The FREEVIEW
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Refocus That Please – By Ralph Reiely

We had 15 people attend the May meeting. We had one visitor, Tony Theriualt, who placed very well in the digital competition. It was a busy meeting as we judged the ISCC, and had a club member digital and card competition. The results were:

Stereo card:

1st	**Lee Pratt**	**Arkansas River**
2nd	**Andrea Shetley**	**Squirrel**
3rd	**Chris Reynolds**	**Samedi's Girl**
HM	**Lee Pratt**	**Arch by the River**
HM	**Chris Reynolds**	**Alter Ego**

Digital Images:

1st	**Lee Pratt**	**City Fountain**
2nd	**Tony Theriualt**	**Ladder**
3rd	**Steve Hughes**	**Sally Lightfoot**
HM	**Lee Pratt**	**Split Tree**
HM	**Tony Theriualt**	**Diane**

The September program will be a show & tell, a 3-D video program, and the much coveted club awards for 2011-2012.

The meeting is the 2nd Friday of this month, **September 14, 7:30 p.m.** at the **1st Christian Church of Decatur**, located at **601 W. Ponce de Leon, Decatur, Ga. Road**, across the street from the Decatur Post Office, see our website at **Georgia3D.org,** for a map to the church. If you have any questions call Ralph Reiley @ 770-493-1375, reileys@att.net.

We meet for supper at 5:30 at Pyng Ho Restaurant, located at 1357 Clairmont Road. Go to: http://www.pyngho.com to check out the menu.

Note: Due to weather conditions, meetings have been canceled due to ice or snow. If a scheduled meeting is canceled due to ice or snow, the following Friday will be the make up date.

2012-2013 ASA Schedule*

Sept. 14, 2012, 3-D Video Display, Show & Tell, and Club Awards
Oct. 12, 2012, Chuck Rogers, Stereo Realist man & Slide Competition
Nov. 9, 2012, Mike Griffith & the Ives Color Viewer & Stereo Card Competition
Dec. 14, 2012 Annual Christmas Party
Jan. 11, 2013, TBA
Feb. 8, 2013, TBA
March 8, 2013, TBA
April 12, 2013, TBA
May, 10, 2013, TBA

*Schedule subject to change

The Atlanta Stereographic Association was formed in 1990 to promote, preserve, and collect all forms of stereo photography, both past and present.

Meetings are held the 2nd Friday of each month, and start at **7:30 p.m.**, at the **1st Christian Church of Decatur**, 601, W. Ponce de Leon, Decatur Georgia.

