MEDICINE

"Don't Worry" is Secret Of Long Life and Health

Aged Man in Perfect Health Has Been Happily Married For Nearly Six Decades; Abstains from Liquor and Tobacco

THE SECRET of how to live long and be healthy can be told in two words, "Don't worry."

Dr. Francis G. Benedict of the Carnegie Institution's Nutrition Laboratory and his associate, Dr. Howard F. Root, learned that this is the way to a healthy, active old age by studying a living example of ideal old age, Mr. Seth W. Lincoln of Worcester, Mass. Their studies were reported at meetings of the National Academy of Sciences in Washington and the American Society of Clinical Investigation in Atlantic City.

Years of Hard Work

At ninety-one years, Mr. Lincoln is a man of alert manner and upright carriage without the stoop of old age. His movements are active, free and quick. His voice is strong and his hearing good. His left eye has relatively little vision but the removal of a cataract from the right eye at the age of eighty-five has left him keen enough eyesight to traverse the business streets of Boston alone without a cane. He still carries on his work at the publishing house with which he has long been connected. Years of standing at a type case with consequent confinement have apparently not affected his general health. The normal texture of his skin and hair, and the absence of the thickness and dryness of skin usually seen in old age, indicate that his endocrine glands are in extraordinarily good balance. He has enjoyed fifty-nine years of romantic married life.

His vital processes go on at a relatively slow pace, considering how active and vigorous he is. This the scientists interpret as meaning "that his body machine is working with extraordinary efficiency and that when it is not performing muscular work it resembles an automobile engine while idling, that is, it is idling with an extremely low consumption of power."

Comparing the rate at which Mr. Lincoln's body converts fuel into energy with that of two other striking examples of men who maintained health and vigor past the age of ninety, the British alienist, Sir James Crichton-Browne and the late Dr. W. W. Keen, eminent American surgeon, indicates that these two men were continuously burning their fires under forced draft, whereas in Mr. Lincoln's case the fire is well banked to burn more slowly and economically.

An outstanding feature in Mr. Lincoln's personal history is that he has never suffered any great sorrows and has never experienced any tremendous financial stress, although he has had to earn his own living.

"He has a most optimistic outlook on life, spreads cheer and happiness wherever he goes, and is deeply religious," Dr. Benedict said.

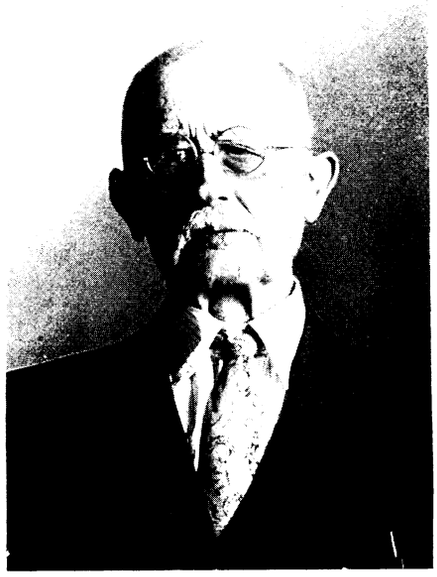
Most of his family were long-lived though none has lived as long as Mr. Lincoln himself, and to this factor of good family history the scientists attribute part of the responsibility for Mr. Lincoln's own remarkable longevity.

Teetotaler

"Mr. Lincoln eats a rational diet, not at all one-sided or dominated by any of the food fads," Dr. Benedict reported. "He has always abstained from the use of alcohol and tobacco, eats sparingly of eggs and liberally of fruits."

While no rules can be laid down on the basis of this one man's experience, Drs. Benedict and Root believe that Mr. Lincoln's example makes a pretty strong case for healthy living habits, good family history and freedom from worry with a happy outlook on life as the means of achieving healthy, vigorous old age.

Because of the apparent importance of mental poise and an unharassed mind, the scientists suggest that the psychologist will in future play as big a part in helping people prolong their lives beyond the biblical three score and ten years as the physician who teaches proper habits of eating and drinking and hygiene.



YOUNG AT 91

Seth W. Lincoln, of Worcester, Mass., who has been studied because of his perfect health by Dr. Francis G. Benedict, of the Carnegie Institution of Washington's Nutrition Laboratory.

ASTRONOMY

New Device To Aid Star Speed Studies

BETTER understanding of stellar traffic, especially of the stars that are speeding straight away from us or straight toward us, may result from the use of a new device invented by Prof. R. W. Wood of the Johns Hopkins University, and described by him before the National Academy of Sciences.

The speed of a receding star is measured by splitting up its light into a spectrum, or "artificial rainbow," and measuring the displacement or shift of certain lines in it toward the red. Such measurements have in the past had to be done very tediously, one star at a time through a narrow slit over the end of a telescope.

Prof. Wood's device consists of a number of diffraction gratings, which are flat pieces of glass with exceedingly fine lines ruled close together on them. These break up the light into a spectrum, just as a prism does. Diffraction gratings were invented by Prof. Wood's predecessor in the physics department at the Johns Hopkins University, Prof. Henry A. Rowland.

Prof. Wood has succeeded in making gratings suitable for placing in groups on the face of a telescope's big lens, with prisms back of them to give cor-

rect adjustment to the spectra they transmit. In this way the spectra of whole star clusters can be photographed at once, instead of just one star at a time.

At the same time, the actual image of the star itself is photographed on the same plate, using parts of the lens not covered by the gratings. The star-images and their spectra can even be superimposed if desired. Thus a "mass production" method of obtaining important astronomical data may be developed, replacing the older method of one-by-one production.

