

to appear, and fewer mice developed cancer than was expected from what happened to their litter mates that did not have their spleens removed.

Possible explanations are: 1. The cancer-causing virus localizes in the spleen and when this is removed most of the virus is also removed. Or, 2, the spleen is

necessary for the multiplication of the virus.

Dr. Bennison cautions against hoping for any application of this technique to human cancers, and points out that removal of the spleen in mice has no effect on the cancer if done after the malignant growth has developed.

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PSYCHOLOGY

Quick As Wink Is Slow

Blinkers have a complete blackout of vision for a good three-tenths of a second, measurements by a British scientist indicate.

► HOW quick is a wink?

It is altogether too slow to be ignored by scientists, Dr. Robert W. Lawson of the University of Sheffield, England, concludes after careful measurements.

There is a complete blackout of vision, he figures, for a good three-tenths of a second. And since the winks, or blinks, are repeated at frequent intervals, you have been missing more than you probably realized.

Dr. Lawson divides blinkers into four main types. You probably belong to what he calls the J-type, since it is the most common among normal people. Men in the J-type blink every 2.8 seconds. Girls are slower. But still the inter-blink period is only a little less than four seconds. The other three groups—the plateau type, the bimodal type and symmetrical—have a longer period between blinks but are much less common.

This means that the majority of persons have their vision blacked out completely 11% of the time and have their vision at least partly blacked out about 20% of the time.

A current of air blowing into the eye increases the rate of blinking. So does the smoke from a cigarette between the lips; a bright flash of light; or a particle of dust in the eye.

Some individuals were found by Dr. Lawson to have a much more rapid blinking rate than others. This is important not only to the motorist but also in industry and in some sports. But it is of special importance in making certain kinds of scientific observations.

"In fast games like tennis or badminton," Dr. Lawson said in reporting his study to the scientific journal, *Nature* (Jan. 31), "the ball or the shuttlecock will certainly be lost to sight during the 0.3 second of the blackout due to blinking.

"For people with a high rate of blinking, bowls is a much more suitable form of recreation.

"In flying, too, the airman does not appear to have been aware hitherto of the effect of blinking on his efficiency, either in bombing a target or in fighter combat, for in the period of his blackout or mobile vision he may have travelled a distance of the order of 100 yards. The effect will be greater still for the pilot of a jet fighter."

Blinking is also important for the photographer. Dr. Lawson estimates that in taking a photograph of a group of 18 persons you might expect to find that two have closed eyes.

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AERONAUTICS

Return DC-6's to Service

► NO MAJOR structural problems were involved in reconditioning for service the giant DC-6 transports, 97 of which were voluntarily grounded last November. Important modifications, recommended after intensive study, have now been made and all will be in the air

soon, it is officially reported.

Some of these planes returned to service on March 15, American Airlines announced. United, Panagra, National and Braniff transports of this type will all be in use this spring. The changes made are designed to remove any pos-

sible hazards. They have been thoroughly tested by the U. S. Civil Aeronautics Administration and bear the full seal of government approval.

The grounding of these luxury liners, by voluntary action of the Douglas Aircraft Company and the five transportation systems using them, followed a safe landing of one afire in New Mexico just after a fatal crash of another in Utah. An official investigation by the Civil Aeronautics Board indicated that in both these cases gasoline which had overflowed while being transferred from alternate to main tanks in flight had entered a cabin heater air intake scoop under the fuselage.

All DC-6's resuming service have had their air intake scoops relocated in the leading edge of the wing, while the overflow vents have been conducted to the wing's trailing edge. Other changes include the replacement of aluminum air ducts in the heater compartment with stainless steel ducts, the addition of extra fire-extinguishing equipment, an increase in the number of smoke detectors, and the placing of loose-running electric wiring in conduits.

The Douglas DC-6 is described as America's first postwar air transport. The White House plane is one of this type. It is a 56-passenger craft, powered by four Pratt and Whitney engines with a total of 8,400 horsepower, and with Hamilton full-feathering, reversible-pitch propellers, which can be used to decrease the speed of the plane rapidly in landing. The craft is designed to operate most efficiently at a 15,000-foot altitude, and it has a cruising speed of 300 miles an hour. Its speed is assisted by a jet thrust exhaust system.

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MEDICINE

Markle Foundation Picks Group of Medical Scholars

► SIXTEEN scholars in medicine, who will teach and do research in American and Canadian medical schools for the next five years, were announced by the John and Mary R. Markle Foundation, of New York.

These scholars are the first group in a new program which provides \$25,000, payable at a rate of \$5,000 annually for the five years, from the Foundation. Twin aims of the grants are to relieve the acute shortage of teachers in medical schools and to encourage trained investigators in medical science.

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