

Committee is Dr. Clyde Williams, director of the Battelle Memorial Institute, Columbus, Ohio; with Dr. Zay Jeffries, of the General Electric Company, as vice-chairman, and Louis Jordan, as executive secretary.

Science News Letter, August 1, 1942

MEDICINE

Assembly Line Method Applied to Sun Bathing

MINERS at the Manvers Main Colliery in England now get daily sun baths by an assembly line method called both "revolutionary" and "unique in this country" by its designer, Dr. William Beaumont, of London, England, in a report to the *British Medical Journal* (June 13).

The miners, after their shower-bath, pass through a door and step onto a conveyor belt which carries them along a corridor which has mercury vapor arc lamps along its walls to deliver ultraviolet light. At the end of the corridor the men step off the conveyer and pass through a door to their clean clothes locker.

The assembly line sun bath is capable of providing sun baths for 50 workers every five minutes. It provides a minimal dose of the artificial sunshine, designed not as treatment but as a prophylactic measure to keep the men in good health in spite of lack of exposure to natural sunlight. The equipment is put into operation by throwing a single switch. Any defect or breakdown automatically breaks the electrical circuit supplying the apparatus.

The problem of providing artificial sun baths for factory and other workers as well as miners who work long hours under artificial light and lack opportunities for spending the week-ends in the open "for some time has been exercising the minds of those responsible for the health of the workers and also those whose main concern is production," Dr. Beaumont points out.

Both the Germans and Russians, he adds, faced this situation long before the war. The Krupps mines at Essen, he says, have a "splendid installation" built in the early days of the Hitler regime and the value of sun baths in factories was recognized in Russia years ago.

Science News Letter, August 1, 1942

In some states 1942 *auto licenses* will be renewed by windshield stickers for 1943 use.

MEDICINE

Cancer Institute's Personnel At Disposal of War Agencies

Chief of Institute Also Announces Now Possible To Convert Normal Mammalian Cells into Cancer Cells

THE NATIONAL Cancer Institute has been authorized by the National Cancer Advisory Council to put "at the disposal of the appropriate war agencies the facilities and personnel available for research aiding the war effort," it was announced following the Council's meeting.

Dr. Carl Voegtlin, chief of the National Cancer Institute, reported work showing for the first time that it is possible to convert normal mammalian cells growing outside the body into can-

cer cells. This was done by exposing the normal cells to the action of powerful cancer-causing chemicals. It is expected to aid understanding of how cancer is caused in the human body. The experiments were started in 1936 by Dr. Voegtlin and Dr. Wilton Earl.

Four grants-in-aid, totalling \$21,300, were made to the Chicago Tumor Institute, the University of California, Cornell University and Michael Reese Hospital, Chicago.

Science News Letter, August 1, 1942

ENGINEERING

New Sources of Ultraviolet Several Times More Effective

Chemical Coatings on Bulbs or Tubes Transform Wavelengths and Increase Brightness of Fluorescence

TO AID America's war effort, new sources of ultraviolet or black light have been perfected which cause fluorescent materials to glow several times more brightly than previously possible, E. W. Beggs, Westinghouse lighting engineer, told the American Optical Society meeting at the Massachusetts Institute of Technology.

The new sources, which range from a walnut-sized bulb to a four-foot glass tube, use a new chemical coating that transforms short-wave ultraviolet to near ultraviolet. Chemical coatings also sift out the visible light.

Fluorescent materials glow when illuminated with ultraviolet light and cease to glow when the black light is turned off.

Thus an ultraviolet spotlight may pick up fluorescent markings in the dark which until then had been invisible. Maps, which must be read under black-out conditions, can actually be made to glow in several different colors. Fluor-

escent dials in an airplane will glow without the glare that might attract the attention of the enemy, and even this glow can be dimmed or extinguished at a moment's notice.

Phosphorescent materials, on the other hand, are like storage batteries of light. Activated for less than one minute by the ultraviolet light, they continue to glow for several hours afterwards. Other artificial sources may be used for this activation, but none is so efficient as the new mercury vapor fluorescent lamp.

Trail-blazing with fluorescent powders or paints is another one of the important new possible uses for black light, Mr. Beggs reported. By this method, markings left on trees, stones and bushes remain invisible until picked out in the darkness by ultraviolet spotlights.

Science News Letter, August 1, 1942

Testing is now being conducted to determine the practicality of canning cheese.