

● RADIO

Saturday, October 17, 1:30 p.m., EWT

"Adventures in Science," with Watson Davis, director of Science Service, over Columbia Broadcasting System.

Dr. Selman A. Waksman, microbiologist of the New Jersey State Agricultural Experiment Station, will tell of some of the disease-producing germs in soil and of soil microbes that destroy them.

Tuesday, October 13, 7:30 p.m., EWT

Science Clubs of America programs over WRUL, Boston, on 6.04, 9.70 and 11.73 megacycles.

One in a series of regular periods, over this short wave station to serve science clubs, particularly in the high schools, throughout the Americas. Have your science group listen in at this time.

conomic practicability compared with other power-producing systems.

Various possibilities of solar energy are outlined in the Smithsonian report by Dr. H. C. Hottel of the Massachusetts Institute of Technology, where experiments are also being conducted. Their program calls for exploration of all the possibilities of economic conversion of solar energy into forms useful in industry.

One method would be direct conversion of the sun's rays into electricity. This would be based on the principle of the thermocouple. That is, when two wires of two different elements are joined and the junction is heated, a small part of the heat is converted into electrical energy. Efficiency here depends on the properties of the two materials used. Intensive study is now in progress, Dr. Hottel reports, to learn which metallic compounds give best results.

Another apparatus is operated by photoelectricity—the same principle which operates the exposure meter used by photographers. Here the light strikes a prepared metal plate which also results in conversion to electrical energy.

Or perhaps we can duplicate nature's own method of storing solar energy, it is suggested. Through chlorophyll, the green stuff in leaves, sunlight is stored in growing things. Perhaps millions of years later it is released by the burning of coal or oil. It is hoped that through a thorough understanding of nature's process, we may be able to make synthetic fuels out of easily available chemicals.

Atomic power, discussed by Dr. Ernest O. Lawrence of the University of California, is also much in the news. Recent progress must be kept secret at this time. But up to about a year ago the status was about that of aviation 50 years ago. That is, the basic principles are known, but practical application awaits the development of a new instrument or technique.

Science News Letter, October 10, 1942

PUBLIC HEALTH

Wear a Sweater

With fuel rationed and office and home temperatures low, it will be aiding to win the war if you dress yourself in warm clothing, physicians advise.

➤ "WEAR A SWEATER and help win the war" is the slogan suggested in a report to the OPA by a committee on health aspects of fuel rationing. The report, tentatively accepted by the OPA, is summarized in the *Journal of the American Medical Association* (Oct. 3).

There is a "dearth of scientific information as to tolerable minimum temperatures," the editor of the *Journal* points out. So the medical advisory committee to the OPA, headed by Dr. Leverett D. Bristol, of New York, had to disregard standard published recommendations for heating and ventilating comfort and attempt to establish a safe zone at a lower temperature which would protect health and not be too uncomfortable.

Temperatures of 60 to 80 degrees Fahrenheit, majority opinion 65° F., were considered the minimum for the average private home, apartment house, stores, office buildings and schools, with a range of 60° to 70° F. for the latter. For hospitals and sanatoriums, temperatures of 68° to 80° F. were recommended, the majority opinion holding for 70° F. except operating rooms, which should be 80° F.

Homes with one or more children under four years, one or more persons over 65 years, one or more cases of illness, and convalescents or those with low vitality should have a temperature of not less than 70° F.

Our winter indoor temperatures in the past have been too high and our atmospheres too dry. The English, the committee points out, believe as a result of experience with radiant heat that a 60° F. dry bulb temperature is adequate if room occupants are properly clothed. This is the cue for the wear-a-sweater slogan the committee suggested to emphasize the point that each of us must be his own clothing engineer and take care of winter health and comfort in over-cooled rooms by dressing for the new indoor weather.

"The body adjusts itself readily," the summarized report states, "to temperatures at least 10 degrees below what we in the United States consider the standard temperature for dwelling houses."

"Reduced indoor temperature is less apt to injure persons in good physical condition and having good health habits," the summary continues. "The usual recommendations relative to exercise, sunlight, food and rest are stressed. Adequate clothing, and especially foot covering, is emphasized. Cold baths of short duration are recommended for certain persons. Overfatigue should be avoided.

"While most of our winter ills are due to bacterial and virus infections, scientific evidence shows the important relationship of lowered resistances and changes of weather to these conditions. There is little experimental evidence to show what an individual in a wartime economy can get along without in his artificial heat requirements without injury to health."

Science News Letter, October 10, 1942

How amateur scientists
have contributed to
original research

THE AMATEUR SCIENTIST

Science as a Hobby

By W. STEPHEN THOMAS

This is the first book to report on the diverse activities of the thousands of Americans who make science their hobby. It tells who they are, how they pursue their scientific bents, and how education and direction can make them a vital link between professional science and the public. Included are four programs of research in which more than five hundred amateurs took part, gathering data in botany, radio, climatology and animal life.

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