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Projectionist:
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Competition Director:
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Webmaster:
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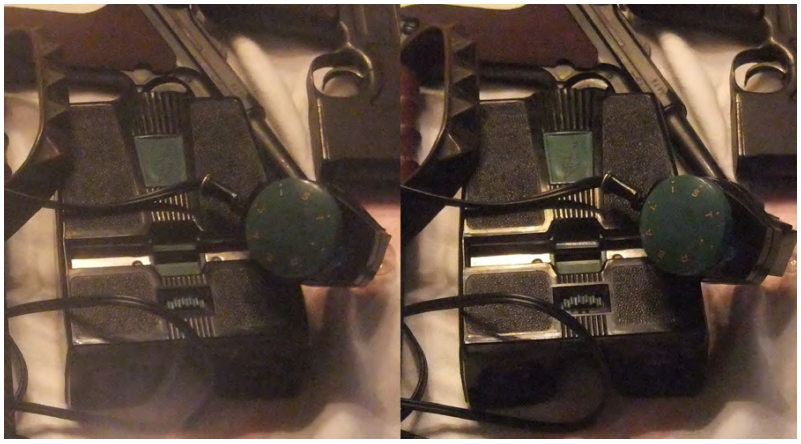
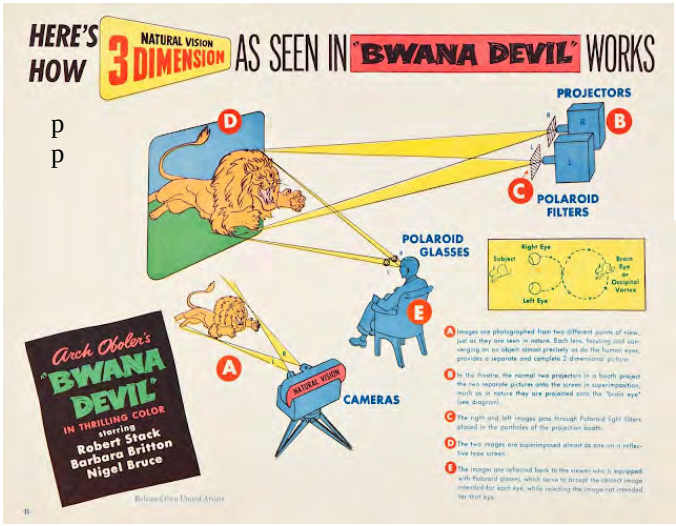
Membership Dues for 2012:
$30.00 for an individual,
$30.00 for couples/family
$30.00 for non-local
Free for Off World
(Proof Required)
Dues to be paid Julia Moor at meetings, or mail her a check at 3169 Bolero Way, Atlanta, Georgia, 30341
Website:
Our website is **Georgia3d.com**; it contains details about the ASA and general 3-D information



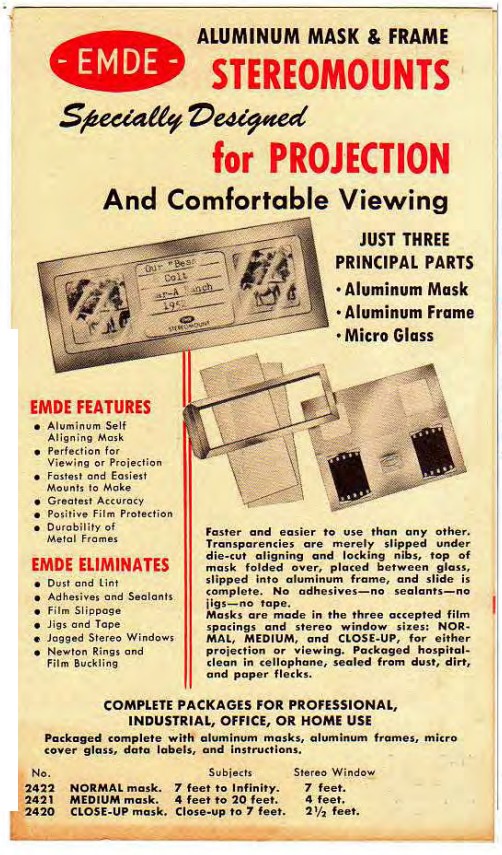
Basic Wiring Repair to a Realist Green Button Viewer– Or - A Cheapskate's Further Progress:

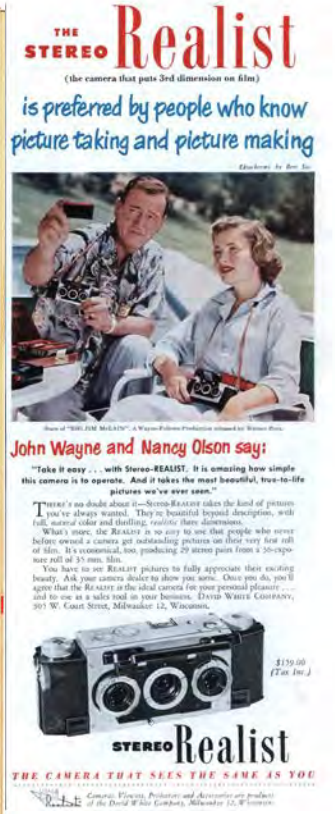
My method in obtaining the Realist Green Button Viewer was through e-bay. My cheapskate ways kept me away from the collector grade viewers, and guided me to the viewers that were damaged. I ended up with a Green Button viewer that was missing its battery insert for the small light bulb, and the power cord had been cut from the AC power transformer. Needless to say, I got quite a deal on a non-functioning viewer. My luck held on this purchase, and the viewer itself was in very good condition. I opened up the AC power transformer, and there was enough of the old cord left that I was able to splice a new cord onto it, and wrap it securely with electrical tape. Most of this repair is hidden by the cover for the AC power transformer. I do not know the details of how this viewer was designed. I also do not know how much Seton Rochwhite had to do with the design of this viewer. It seems to be a departure from the simple and elegant design of the camera and the Red Button viewer designed by Rochwhite. The Green Button viewer is more complex, and was sold at a higher price than the Red Button viewer. I do like the rheostat on the AC power transformer that adjusts the light level. The lenses are equal to the Red Button viewer.



