



the part of the sky easily visible from Chicago.

He had retired from his court work in 1902, and in 1913 he retired from scientific work. Then his mantle fell on Dr. Eric Doolittle, of the University of Pennsylvania, who was given all his data. Burnham died on March 11, 1921. But Doolittle had died in 1919, and then the material was turned over to Dr. Robert G. Aitken, now director emeritus of the Lick Observatory, and living in Berkeley, California, where he is continuing the compilation of data. He published, as the joint work of himself and Dr. Doolittle, a new catalog of double stars in 1930, which is the latest authority. However, Dr. Aitken is maintaining a card file on all the recorded binaries, and is keeping it up to date, so there is much new material which has not yet been published. It is, however, made freely available to interested astronomers.

On December 22, at 7:14 a. m., the

sun, which has been moving southward since last June, reaches the end of its journey. This is the winter solstice and marks the beginning of winter. On this day the sun rises and sets farthest to the south, and reaches its lowest noon-day height of the year. For this reason, it is above the horizon for the shortest time, and the 22nd is thus the year's shortest day. In the southern hemisphere, however, conditions are reversed. There it is the longest day and the beginning of summer.

Phases of the Moon

	E. S. T.
Full	Dec. 7 5:22 a. m.
Perigee—Distance	
224,200 miles	Dec. 8 8:00 p. m.
Last quarter	Dec. 13 8:17 p. m.
New Moon	Dec. 21 1:07 p. m.
Apogee—Distance	
252,400 miles	Dec. 24 2:00 p. m.
First quarter	Dec. 29 5:53 p. m.

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small animals that scientists believed this treatment was worth at least a trial on human cancerous growths.

"The success of the neutron ray in animal experimentation does not justify any conclusion that it will be necessarily more successful in treating human beings than X-rays," said Dr. John Lawrence, who, with Dr. Robert S. Stone, chief roentgenologist in the University's hospital in San Francisco, is directing the experiments. "It may be months or even years before any results are known and, until then, we can offer no additional hope to cancer sufferers."

Dr. Lawrence is the brother of Dr. E. O. Lawrence, noted physicist who developed the cyclotron and the neutron ray used on the cancer patients. The neutron rays are created by bombarding a target of a light metal, notably beryllium, with very energetic deuterons, which are the nuclei or ions of heavy hydrogen.

The rays produced by this method were found to have a sharply different effect on biological tissue cells than the X-ray, and it was this difference which led to the present clinical investigations.

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PSYCHOLOGY

Strife Created in America By Advancing False Theories

CHARGES that strife is being systematically created in the United States by pressure groups and their conflicting theories of social justice are made by Dr. Henry C. Link, of the Psychological Corporation, in a book, "The Rediscovery of Man" (Macmillan)

"Abstract ideas rather than personal passions, lines of thought rather than bread-lines are pushing this country toward violence," he said.

"Personal tragedy and defeat were once due to the individual's weakness or to physical circumstances beyond his control; today, with untold material advantages, even the most promising person is hamstrung by a formidable array of scientific and pseudo-scientific theories."

IQ tests, Dr. Link says, are a legitimate scientific device whose effectiveness has been curtailed by addition of a theory that undermines the confidence of parents, of children and even of the schools, in the possibility of training a mind. A defeatist attitude is adopted by persons who blame their failures on lack of aptitude, an "inferiority complex" or their glands.

The misconception of man as a mere victim of forces beyond his control has

MEDICINE

Cyclotron Is Now Used In Treatment of Human Cancer

HUMAN cancer sufferers are now being treated for the first time with neutron rays from the 85-ton, atom-smashing cyclotron of the University of California.

Announcement of this use of the cyclotron, which it is hoped will greatly advance the war against cancer, was made by Dr. Ludvig Hektoen, executive director of the National Advisory Cancer Council, adjunct of the U. S. Public Health Service, which has been in the forefront in supplying funds and

technical assistance for this newest assault on cancer.

Cancer sufferers throughout the nation are warned not to start for California in the hope of getting treated by the cyclotron. The treatments are purely experimental and no successful outcome can be promised. Only a small group of patients from the University of California's teaching hospital in San Francisco are being treated. The cyclotron's neutron rays have been so effective in treating cancerous growths on

