

The 3-DVG Workshop: How to use your fingers to turn any color magazine picture into 3-D

by Kenneth J. Dunkley © 1994

This article shares its name with a quarterly workshop I conduct at the Museum of Scientific Discovery in Harrisburg, Pennsylvania. The workshop exposes people to a novel 2-D to 3-D visual display process that creates a surprising three-dimensional stereoscopic-like display from ordinary two-dimensional color photographs printed in any magazine.

In 1985 I discovered the existence of two points located on the periphery of a person's vision that, if obstructed, will cause an ordinary magazine picture to appear three-dimensional. The steps that optimized this visual process were patented (U.S. Patent 4,810,057) as were also the physical devices that implemented the process. The invention, called the Three-Dimensional Viewing Glasses (3-DVG), comes in three versions: an advanced model, an initiation or training model, and an individual's fingers!

The 3-DVG forced me to totally re-evaluate my concept of a picture. I tried to incorporate what I've learned into a series of visual demonstrations. Workshop partici-



Fig. 1.

pants realize from these demonstrations that pictorial depth sensation is a real entity; it is not an illusion. Pictorial depth sensation can be increased, decreased, or maximized at will. But, more importantly, they learn that the familiar so called "illusion of depth" inherent in any 2-D picture can be transformed into "the actu-

al appearance of depth," i.e., stereopsis. This awareness can be quite profound depending upon a person's interest in the study of pictorial perception. My hope is that you, the reader, will be successful in detecting the 3-DVG effect and will be inspired to explore and experience this new visual landscape.

Besides telling you about the workshop, this article will show you how to detect the 3-DVG effect and how to build and operate a 3-DVG training device. It will also provide you with the rules needed to build your own advanced 3-DVG instrument.

What is the 3-DVG?

The advanced 3-DVG consists of a pair of hinged binocular housings with matched optical frames and variable pinholes on opposing ends. There are no mirrors, lenses, prisms or optics of any kind involved. The observed three-dimensional effect is caused by the

Let your Fingers do the Viewing...

The 3-DVG viewing concept was first mentioned in the article on chromostereopsis ("Bending Colors into 3-D Planes") in SW Vol. 20 No. 1. Here, inventor Kenneth Dunkley covers the hardware and techniques involved in more detail and describes the unique 3-D viewing workshop he conducts.

While the 3-D effects obtained from any particular color image are random, and "stereoscopic" transformations of flat pictures owe much to accident and psychological considerations, the 3-DVG system really does work! And unlike many other viewing methods, there's no loss of image sharpness or color. Mr. Dunkley's optical tricks with fingers and pinholes are carefully designed and presented in a way to make people more aware of their sense of depth perception and its subtleties. That, in fact, may be the best trick of all with the most lasting effect.

- Ed.