

## ASTROPHYSICS

**Solar Gas and Radiation May Determine Weather**

► CLOSE agreement between the observations of the abundance of clouds of calcium gas on the sun and Smithsonian Institution measurements of daily variations in solar radiation has lent new support to the theory that day-to-day weather changes can be predicted from solar observations.

Dr. Charles G. Abbot, secretary of the Smithsonian Institution, reported to the American Astronomical Society meeting in Cincinnati that a tentative trial of solar forecasting of temperature changes at Washington was carried on for 201 days. The results agreed about 60% of the time, which is better than can be ascribed to chance alone.

The observations of calcium clouds were made by the monks at Ebro, Spain, independently of Dr. Abbot's work, and he used their work combined with his own as a basis for the weather forecasting. He stated that weather changes connected with a solar change of activity start about three days before and last for 14 days after such a change.

Referring to the longer and better known solar cycle of 23 years, Dr. Abbot predicted that repetitions of past great droughts in the Northwest will occur about 1975 and again about 2020.

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## ANTHROPOLOGY

**Songs Replace Jails For South Sea "Criminals"**

► YOU don't go to jail for wrong-doing in the South Sea Islands—you get a song written about you, telling the world of your disgrace.

Describing the use of Polynesian music at a meeting of the Anthropological Society of Washington, Dr. Edwin G. Burrows of the University of Connecticut gave some examples of the native custom of singing about sinners. Songs were composed mocking the mother of an illegitimate child; disgracing two overambitious chiefs who tried to monopolize the single money-making occupation of one of the islands, the copra trade; denouncing those who would not become Christians.

Guardhouses and jails are American culture elements introduced into the islands that have become military bases, Dr. Burrows explained. But while our men behind bars may sing about "having wings like an angel" the native of-

fenders, free as the air, squirm at the sound of a song.

Other forms of punishment described by Dr. Burrows consisted of fining a male offender a pig and a female law-breaker a mat or some barkcloth.

Everybody sings Polynesian music. Soloists don't get a chance. With the usual crowded living conditions and lack of privacy on the islands due to wall-less huts clustered in the heart of the village, a love serenade, if attempted, would develop into a community sing.

Native babies don't get rocked to sleep, Dr. Burrows continued. And native mothers don't know any lullabies. They just place the tots on a fiber mat, and the youngsters fall asleep anyhow.

The Polynesians have adopted our scale of music, making their music an interesting blend of two cultures. With so many of our troops stationed on the islands, it is a toss-up as to how music will be affected. Whether it would mean Polynesian classics or more of American tom-tom rhythm, Dr. Burrows could not predict.

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## ASTRONOMY

**Star Speeding From Sun At Half Million M.P.H.**

► A STAR moving away from the sun as a speed of 155 miles per second (250 kilometers per second) has been found by Dr. Frank K. Edmondson, of Kirkwood Observatory, University of Indiana. This is a speed of over a half million miles per hour.

This star is one of the smaller stars of the universe, of the spectral type called K, which makes it smaller and redder than the sun.

In reporting his find to the American Astronomical Society meeting in Cincinnati, Dr. Edmondson stated that his discovery was made in the course of an investigation of the motions of certain selected stars fainter than the tenth magnitude. His work indicates that the small K stars have a wider range in velocity than expected. To account for this, we must suppose that there are a large number of such so-called dwarfs, compared to the giant stars. Previously, the percentage of dwarfs had been supposed to be about 20% or 30%, but the new results indicate that it may be as high as 80%.

Only about half a dozen stars are known with velocities exceeding 155 miles per second (250 kilometers per second).

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**IN SCIENCE**

## INVENTION

**Fluorescent Upholstery For Movie Theaters**

► PROBABLY everyone has had the embarrassing experience of unexpectedly sitting on a stranger's lap in the dark. You go into a darkened motion picture theater, grope your way to what your sun-blinded vision mistakes for a vacant seat—only to find it already occupied. A method aiming at the avoidance of such contretemps has been invented by James H. Owens of Camden, N. J. He makes a bold extension of previous proposals to give movie patrons greater confidence in moving down a dark aisle by causing the carpet pattern to give off a fluorescent glow under the irradiation of small, hooded ultraviolet lamps. His system involves the flooding of the entire theater with ultraviolet radiation at low intensity, and the use of fluorescent materials on the seat upholstery as well as on the floor covering. Empty seats would then announce their presence by a gentle glow; a dark space would mean an occupied seat.

An incidental benefit suggested by Mr. Owens would be an ultraviolet sun-tan bath while you watched your favorite film star. This would be especially the case, he points out, at seaside resorts where patrons often attend in bathing suits or playsuits.

Rights in the patent, No. 2,334,351, are assigned to the Radio Corporation of America.

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## INVENTION

**"Juke-Box" Invented For Motion Pictures**

► ONE INVENTION which will be hailed by the younger generation, though perhaps not by some of their elders, is in effect a juke-box for "talkies." It adds to the selectable battery of phonograph records that supply the customary nickel's worth of music a corresponding and synchronized group of motion picture films, together with a framed projection screen on top of the apparatus. Patent No. 2,334,547 has been issued to Dwain A. Esper of La Crescenta, Calif., on this device.