Nov. 26, The 60th Anniversary of the Release of Bwana Devil:

Nov. 26, 1952, was the date of the premier of Bwana Devil, the first Hollywood movie to take advantage of the polarized light method for a 3-D movie. The movie was a critical failure, but was very popular with the movie going public at the time. The movie was paired with a short by Bob Clampet with a 3-D version of his popular TV show, Beany and Cecil. The short, long thought lost, was reunited with Bwana Devil at a special showing in 2003 and 2006 at the Egyptian Theater.





Technical Page by Charles A. Piper

Installment #32a

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RATIONALE AND GOALS OF STEREOSCOPY - A TUTORIAL

This month's Technical Page attempts to tie together those principles of stereo perception which relate to stereoscopy, here defined as the photographic representation of a 3-dimensional subject by means of two photographs taken from two separated points.

VIEWING A REAL SUBJECT

The visual message from a stereogram should resemble insofar as possible the visual message from the real subject. Among the elements of this message are:

- o Perceived shape of the subject in three dimensions
- o Perceived size of the subject
- o Perceived distance of the subject

THE VISUAL CLUES IN THE REAL WORLD

The non-stereoscopic clues include shadows, light reflections, occlusion (covering) of one object by another, recognition of the object, atmospheric haze, and for close objects, accommodation or focus of the viewer's eyes. The principal stereoscopic clue is parallax, the difference between the images received by the two eyes; it gives the viewer his best estimate of the distance to the subject. Convergence, the other stereoscopic clue, is the act of orienting the two eyes to a nearby object. Accommodation and convergence are always interrelated in the real world; not so in stereoscopy as we shall see.

NEARBY SUBJECTS

For nearby subjects the viewer has strong clues due to accommodation, convergence, and parallax, which provide him with excellent independent estimates of size, shape, and distance.

INTERMEDIATE SUBJECTS

For intermediate subjects, accommodation and convergence clues are much weaker, and the viewer has only parallax as a clue to distance. The viewer's perception of individual shapes, other than frontal silhouettes, is less certain; they resemble cut-outs located at the appropriate distances.

DISTANT SUBJECTS

Finally, for subject distances of more than a few hundred yards, parallax also disappears; only the non-stereoscopic clues remain. One can relate size to distance, but cannot distinguish a 10-foot object at 500 yards from a 20-foot object at 1000 yards, without other clues.

SUMMARY - REAL WORLD VIEWING

There are three ranges of distance, providing three levels of perception. From a few inches to perhaps 6 feet we have accommodation, convergence, and parallax inputs, and can make quite accurate assessments of size, shape, and distance. In the intermediate range, from 6 feet to perhaps 200 yards, we have mainly parallax. At the near end of this range volumetric shapes are strongly registered, but at the far end all objects have become essentially silhouettes. In the distant range there are no stereoscopic clues to distance.