Science News Letter, May 5, 1934

BIOLOGY

Anesthesia Produced By Distilled Water

DISTILLED WATER, replacing ordinary tap water containing its usual quota of highly dilute mineral substances, produces anesthesia in plant cells, seemingly by dissolving out of them some unknown organic stuff.

This observation was presented to the National Academy of Sciences by Dr. W. J. V. Osterhout and Dr. S. E. Hill of the Rockefeller Institute for Medical Research.

Degrees of sensitivity and of its opposite, anesthesia, in living cells can be measured by suitably arranged delicate electrical apparatus. When very long cells of the water plant *Nitella* are placed in distilled water they presently become completely anesthetic, transmitting no nerve-like variations in electric potential along the protoplasm. This loss of sensitivity is hastened by the addition of acids or alkalis, but slowed by the addition of calcium. The anesthetic state passes off again when the cells are replaced in tap water.

"The simplest explanation," suggested Dr. Osterhout, "is that an organic substance, which we may call R, is dissolved out of the surface by distilled water, and this takes place more rapidly in the presence of acid or of alkali but more slowly in the presence of calcium."

This anesthetic state in plant cells has been observed in nature at certain times of the year, Dr. Osterhout added. This would lead to the supposition that the R substance is produced more slowly than it is dissolved out by the pond water.

"It seems possible," he concluded, "that other cases of anesthesia may be due to the fact that substances are removed from the cell."

Science News Letter, May 5, 1934

MEDICINE

Relief of Pain on Thyroid Removal Due to Cutting Nerves

THE PAIN of angina pectoris and congestive heart failure may be relieved in some patients immediately after operation for complete removal of the normal thyroid gland, Dr. H. L. Blumgart of Harvard Medical School and Beth Israel Hospital, Boston, reported at the meeting of the American Society for Clinical Investigation.

Surgeons should not be misled by this immediate relief of pain, since its cause is temporary. Permanent relief cannot be had until there has been time for the metabolic rate to be reduced as a result of removal of the thyroid, Dr. Blumgart emphasized.

This now famous operation was devised by Dr. Blumgart and Drs. S. A. Levine and D. D. Berlin to lessen the load of the overworked heart or weakened arteries in pumping and carrying the mass of blood to the tissues. The amount of work the heart must do depends primarily on the call of the tissues all over the body for oxygen. This in turn is governed by the thyroid gland which determines the metabolic rate or the rate at which the body processes requiring oxygen go on.

When this rate has been reduced consequent on removal of the thyroid, permanent relief of the pain is achieved, but until tests shows that the rate has been lowered, patients should be kept at rest in bed, even though they feel much better, Dr. Blumgart said.

This permanent relief was expected to follow complete thyroid removal, but relief was experienced by the patients much sooner than expected. Dr. Blumgart and Drs. A. A. Weinstein, D. Davis and J. E. F. Riseman have spent over a year studying this aspect of the treatment. They found that the immediate relief was due to the fact that the surgeon, in removing the thyroid gland, interrupts nerve pathways which carry painful sensations from the heart to the central nervous system.

"With this early relief that occurs before the metabolic rate becomes lowered there is probably no fundamental change in the heart condition," Dr. Blumgart explained. "So the importance of keeping patients in bed after the operation, in spite of their sense of well being, until the metabolic rate falls, is to be emphasized."

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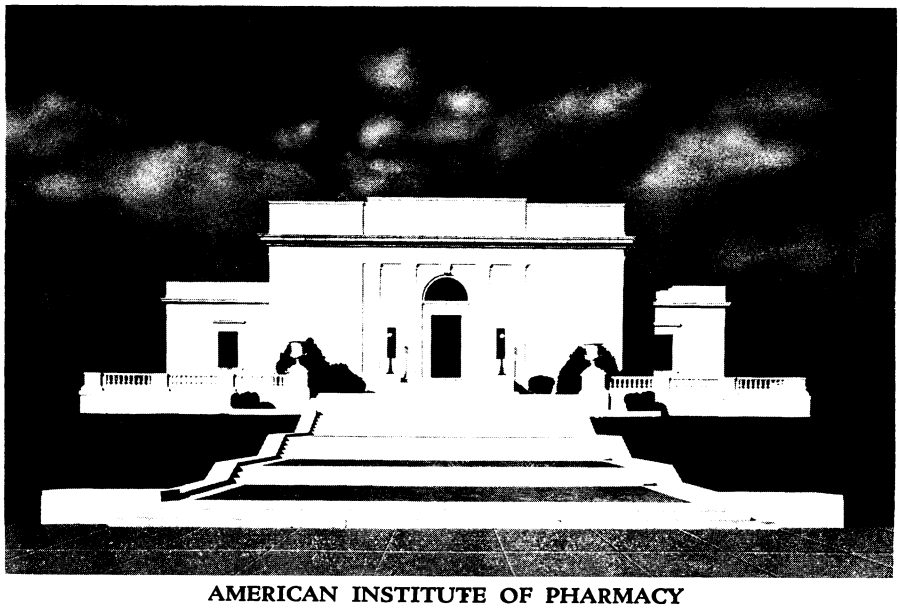

AMERICAN INSTITUTE OF PHARMACY

This beautiful edifice just completed stands on Constitution Avenue in Washington, next to the National Academy of Sciences. It will be dedicated "to those who have given of their thought and endeavor to the improvement of public health and to the further advancement of science in pharmacy" during the meeting of the American Pharmaceutical Association May 7 to 12, 1934.