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# CE FIELDS

## NUTRITION

### Diet May Banish Need For Eyeglasses in Future

► A WORLD of the future in which no one will need to wear eyeglasses because the mothers of the race will eat a superior diet was predicted by Dr. Russell M. Wilder, of the Mayo Clinic, at the wartime conference on nutrition held in Chicago by the Institute of Medicine of Chicago.

Application to human diets of existing knowledge of nutrition, beginning early in childhood and continuing through life, may reasonably be expected, he said, to delay the development of presbyopia, the kind of farsightedness that comes in middle life or old age, and even prevent development of cataract.

"It may even be supposed," he continued, "that astigmatism, longsightedness and shortsightedness will be found to be preventable" by suitable nourishment of the mother during the development of the eye of the unborn child.

"In that case wearing glasses may become outmoded," he declared.

Nightblindness and certain other eye diseases are known to be caused by faulty diet. The eye, Dr. Wilder pointed out, like other organs of the body, is probably affected by diet in still other ways and like the rest of the body is affected by the changes accompanying the process of growing old. Nutritional scientists are finding that in rats, which are much like humans with respect to nutrition and eating, the growing-old process can be greatly delayed by proper diet. Changes in the eyes due to the aging process might similarly be prevented.

The eyes may even help doctors find more ways for postponing aging and preventing not merely disease but poor health, Dr. Wilder suggested, because the eyes can be examined internally and externally during life.

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## ASTRONOMY

### Cincinnati Observatory Gets New Director

► DR. PAUL HERGET, formerly assistant professor of astronomy at the University of Cincinnati, has been appointed director of the 100-year-old Cin-

cinnati Observatory (*See SNL*, Oct. 30) to succeed the late Dr. Elliott Smith. He is also elevated to the post of professor and head of the University of Cincinnati department of astronomy.

Dr. Herget, an expert in celestial mechanics, is now on war leave of absence at the United States Naval Observatory, Washington, D. C. When his work there is concluded, probably in three or four months he will take up his new duties in Cincinnati. Meanwhile Dr. Everett I. Yowell, professor emeritus of astronomy, will continue as acting director. Dr. Herget becomes the seventh director of the observatory since its founding.

Born in Cincinnati, Jan. 30, 1908, Dr. Herget attended the city's public schools and the University, receiving his doctorate in 1935. Most of his research interests have been in the computation of the orbits of the minor planets and comets. He has completed the determination of the orbits of the tenth and eleventh satellites of Jupiter, recently discovered by Dr. Seth B. Nicholson, who used the 100-inch Mt. Wilson telescope.

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## CHEMISTRY

### Resin-Forming Chemicals Increase Hardness of Wood

► RESIN-FORMING chemicals forced into wood change the characteristics of the wood, giving it wearing strength, hardness and resistance to warping and swelling. Wood treated by this new process has many war uses and will probably replace metals for certain uses after the war.

In the treatment, the wood is impregnated with a newly developed chemical compound which reacts with the wood cellulose, producing resin within the wood. When sufficiently treated, the wood is dimensionally stable under varying moisture conditions, does not show grain raising, has increased compressive strength as well as higher strength in tension across the grain, and can be highly polished.

Another recent development in wood technology permits the wood to be bent readily into various shapes. The process consists of soaking green wood in a water solution of urea and heating it to near the boiling point. The wood becomes plastic and can be bent easily as desired. On cooling, it regains its original rigidity and retains the shape given it while hot.

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## ZOOLOGY

### Monkey Mother Cleared Of Kidnaping Charge

► A FIVE-YEAR-OLD kidnaping charge against a female rhesus monkey has been at least partially cleared by the birth to the monkey of a two-headed monster, reported by Dr. Carl G. Hartman, of the University of Illinois. (*Science*, Nov. 19)

The charge was brought by Dr. Hartman in 1938, when the monkey mother, acquired by the Carnegie Institution Laboratory of Embryology in Baltimore as No. 636, arrived in New York Harbor in possession of three babies. These were labeled triplets by New York newspapers.

One of these baby monkeys did belong to No. 636. Its birth was witnessed. Two other female monkeys in the same cage with her, however, were found by Dr. Hartman to show signs of having recently given birth to offspring. He concluded, therefore, that one and probably two of the so-called triplets were not the actual offspring of No. 636 but had been kidnaped by her.

When a year later she gave birth to the two-headed monster he decided that this abortive attempt at twinning might be ground for crediting 636 with having had at least twins, though not triplets, the preceding year.

"The data, however, are too uncertain," he warns, "to be used to bolster the much discredited theory of the hereditary tendency to produce duplicate twins."

No. 636, incidentally, has since furnished a normal 35-day-old embryo.

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## ENGINEERING

### Infra-Red Rays Dry Tanks As They Drive Through Oven

See Front Cover

► FOR PROTECTION against the elements, U. S. tanks are painted before shipment overseas at the Chester Tank Depot of the Army Ordnance Department. Ordinarily, it would take 24 hours for the paint to dry; but, using the method shown in the official Signal Corps photograph on the cover of this SCIENCE NEWS LETTER, the tank is dried by infra-red rays in only four minutes. The drying process is of such short duration that the operator driving the tank through the "oven" does not have to leave his position in the driver's seat.

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