

PHYSICS

New Hope of Harnessing Sun's Prodigious Energy

THE SCIENTIFIC dream of converting the sunshine cheaply into some form of practical power, such as electricity, is an enticing idea which is undoubtedly closer to realization than the release of the supposed power within the atom.

The earth's imports of solar energy are about all that it receives from outer space that is of any consequence. Immense quantities of energy are received. During the three months of greatest sunshine in the temperate zone, an acre of land receives directly from the sun an amount of heat equivalent to the burning of approximately 250 tons of high-grade coal.

Only a minute portion of this energy is captured and converted by plants growing on the land—some two- or three-tenths of one per cent.

Our modern industrial civilization is possible only because inefficiently, but in impressive quantity, the past ages stored up sunshine in coal, oil and gas.

The search for more efficient solar energy utilization is being energized by Dr. Godfrey Lowell Cabot's gift to the Massachusetts Institute of Technology. Professors and students will be spreading a research net for new facts and applications.

A Triple Program

The program has three directions: 1. Means for utilizing solar heat to operate engines to deliver mechanical power. 2. The possibility of converting solar radiation into electrical energy. 3. Chemical conversion of sunlight into forms available for work.

Mirrors might concentrate the sunshine and feed it to engines operating on small temperature range at low upper temperature, with small first cost and low maintenance.

Hope for electricity directly from sunlight lies in improving the low efficiency of vacuum or gas-filled photoelectric cells, thermopiles and boundary-layer apparatus, such as the copper-copper oxide cell.

There is possibility of eventually discovering chemical compounds that can absorb sunshine and convert it economically into stored energy.

Science News Letter, July 2, 1938

Boulder Lake sends to the Colorado River water cold and clear enough to suit rainbow trout.

PSYCHIATRY

Famous Institution Holds Celebration After 30 Years

FEW scientific discoveries have the dramatic thrill for mankind that is possessed by certain epoch-making medical discoveries. The story of lives saved by insulin as a cure for diabetes, by liver for pernicious anemia, and, most recently, by insulin again as a cure for dementia precox have the heart-touching appeal of modern miracles.

Among these medical wonders is the tale of the conquest of paresis.

Paresis is particularly tragic because it attacks men in the prime of life, robbing them of health, happiness and sanity itself and leaving them to a slow horrible death. It was once called Officer's Disease because it would develop in those army men in the higher ranks who remained for a long time in the service. Enlisted men who left the army after their service was done, did not come under observation after the paresis had had time to develop.

First hint of the cure came also from the experience of the army. For it was observed that men returned from the tropics did not fall victims of this disease. It was at the Hospital for Mental Diseases in Vienna that Professor Wagner von Jauregg discovered that the tropical fever malaria would kill the organism responsible for paresis.

Recently the Vienna hospital celebrated its 30th anniversary—now as at its founding, one of the most modern institutions of its kind. Segregation of patients according to their condition, social rooms, theatres, and modern equipment and treatment make the outlook for the patient favorable. A special wing for alcoholic cases exclusively and a bureau for the supervision of alcoholic outpatients are innovations.

The Vienna hospital reviews an enviable past. What will the future hold?

Science News Letter, July 2, 1938

FOR SUMMER READING

THE AUTOBIOGRAPHY OF GENERAL ISAAC J. WISTAR (1827-1905)

Wistar lived through remarkable times and made the most of them. He traveled across the continent with the vanguard of the Forty-Niners in a journey almost epic in itself. He earned and lost small fortunes as a miner, trapper, muleteer, speculator, and lawyer before he was thirty, such was his versatility.

He killed Indians relentlessly when menaced; yet he considered creation of an Indian empire to halt encroachment of white settlers on the "rightful own-

ers" of the land. He never hesitated to pistol, club, or butt anyone who crossed him; yet the Governor of California singled him out to suppress the Vigilante rioters of 1856. He stood armed to fight Abolitionists and believed ardently in State rights; yet his privately-raised regiment is credited with saving the Union at Gettysburg and in the Seven Days Battles.

It is the last word from a leader of a vanished American generation.

Recent Reviews

"A really valuable adjunct to historical records. Narrated, vividly and honestly, one sees the story of the masses of the people, who developed this country and who saved it for the Union."

Boston Sunday Post.

"It is difficult to put the book down if once you start it."

Charles A. Kofoid,

Pony Express Courier, California.

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Fort Worth Star-Telegram.