

## BIOCHEMISTRY

## Blue Dye May Be "Antidote" To Cancer-Causing Substances

**M**ETHYLENE blue, the dye which is reported to have saved victims of carbon monoxide and cyanide poisoning by counteracting the effects of these poisons in the body, may play a similar role in cancer.

This suggestion that methylene blue may counteract the cancer-producing activity of certain coal-tars has been made by Dr. Maurice Copisarow of the Research Laboratory, Manchester, England, in a note to *Science*.

Of course it is understood that Dr. Copisarow's theory is still in the realm of scientific speculation. Neither he nor any other scientist suggests buying a bottle of methylene blue and taking a dose to prevent or to cure cancer.

Because methylene blue can protect the respiratory enzyme from attack by carbon monoxide or cyanides, thus keeping these substances from interfering

fatally with the supply of oxygen to the tissues, Dr. Copisarow reasons that the now famous blue dye may also be able to protect the respiratory enzyme from the coal tars. It is his opinion that malignant growth is based on suppression of the activity of this vital respiratory enzyme. This suppression may result either from a depletion of dietary enzyme supply or from inhibition of the enzyme activity by factors in the environment.

In the case of cancers resulting from prolonged exposure to coal tars, the respiratory enzymes are found to be influenced by definite cancer-producing substances such as 1:2:5:6 dibenzanthracene, 1:2 benzpyrene and 1:2 benzanthracene. It is against this influence that he suggests methylene blue may be active.

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hospitals without a single mortality."

Dr. Cumming paid tribute to the pioneers in radiology who often suffered and died in their efforts to give mankind the benefits of X-rays and radium.

"An ardent group of devoted workers have in slightly over thirty years developed a toy into a machine, wonderful in construction, precise in operation, awe inspiring in its effects," he said. "The X-ray embodies the accumulated ideas, the best thought, fearless enterprise, and untiring devotion of a large number of physicians, technicians and other scientific men and women. In this great American Congress are the men who have raised this wonder child from infancy to helpful manhood. In a single generation we have seen this miracle develop before our eyes."

Dr. Cumming also pointed out that the U. S. Bureau of Standards played an important part in bringing about an international standardization of therapeutic "dosage" of X-rays, and that the Bureau, represented at the Congress by Dr. Lauriston S. Taylor, head of its X-ray laboratories, has rendered valuable service to manufacturers in standardizing X-ray equipment.

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## PUBLIC HEALTH

## Radiology Vital To Public Health of Nation

**T**HE VITAL part played by X-rays in guarding and improving the health of the people was described by Surgeon General Hugh S. Cumming of the U. S. Public Health Service at the meeting of the American Congress of Radiology.

"To no branch of medicine does the public health of the nation owe more than to radiology," declared Dr. Cumming.

In fighting cancer and tuberculosis, in protecting industrial workers from the dangers to their lungs and health of certain industrial dusts, in giving accurate diagnoses of tumors of the brain, the X-rays have played a leading part, he pointed out.

"Upon radiology perhaps more than any other single science except surgery we depend for aggressive and defensive measures against cancer," he said. "In connection with the fight on tuberculosis, I know of nothing more valuable than the diagnostic and prognostic

means thus placed at the disposal of the specialist.

"In connection with the study of industrial diseases the Public Health Service has for several years investigated the kinds of dust in quarries, mines, and grinding establishments. We have found that the best defense against 'dusting' the lungs and respiratory tracts of the workmen in such occupations to a point that is dangerous to their health, is periodic examinations of them by the use of X-ray. Thus we become able to exclude from such occupations those individuals who are most susceptible to the dusting process.

"Another contribution of the Public Health Service came about through the efforts of Dr. Liberson, a roentgenologist serving the three New York Marine Hospitals. Dr. Liberson was first to perfect a method for use in diagnosing tumors of the brain and since his findings 248 operations for encephalography have been performed in these

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