GOALS OF STEREOSCOPY

Stereoscopy tries to reproduce the visual clues of the real world. Which of the clues remain in stereoscopy? All of the non-stereoscopic clues except accommodation are preserved. The stereoscopic clues parallax and convergence are still present, but may be scaled up or down in making the stereogram. By scaling we shall be able to extend the range of stereo vision above and below that of the real world through stereoscopy. Guidelines will be suggested for how this extension can be carried out.

ORTHOSTEREOSCOPY

The first goal of stereoscopy is the correct reproduction of shapes and sizes. This is called orthostereoscopy. It is quite simply achieved by taking two pictures from camera points the same distance apart as human eyes, and viewing the pictures, left to left and right to right, so that perspective is preserved; that is so that each picture subtends the same angle at the eye of the viewer that it did at the lens of the camera.

Technical Page by Charles A. Piper

Installment #32b

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HYPOSTEREOSCOPY, HYPERSTEREOSCOPY

In extending stereoscopy we shall still wish to preserve the perception of shapes. This can only be done if we preserve perspective. What this means in practice is that we may achieve a larger image only by moving in, or a smaller image only by moving back To use a very short or very long focal length lens would distort the perspective, and thus distort shapes and depths in the stereogram. This is the long familiar wide angle and telephoto distortion phenomena, and of course stereo is not going to make them go away. See note below.

BASELINE

The other important factor in scaled or extended stereo is baseline, the spacing between camera points. Perceived sizes are inversely related to baseline changes. Perceived object size will be doubled if the baseline is halved. Stereograms taken with reduced spacing, thus magnifying the perceived size, are called hypostereograms. For stationary subjects they may be taken with a single camera and a slide bar. For subjects which may move, one must use equipment which will take two pictures at the same instant, such as a KinDar. Stereograms taken with increased spacing, which reduces the perceived size, are called hyperstereograms, and are made with two synchronized cameras, or with one camera which is moved between exposures. Hypo- and hyperstereo make possible the perception of shape of objects much too small or much too large to be viewed stereoscopically with the naked eye. An insect can be viewed in hypostereo as if it had been greatly increased in size. Grand Canyon can be viewed in hyperstereo as if it had been reduced to a scale model.

REAL WORLD vs STEREOSCOPY

How do the visual inputs of stereoscopy relate to those of the real world? In the intermediate range of distances, 6 feet to 200 yards, stereo is much like the real world. Stereoscopic input is principally parallax; shapes are preserved; sizes are preserved. At distances less than 6 feet orthostereo is not entirely satisfactory, particularly for projection, where it is in conflict with the 1:50 criterion for good projection. Also, accommodation, and its customary relation to convergence, is lost. However, hypostereo works very nicely, and permits stereo viewing of even minute subjects. In the distant range, orthostereo is indistinguishable from real world viewing; stereoscopic clues to distance are lost and all objects have become flattened to silhouettes. Happily, hyperstereo can restore depth perception.

GUIDELINES

The above discussion can be summarized in the following guidelines for stereograms on 35mm film in Realist or Verascope format:

- For hand viewing a stereogram taken with 35mm or 40mm lenses, a standard viewer with 35mm to 40mm lenses will give true perspective and true orthostereo.
- For true perspective in projection at 20 ft. from a 6 ft. screen, the camera lens should be about 80mm. These focal length guidelines apply to all stereo pictures including hypo and hyper. The frequent violation of them results in exaggeration of depth.
- Best perception of volumetric shapes is associated with maximum parallax, i. e. , maximum baseline, but the baseline should not exceed 1/50 the distance if the picture is to be projectable. For hand viewing 1/25 can be tolerated.
- The perceived physical size is inversely related to the baseline. To make a 6" doll look like a man, use 1/4" baseline.

Note: Herbert McKay, in "3-Dimensional Photography", once promulgated the mistaken PEPAX rule, that distortions caused by use of extra long lenses can be corrected by a proportional increase in baseline. This is of course not true, but is often quoted by old timers. See also Installment #13 of this column on perspective.