth and the sun, or about 400,000,000 miles. They revolve around the center of the combined mass with a period of 16 and a half years.

Single stars, such as the sun, move through space in straight lines. In a double star system, however, because the two revolve around a common center, their paths when plotted separately wobble.

Only the 200-inch has enough light-gathering power to find the faint companion and, even with it, the two stars had to be at their greatest separation to be seen. Miss Lippincott predicted this would happen in 1955.

The other discoveries of unseen companions to known stars, were to Sirius, the dog-star, in 1862 and Procyon in 1896.

The only fainter star now known is called Van Biesbroeck's star after its discoverer, Dr. George Van Biesbroeck of Yerkes Observatory, Williams Bay, Wis. Although it is two magnitudes fainter than Ross 614-B, its mass is not known.

Dr. Martin Schwarzschild of Princeton Observatory said that the discovery of such a faint, light-weight star had "very important" implications in theories concerning the birth and growth of the sun and other stars.

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