



SPLIT-SECOND X-RAY TRIGGER—Taking X-rays at known times in the heart's cycle is no longer a matter of guesswork. Instrument on the table, developed by National Heart Institute scientists, permits operator (left) to shoot X-ray at a precisely selected time in patient's heart beat. Better diagnosis results when such pictures, sometimes taken years apart, are made at exactly the same instant in the heart cycle.

MEDICINE

Two Zones in Heart

► **DISCOVERY THAT**, contrary to previous beliefs, the heart is composed of two zones was announced by Dr. Myron Prinzmetal and associates of Cedars of Lebanon Hospital, Los Angeles, at the American Medical Association meeting in Atlantic City, N. J.

Diagnosis of heart disease needs revision in the light of this discovery. In fact, it was because diagnoses, when made by the electrocardiograph, often differed in an "astonishing and alarming" way from the actual severity of the disease that Dr. Prinzmetal made his discovery.

For example, a man who had had six successive heart attacks and who soon died of severe heart damage never showed significant changes on electrocardiograms of his heart. The electrocardiograms had led his doctor and family to be unduly optimistic, Dr. Prinzmetal declared.

In other cases, patients showed "very alarming" abnormal changes in the electrocardiograph record and, consequently, became neurotic on the subject of their hearts, when actually they had only very mild heart trouble.

To find the reason for these discrepancies, Dr. Prinzmetal literally probed to the heart

of the matter. In a study of 12 human hearts, he explored different layers of the heart by means of special probes and examined the activity of the heart in the various layers. This was the first time the human heart had been explored in this way.

The probing was done during chest operations for such conditions as cancer of the lungs. It was completely safe.

The inner of the two zones discovered by this probing has no influence on the electrocardiogram, Dr. Prinzmetal found. Activity of the outer zone of the heart accounts essentially for all the electrocardiographic waves.

Disease involving the inner zone fails to affect the electrocardiogram, even though the degree of damage may be fatal. On the other hand, damage to the outer shell of the heart, no matter how insignificant, produces profound changes in the electrocardiogram.

The doctor's brain, Dr. Prinzmetal concluded, is "his No. 1 tool," and while the electrocardiogram is a valuable aid in diagnosing heart trouble, when it disagrees with the doctor's judgment, he should rely on his judgment.

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PUBLIC SAFETY

Tinted Auto Windshields Are Hazard at Night

► **TINTED AUTOMOBILE** windshields are hazards to safe night driving. A dark-clad person seen against a dark pavement at 150 feet through a clear windshield could not be spotted until 100 feet through a tinted one.

These are the conclusions of Dr. Heinz Haber of the University of California's Institute of Transportation and Traffic Engineering, Los Angeles. He analyzed visibility distances on the highway at night theoretically, but his results agree with other, experimental studies showing tinted windshields considerably reduce visibility.

Colored windshields supposedly cut down daytime as well as nighttime glare. Their "effectiveness as a protection against glare during the day is negligible," Dr. Haber's analysis showed.

Because so many things affect visibility, particularly at night, a theoretical analysis gives more "meaningful results" than experimental studies, Dr. Haber believes.

Since tinted windshields are so dangerous, "the best compromise appears to be the use of dark sunglasses for glare protection during the day." Windshields should be clear, transmitting the maximum possible light.

Even clear safety plate, he pointed out, absorbs up to 50% of the heat radiation, the "only advantage" left for using colored glass.

"Losses in visibility distances caused by commercial brands of tinted windshields amount to between nine percent and 15% at visibility distances ranging between 1,000 and 200 feet," he said in the *Journal of the Optical Society of America* (June).

Reductions as high as 30% to 45% occur for targets so closely matching the background that they can be seen only at short distances even with clear windshields.

Dr. Haber "strongly" recommended reconsideration of the present American Standard Safety Code setting 70% as the minimum amount of light windshields must transmit.

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ASTRONOMY

New Observatory Being Built Near Philadelphia

► **A NEW** astronomical observatory will be built on a 31-acre site about 20 miles west of Philadelphia near Paoli, the University of Pennsylvania has announced.

To be called the Flower and Cook Observatory, it will combine the functions of the University's Cook Observatory and its Flower Observatory.

Staff astronomers, using the 28.5-inch reflecting telescope, will continue research in the field of double and variable stars.

Dr. Frank Bradshaw Wood is the University's director of observatories.

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