

than included in ordinary lead glass. The result is a product that has about the same characteristics as the older lead glass it proposes to replace.

Patent 2,562,292 was issued to Harold R.

Black and Lawrence V. Gaglin, Toledo, Ohio, for this invention. Patent rights have been assigned to Owens-Illinois Glass Company, also of Toledo.

Science News Letter, August 18, 1951

PSYCHOLOGY

Eyes "Scan" While Fixating

► THE WAY your two eyes and brain work together in binocular vision is more complicated than scientists have thought, it is indicated by a report to the International Congress on Psychology in Stockholm by an American delegate Dr. Lorrin A. Riggs of Brown University.

The explanation previously accepted takes into account that your two eyes are always the same distance apart—about two and a half inches. The view of an object as seen by your left eye is therefore slightly different from that picked up by your right eye. The brain, combining these two views as the two photographs are combined in the old-fashioned parlor entertainment, the stereoscope, sees the objects with form and depth.

Now Dr. Riggs has found that your two eyes do not keep still when you are looking at an object. Instead they are constantly moving and their movement is not always synchronized.

Working under a contract with the Office of Naval Research, Dr. Riggs developed a very precise and delicate method for making an exact record of these movements when the individual was trying to fixate

steadily on a particular point. Fitting contact lenses over the eyes in such a way that there was no appreciable slipping, he attached tiny mirrors to these lenses and focussed the reflections on a moving film.

There are relatively large involuntary drifts and jerks of the eye, Dr. Riggs found, and in these the two eyes are rather closely synchronized. But then there is a fine tremor, perhaps a natural result of the fact that the eyeball is balanced between pairs of antagonistic muscles. This tremor is fast, up to 90 movements per second and each eye moves independently.

This means that at any one instant, corresponding points on the retinas of your two eyes are not necessarily just two and a half inches apart; the separation may deviate from the average distance as much as 20 seconds of arc.

Therefore, concludes Dr. Riggs, the brain must do more than combine the images falling on two anatomical corresponding points on the retinas of the two eyes. Both the spatial and temporal patterns of impulses from the two eyes must somehow be combined centrally as the two eyes "scan" the object.

Science News Letter, August 18, 1951

ENTOMOLOGY

Mosquitoes Radiotagged

► TAGGING MOSQUITOES in northern Canada with radioactive phosphorus is helping U. S. Canadian defense research teams learn how to control the pest.

There are enormous numbers of mosquitoes in the timberline areas of northern Canada and Alaska, estimated at from one to several million adults per acre in some regions. These and other biting insects must be controlled if soldiers are ever to fight efficiently in infested places.

Drs. Charles C. Hassett and Dale W. Jenkins of the Army Chemical Corps loosed about 3,000,000 mosquitoes in the Warkworth region near Churchill, Manitoba, after feeding the larvae on radioactive phosphorus.

Then, for the next six weeks at distances up to about a mile from the release point, they collected mosquitoes in nets. Although about 3,000,000 radioactive mosquitoes were released, so heavily infested is the area that only 141 tagged pests were recovered.

These 141, combined with other observations made at the same time, were enough,

however, for Drs. Hassett and Jenkins to conclude that the type mosquito they studied—*Aedes communis*—does not move very far from its breeding grounds, that it rests on leaves and that it does not attack human beings during the daytime.

The mosquito larvae, reared in specially prepared tanks at the release site, were fed finely ground dog food. Radioactive phosphorus, as a solution of potassium dihydrogen phosphate, was added to the tank breeding water.

The work was sponsored jointly by the Army Chemical Corps and the Canadian Defence Research Board.

Science News Letter, August 18, 1951

NUTRITION

Frozen Avocado Keeps Its Color

► A FROZEN avocado product that will keep its color long enough to be stored at least a year has been developed.

Made in the form of a spread, most conveniently packaged in collapsible metal tubes, the avocado product will be a means of using otherwise wasted surplus and spoiled fruit.

Avocados turn brown very quickly when exposed to air or when heated, and previous attempts to preserve slices and halves by heating or freezing have been unsuccessful. Housewives, however, have been able to make a popular spread called "guacamole," from pureed avocados, salt, onion powder, and lemon or lime juice. This product normally retains its color from four to eight hours.

By changing slightly the proportions and the added ingredients, Dr. E. A. Beavens, R. J. McColloch and B. W. Nielsen of the U. S. Department of Agriculture's Food and Vegetable Chemistry Laboratory, have obtained a more acid product that keeps its light green color and avocado flavor in frozen storage for at least a year.

Science News Letter, August 18, 1951

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