the North Star will be almost directly above the pointers. Now keep on going, up the sky and a little to the east. At about the Dipper's distance, on the opposite side of the North Star, you will find a big, bright constellation shaped like a capital W, lying on one side. This is Cassiopeia's Chair. The middle star of the five that form the W, situated on top of the "hump" of the letter, is Gamma Cassiopeiae. There can be no mistaking it once you've found it. (See *SNL*, Sept. 26, for sky map.)

Science News Letter, October 17, 1936

PHYSIOLOGY

Visual Purple Is Rebuilt In Experiments at Columbia

For the First Time, the 1878 Experiment of Kühne Is Repeated Successfully and Visual Process Reversed

VISUAL PURPLE, a chemical compound in the eye, and necessary for seeing, has been made to rebuild itself in a test tube under controlled experimental conditions, in the laboratory of Prof. Selig Hecht of Columbia University.

This is the first time that the process has taken place under fully controlled conditions, which make its repetition possible. It is the first time since 1878 that visual purple has been regenerated at all, although many physiologists have tried without success to repeat the experiment of Dr. W. Kühne of Heidelberg University, who in that year reported having accomplished this very exciting biochemical feat.

Prof. Hecht's associates in his present research are Drs. Aurin M. Chase, Simon Shlaer, and Charles Haig. A report giving the principal technical details of their work is published in *Science* (October 9).

Dyestuff of Sight

Visual purple is a pinkish-purple pigment or dyestuff of involved chemical composition, found in the rod-cells of the retina, or light-sensitive layer of the eye. Both in the living eye, and when chemically extracted into a glass vessel, it loses its color when illuminated, first turning yellow and then completely colorless.

In the glass vessel, it has never been turned back to its original color again, except in the 1878 experiment of Dr. Kühne. But in the living eye the reaction is reversible, that is, if the light is shut off the visual purple forms itself anew from the colorless product of its photochemical breakdown.

Physiologists regard the success of Prof. Hecht and his associates in reversing the bleaching of visual purple at will as a very substantial forward step toward the ultimate understanding of the process of seeing, because it is now possible to perform controlled experiments in one very vital part of that process, where experiments have been impossible until now.

Visual purple for the present research was obtained from the eyes of frogs. The animals were kept in the dark for several hours; then they were killed quickly, and the pigment removed from their eyes by appropriate chemical extraction processes.

More exact physical and chemical measurements than have hitherto been possible in such studies have enabled these investigators to find the comparatively narrow range of conditions under which results can be obtained. The method of extraction had to be carefully controlled and the solution had to be kept near the neutral point chemically. Relatively slight deviations toward either the acid or the alkaline side prevented the regeneration of color in the bleached extract.

Science News Letter, October 17, 1936

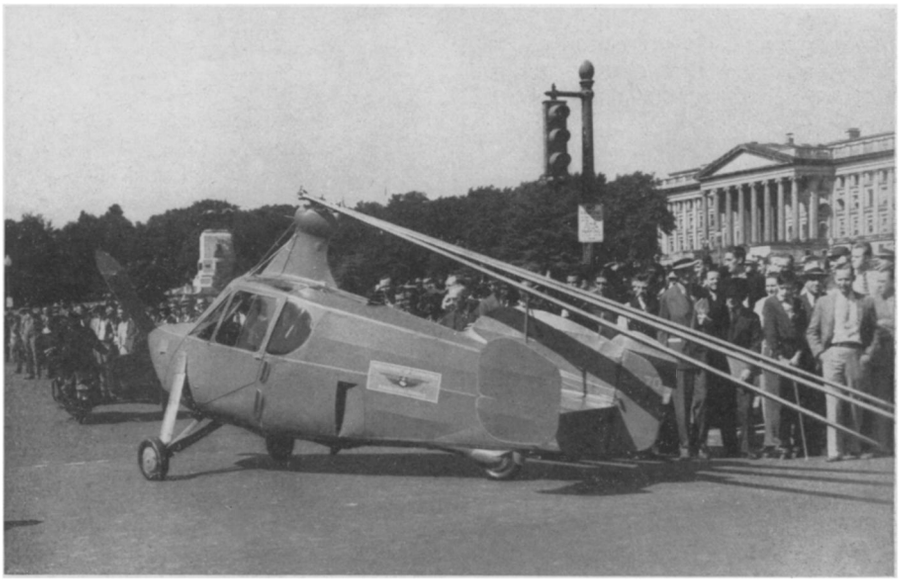
ASTRONOMY

New Star Discovered Visible to Naked Eye

DISCOVERY of a "new star" or nova in the constellation of Sagittarius was reported from Tokyo to the international astronomical bureau in Copenhagen. It will be called Nova Sagittarii. As it is now sixth magnitude it is easily visible to the unaided eye. News of its discovery is being cabled to observatories throughout the world. The rise of a star from obscurity to brilliance, called a nova, signals a gigantic outburst by the star. The discovery was made on Tuesday, October 6.

Science News Letter, October 17, 1936

Some salt water fish visit fresh water regions in winter.



FOR ROAD OR AIR

This adaptable autogiro can be driven on the highway or through the city streets when its rotors are folded back. When it was recently delivered to the U. S. Department of Commerce for experimental purposes, it was landed in a small Washington park between the Treasury building (shown in the background) and the Commerce building. Then it was driven to the very door of the Department of Commerce.

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