

ASTROPHYSICS

Sun's Rays Harm Cloth

► **LIGHT RAYS** of short wavelength damage cotton textiles much more drastically when these rays alone strike the fabric than when mixed with the other light-rays from the sun.

This observation of the effect on cotton sheeting of a narrow band in the blue end of the sun's spectrum was made by P. J. Fynn, J. E. Sands and K. S. Campbell of the U. S. Department of Agriculture's Southern Regional Research Laboratory.

While all sections of the sun's spectrum tend to damage the cloth, the energy from the ultraviolet and blue spectral regions has by far the most drastic action. The damaging effect is reduced, however, when these light rays are mixed with those from the yellow and red sections of the spectrum, they report in the *TEXTILE RESEARCH JOURNAL* (June).

Filters transmitting predominantly ultraviolet, blue, yellow, red and infrared light were used for the study as well as a sixth glass that let through all rays reaching the earth at sea level.

Samples from the same piece of kier-boiled cotton sheeting were exposed simultaneously. Some were placed in a specially constructed cabinet designed to eliminate in so far as is possible all factors other than sunlight that might harm the textile. The cabinet was adjusted so that during exposure the samples were always perpendicular to the sun's rays.

Other pieces of cotton sheeting were placed in open racks, some receiving the full rays of the sun, others protected by filters but open to free air circulation. Some faced north, some south, some directly upward.

A comparison of samples from controlled and uncontrolled exposures indicated that, in the absence of damage due to microbes or acid atmosphere, sunlight could account for practically all the damage caused by exposure to the elements. The damage was greater when the samples were always perpendicular to the sun.

Radiant energy from some parts of the

sun's spectrum obviously damaged the material more than others. Light rays of short wavelength caused the most trouble. But the degrading influence of solar radiation is not limited to the short wavelength portion of the spectrum, the scientists found. In eight months at least one-fifth of the fabric's strength was lost through exposure to the longer wavelengths of energy as transmitted by the yellow and red filters.

Science News Letter, October 9, 1948

ENTOMOLOGY

Germ-Carrying Mosquitoes Found on Wake Island

► **DISEASE-CARRYING** mosquitoes, hitherto unknown on mid-Pacific Wake island, have been found there since the war, reports Dr. W. C. Reeves of the University of California School of Public Health.

The Jap invaders, who captured the island early in the war in the face of epic resistance by the small Marine garrison, are apparently responsible for the presence of one species, *Aedes aegypti*, familiar as the carrier of yellow fever. Another species of the same genus, *Aedes albopictus*, has also been found; its mode of reaching the island is uncertain.

Both these species are capable of carrying another disease, dengue fever, which is considered more of a practical menace in the Pacific islands than is yellow fever.

Along with the second *Aedes* species was found a malaria carrier, *Anopheles subpictus*, which seems to have come from the Philippines; though this has not yet been certainly proved.

Dr. Reeves believes that at least one of the species, *Aedes aegypti*, can be eradicated from Wake, since its breeding habits make it largely dependent on cisterns, barrels and other man-provided supplies of water. Because of the island's importance in trans-Pacific air traffic he feels that such a drive should be undertaken.

Science News Letter, October 9, 1948

ORNITHOLOGY

Robins in Arctic Alaska Have 21-Hour Working Day

► **ROBINS** in arctic Alaska work as many as 21 hours a day during nesting season. This almost sleepless activity was reported by Martin Karplus, science student at Harvard University, who spent the past summer in the region of Point Barrow, on a Navy-sponsored study of bird migration.

When some of the birds they were supposed to be watching failed to turn up, Mr. Karplus and his chief, Dr. Donald R. Griffin, spent part of their time closely observing the work of a pair of robins at

a spot about a hundred miles southeast of Point Barrow, which is the "farthest north" for the species. They had their nest in a willow about five feet high—which is a giant tree for that latitude.

All day and almost all of the midnight-sunned night the parent birds toiled, bringing food for the always-gaping mouths of their young. Only around midnight did they catch a little sleep, under the still-bright sky. Then they were at it again.

The young robins showed the effects of the abundant feeding they received. They grew very rapidly, and were ready to attempt their first short flights in ten days, instead of the two weeks or so required in these lower latitudes.

Mr. Karplus was chosen for last summer's research task while he was still a freshman at Harvard, because he has already done ornithological work of professional grade. Even as a teen-age winner of a Westinghouse Science Scholarship in the 1947 Science Talent Search he turned in a study of bird migrations rated as fully mature. The Science Talent Search is conducted by Science Clubs of America, administered by Science Service.

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CHEMISTRY

Mildew-Checking Chemical Locked into Linens

► **MILDEW-PREVENTING** chemicals may be effectively locked into linens by modification of an old method for fireproofing textiles. Three hundred pounds of laundry can now be treated for a few cents, and the life of the fabric greatly prolonged.

The process was developed by Monsanto Chemical Company working in cooperation with Morgan Linen Service Company in St. Louis. It can easily be adapted to normal commercial laundry washing procedures.

A concentrated solution of sodium pentachlorophenate, a water-soluble fungicide, is basis of the treatment. The treating bath is prepared by adding eight ounces of an approximately 30% solution of the chemical to about 40 gallons of water in a standard wood washer. Clothes to be treated are rinsed in this solution for five minutes.

Science News Letter, October 9, 1948

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