

amateur observers, and these will be sent upon request and without charge to anyone who is interested.

Celestial Time Table for November

Saturday, Nov. 2, 11:00 p.m., Jupiter opposite from sun and nearest earth; 369,900,000 miles distant. **Sunday, Nov. 3,** 4:00 p.m., Saturn opposite from sun and nearest earth; 763,400,000 miles distant. **Wednesday, Nov. 6,** 4:08 p.m., Moon in first quarter. **Monday, Nov. 11,** 11:00 a.m., Moon farthest from earth; 252,300 miles distant; 3:49 p.m., Transit of Mercury across sun begins. **Wednesday, Nov. 13,** 5:56 p.m., Moon passes Jupiter; 9:20 p.m., Moon passes Sat-

urn. **Thursday, Nov. 14,** 9:23 p.m., Full moon. **Saturday, Nov. 16,** Maximum of shooting stars on Leonid shower—bright moonlight will interfere considerably with their view; 10:00 a.m., Uranus opposite from sun and nearest earth; 1,725,000,000 miles distant. **Friday, Nov. 22,** 11:36 a.m., Moon in last quarter. **Tuesday, Nov. 26,** 4:32 p.m., Moon passes Venus, which is visible in morning sky; 9:45 p.m., Moon passes Mars. **Wednesday, Nov. 27,** 7:00 a.m., Moon nearest earth, 224,900 miles distant. **Thursday, Nov. 28,** 5:00 p.m., Mercury farthest west of sun, visible around this date as morning star. **Friday, Nov. 29,** 3:42 a.m., New moon.

Eastern standard time throughout.

Science News Letter, October 26, 1940

● RADIO

E. K. Jett, chief engineer of the Federal Communications Commission will discuss "Radio Interference Problems" as guest scientist on "Adventures in Science" with Watson Davis, director of Science Service, over the coast to coast network of the Columbia Broadcasting System, Thursday, Oct. 31, 3:45 p.m. EST, 2:45 CST, 1:45 MST, 12:45 PST.

Listen in on your local station. Listen in each Thursday.

time, even a limitation of the hours of work does not result in a normal output for a number of weeks.

"It is," explains the Board, "as if a person who normally lived on income from a certain capital required extra money for an immediate purpose. He could draw on his capital, but later he would have less capital and therefore less income."

The lesson for all of us is not to overdraw on our reserve of energy or what might be called our rest account. Taking time for eight hours of sleep plus some recreation every day will keep us healthier and more efficient for our defense.

Science News Letter, October 26, 1940

PUBLIC HEALTH

In Defense Work Don't Overdraw Your Rest Account

Longer Hours Beyond Reasonable Day May Actually Decrease Output; White Collar Workers Also Affected

WITH DEFENSE preparations being speeded there is danger that many of us will work too long and get over-tired this winter. The result will be bad both for health and for defense. The Industrial Health Research Board of the Medical Research Council in England has just issued a summary of their findings on this subject which should be as valuable for American defense efforts as for English war efforts.

"One of the lessons learned in the last war," the Board points out, "was that excessive hours of work do not ultimately pay—even when considered solely on the basis of output and apart from the effect on the health of the workers."

Within certain limits, increasing the hours of work will increase the output. More can be done in six hours than in


four or five. But a 12-hour day, it was found, produced no more than a 10-hour day. When the actual weekly working hours of a group of men were reduced from 58.2 to 51.2, the total output increased by 22%.

The value of the lesson on hours of work is not confined to men and women in factories. The white collar workers and executives, under the stimulus of defense preparations, are perhaps even more likely to try to accomplish more by working longer hours, regardless of how tired they may feel. And housewives adding knitting and sewing for war refugees or orphans to their other duties also may be overworking.

If the day's work has been reasonable, a night's rest should restore one's energy. But if fatigue is prolonged for a

Recent investigations show that there may be tin deposits in part of the Brazilian province of Bahia.

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