

PSYCHOLOGY

How You See Depth

➤ YOUR TWO eyes see the depth or distance between two objects in two different ways, experiments by Dr. Kenneth S. Ogle, of Mayo Clinic and the Mayo Foundation, show. The image you see with your left eye is slightly different from the one seen by your right eye. This is true because your two eyes are looking at the object from slightly different angles.

One way the eyes see depth, the one already familiar to scientists, is purely physiological. It depends upon the anatomical arrangement of the two eye retinas and the brain. It gives a quantitative sense of depth, that is, it tells you how much farther away one object is than another with which you are comparing it.

This method of depth perception is made use of in the ordinary stereoscopic, or 3-D, photographs. Such depth pictures are ordinarily taken with two cameras, or two lenses on a single camera, the lenses being

set up the same distance apart as are your two eyes.

It is then arranged for you to look at the photograph taken with the left camera with your left eye only, the picture from the right camera with your right eye. In this way the double photograph duplicates what you would have seen had you looked directly at the original scene.

The other kind of depth perception is a much vaguer experience, Dr. Ogle found. It tells you only that one object is nearer or farther away than another, but not how much. It depends, not so much on anatomical organization alone, as on your previous experience in judging distance and depth. It is helped when you run your eyes over the scene, letting them travel from one object to another.

Details of Dr. Ogle's experiments are reported in the *Journal of Experimental Psychology* (Oct.).

Science News Letter, October 9, 1954

HERPETOLOGY

Turtles Face Extinction

➤ THE ATLANTIC Green Turtle, the buffalo of the Caribbean, whose ancestors fed Columbus, is facing extinction, Dr. Archie Carr of the University of Florida told the American Institute of Biological Sciences meeting.

Protective laws are needed to save the rapidly disappearing southern turtle, Dr. Carr urged. The Atlantic Green Turtle, or chelonia, is becoming scarce quietly and without publicity.

This turtle played a role in the colonial history of the Caribbean, like that of the American buffalo on the Great Plains.

On the homeward leg of his fourth voyage to America, in May, 1503, Columbus was so impressed with the great flotillas of these turtles that he called their breeding spot, Las Tortugas, the Turtles. Thirteen years later, Ponce de Leon renamed the islands the Caymans, the name used today.

From that time on, "all early activity in the new world tropics—exploration, colonization, buccaneering, and even the maneuverings of naval squadrons," said Dr. Carr, "was in some way or degree dependent on the turtle."

Salted or dried, the turtles were readily used to replace depleted or infected beef supplies, and early colonial maritime captains saved more than one crew by using the turtle food as a quick rescue for scurvy.

"It was at once a staple and a luxury, a slave ration, and in soup and curries the pride of the menus of the big plantation houses," Dr. Carr added.

The turtle was big, abundant, available,

tasty and unique. But it was a one-food animal. It fed on only one type of plant at the bottom of the sea.

The only needs of the huge herds of turtles were enough feeding and breeding space. They fed in shallow clear waters. Catching turtles was only a matter of waiting until they came ashore and then turning them on their backs.

Today, however, this once proud aristocrat, with a flair for the easy life, has lost most of its feeding places. The one nesting place that remained after civilization evicted the turtle was the Cayman Islands. This area is still the main source of green turtles for the American gourmet.

"But," warned Dr. Carr, "where 20 years ago most Caribbean shore was wilderness, aluminum roofing now shines in new clearings in seaside scrub. The people are breeding too fast for the turtles."

The Florida biologist believes that laws protecting the few remaining Caribbean breeding beaches used by these ancient mariners will save them from extinction.

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INVENTION

Machine Weighs Coins In a Monetary Whirl

➤ IF YOU think money slips through your fingers all too fast, you should see a new machine the U. S. Treasury Department has.

It weighs and sorts 18,000 coins an hour, spitting them into proper hoppers that separate the "light" coins from the "heavy" ones.

Developed by the National Bureau of Standards, the machine's coin-biting "teeth" take the form of a flywheel spinning at 3,000 revolutions a minute. A standard coin is held in this flywheel and coins to be tested are fed in automatically through the hub. When the coin's weight does not match the standard, the wheel vibrates and sensitive instruments can tell how "light" or "heavy" a coin is by measuring the vibration.

As a new coin is inserted, it forces the weighed coin out. Split-second timing insures that the ejected coin is shot into the proper hopper, *Automation* magazine reports.

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