

ASTRONOMY

Sun Energy Changes

Variations in amount of radiation received from sun may cause long-term climate changes. Corpuscular stream proposed to account for warm polar climates.

► THE ICE Ages were probably caused by changes in the tremendous outpouring of energy from the sun, Dr. Barbara Bell of the Harvard College Observatory suggested at a Symposium on Climatic Change in Boston.

Variations in the solar constant, a measure of the sun's radiation received on the earth, seem to be required, she said, to explain how climatic conditions have varied over a long period of time, with the great ice sheets advancing during glacial, or very cold, periods, then later retreating.

To account for a once-warm climate at the poles, Dr. Bell suggested a steady stream of particle radiation from the sun, such as is believed to cause the bright shimmerings of the auroras. This is the only source of energy now known that acts only in high latitudes, according to the theory of the aurora outlined to the Symposium by Dr. Donald Menzel, astrophysics professor at Harvard University. Dr. Menzel reported that he believes solar particles are the cause of the aurora.

The amount and constancy of such solar particle radiation, Dr. Bell suggested, may help determine the rate of change of the lower atmospheric blanket with latitude and thus affect the earth's atmospheric circulation pattern. The energy of this corpuscular radiation is about equal to that received during the day in ordinary solar radiation.

During the two-day Symposium, scientists of many different specialties, from astronomy to geology to weather forecasting, pooled their knowledge in an at-

tempt to decide what is needed, either here or on other planets, for the beginning and continuance of life. Dr. Harlow Shapley was chairman of the Symposium sponsored by the American Academy of Arts and Sciences.

Dr. Menzel suggested that a giant invisible funnel formed in the earth's magnetic lines of force could act as a passageway through which solar particles would flow. Ordinarily these magnetic lines of force are thought to act like a bumper, routing most of the particles so that they flow around the earth. But when a particularly dense clump in the ionized gas clouds strike the invisible magnetic lines, they are bent. And when more dense clumps pile into a depression thus formed, a giant funnel is formed. When the solar particles pour through the funnel into our atmosphere, there are the most intense occurrences of aurora, Dr. Menzel believes.

Science News Letter, May 24, 1952

PSYCHIATRY

Brain Wave Patterns Spot Good Citizens in Convicts

► CONVICTS WHO might be remade into good citizens by careful medical and psychiatric treatment can be distinguished by their wave patterns from those who will always have to be kept in prison.

Contrary to what might be expected, those who can be helped are the ones with relatively unstable personalities which are accompanied by abnormal brain wave patterns. The psychopathic deviates who are

repeatedly in collisions with the law and cannot assume responsibility in the community have fixed personality patterns and are much more likely to have normal brain wave patterns.

Studies showing this, made at Washington State Penitentiary, were reported to the American Psychiatric Association meeting in Atlantic City, by Dr. Sol Levy of the Eastern State Hospital, Medical Lake, Washington, and Dr. Margaret A. Kennard of the University of British Columbia Medical School, Vancouver, B. C.

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