

PSYCHOLOGY

One Eye Judges Depth

➤ ONE EYE is effective in judging depth and distance, despite the "common sense" view that both eyes are necessary, psychologists have discovered.

A one-eyed infant scampering across a sheet of glass has shown the scientific world that the old-fashioned theory of binocular or two-eyed vision for determining depth is probably wrong, Dr. Richard D. Walk, professor of psychology at George Washington University, Washington, D. C., told SCIENCE SERVICE. The child refused to cross a visual "void" or cliff the same as normal binocular children do.

In 1959, the late Marjorie Van de Water of SCIENCE SERVICE first reported Dr. Walk's discovery that babies perceive depth as soon as they can crawl. His studies revolutionized thinking on visual perception and how it is acquired.

Dr. Walk and his colleagues have studied at least 300 infants (and hundreds of animals) and their responses on a self-designed cliff, a hollow, rectangular box eight feet long and six feet wide and standing 40 inches high, topped with a glass plate. Under the plate at one end a checked pattern is placed flush with the glass. At the other

end the same pattern is placed on the bottom of the box.

Normal-vision children have shown that they will not crawl over the "cliff" to their mother, while they will crawl across the same glass plate which looks like a solid floor.

Little ten-month-old Nancy Crocker, however, gave the researchers the real break for testing monocular vision. She lost her right eye in a cancer operation at only five and one-half months.

Several attempts to make Nancy breach the "void" by her mother were to no avail. Although she rapidly scrambled across the shallow side, she refused to "fall" into the depths of the box, as it appeared to her, shaking her head and whimpering when tempted by orange juice or a toy.

Although binocular vision does have its advantages, Dr. Walk explained, one eye can sufficiently identify depths. The results may help to explode a "common sense" myth about the necessity of two eyes for depth perception, he said. Science, 137:529, 1962, also carried Dr. Walk's findings.

• Science News Letter, 82:149 September 1, 1962

MILITARY SCIENCE

Disarmament Inspection

➤ THE UNITED STATES is planning to run actual field trials on an inspection system for disarmament, SCIENCE SERVICE learned.

The trials are part of a massive research program undertaken by the U. S. Arms Control and Disarmament Agency (ACDA) to advance the national goal of worldwide disarmament by establishing an inspection process that is foolproof and also acceptable to the Russians. Before actual trial, the system or systems will be reduced to mathematical formulas and checked out on complex computers. The computer-approved system, detailing the exact number, location and kind of inspection sites required then will be tested in the field.

The research preliminary to actual field tests and the preparations for the tests will take several months, according to authorities. It is only one of several coordinated efforts programmed by ACDA to take the guesswork out of inspection for disarmament.

The status of ACDA has been increased as a consequence of President Kennedy's executive order, signed Aug. 20, clarifying authority and responsibility of the ACDA and its director "concerning all significant aspects of arms control and disarmament policy and related matters."

ACDA Director, William C. Foster, now is authorized to exercise leadership to assure coordination of government planning for the conduct and support of research by all "affected agencies" for arms control and disarmament and to resolve differences of

opinion concerning disarmament policy. "Affected agencies" include the Department of Defense, the Atomic Energy Commission, the Central Intelligence Agency and the National Aeronautics and Space Administration. The ACDA Director works under the direction of the Secretary of State; but the new order provides that in the event he cannot resolve major differences, these shall be resolved only by the President.

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Questions

GEOPHYSICS—How many square miles does Antarctica contain? p. 133.

MEDICINE—What factor distinguishes hemophilia B from classical hemophilia? p. 130.

PSYCHOLOGY—How soon do babies perceive depth? p. 149.

PUBLIC HEALTH—When was the original Pure Food and Drug Law passed? p. 146.

SPACE—Why is the high-altitude synchronous type of communication satellite considered superior? p. 135.

Photographs: Cover, U. S. Navy; p. 131, Dr. George W. Cochran; p. 133, U. S. Navy; p. 134, Goodyear; p. 135, Douglas Aircraft Company, Inc.; p. 145, United Technology Corporation; p. 146, Food and Drug Administration; p. 150, United States Steel; p. 152 (top), Melvin G. Miller Company, Inc.; p. 152 (bottom), Fremont Davis.

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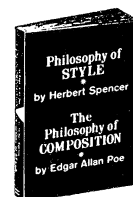
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