London Tube • Near East • 3-D Films of Ernie McNabb
While we wait by the mailbox for submissions to arrive for the “Weather” assignment, we present the final selections in the “Unusual” assignment.

New Assignment: “Weather”

This category is really wide open. It could involve obvious views like snow scenes or wind damage, or things like close-ups of rain or dew covered leaves, ice encrusted flower buds, mud puddles, flooded fields, dry cracked earth, etc. Any image of “weather” itself in action (hypers of lightning or a tornado would be ideal!) or images in which the effects of weather have had a visible, short term effect (this means other than formations created by centuries of normal erosion) are what we have in mind. On other words, “weather” here refers to conditions at least slightly beyond a calm sunny or overcast day. Anything from a rain shower to a hurricane or a light frost to a blizzard would qualify. Deadline for entries in the “Weather” assignment is July 7, 1996.

“Self Portrait” by Derek Leath of St. Louis, MO, was shot in 1993 using the half lens cap technique on a Realist, with ambient light plus fill flash bounced off the ceiling. While not every trick stereo would necessarily qualify as “unusual”, the props employed in this one made it irresistible.

“The Rules:

As space allows (and depending on the response) judges will select for publication in each issue at least two of the best views submitted by press time. Rather than tag images as first, second or third place winners, the idea will be to present as many good stereographs as possible from among those submitted.

Prizes are limited to the worldwide fame and glory resulting from the publication of your work. Anyone and any image in any print or slide format is eligible. (Keep in mind that images will be reproduced in black and white.) Include all relevant caption material and technical data as well as your name and address. Each entrant may submit up to 6 images per assignment.

Any stereographer, amateur or professional, is eligible. Stereos which have won Stereoscopic Society or PSA competitions are equally eligible, but please try to send views made within the past eight years. All views will be returned within 6 to 14 weeks, but Stereo World and the NSA assume no responsibility for the safety of photographs. Please include return postage with entries. Submission of an image constitutes permission for its one-use reproduction in Stereo World. All other rights are retained by the photographer.

Send all entries directly to: ASSIGNMENT 3-D, 5610 SE 71st, Portland, OR 97206.
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ON THE COVER

"Survey Work in Progress" documents tunneling work during expansion of the London subway system about 1907. The anonymous stereoviews were discovered in the archives of the London Transport Museum in preparation for a 1990 "Tube Centenary" historical exhibit. With the help of David Burder, nine of the views were published as large anaglyphs to commemorate the occasion. Our feature "Underground London" by David Starkman and Susan Pinsky is the first publication of these images in stereo pair format.
Comments and Observations
by John Dennis

Inside the NSA

Questions are sometimes asked regarding the day to day functioning of the NSA—how does it work, who makes the decisions, etc. In fact, it's fairly simple, direct and informal. The volunteer board of directors locates/drafts/selects volunteers willing to do the jobs that keep the whole thing going. These people—the president, the VP, the secretary, the treasurer, the activities VP and of course the Stereo World staff function largely on their own without the complex rules and frequent meetings or votes required by many organizations far smaller than the NSA. It doesn't always run perfectly, but like any small corporation, the more energetic and imaginative the people filling the key positions the better things will go. In an age of information, work and expectations that move faster and faster the NSA functions organizationally at something closer to the pace of a small, 19th century stereoview publisher.

One drawback to this style of operation is that it can seem closed or even elitist to members uncertain about who should contact with questions or opinions and unsure if anyone wants to hear them at all. The simple truth is that it MAY take some time for any of the people listed on the Stereo World masthead to answer letters or return calls. They are, for the most part, extremely busy and involved people with jobs and families as well as their other interests and obligations. (They sometimes have trouble getting in touch with each other.)

Once a year or so, we issue a sort of blanket invitation to any and all members to become involved as active volunteers in whatever areas they think their particular skills would be the most helpful to the NSA. The response is always overwhelming, but talented and dedicated people eventually seem to turn up anyway. (I can recall no instance in which more than one person volunteered for any position at a time, and often the lone volunteer suffered from a slightly twisted arm for the first few days.) The NSA exists to serve the interests of its members, and the more feedback and/or new volunteers coming from the membership, the more completely that aim will be achieved.

An Apology to L.A.

Unlike many photographic show promoters, organizers of the annual L.A. Image Show have always made sure an announcement of that show was mailed to Stereo World for inclusion in the Calendar section. Due to Stereo World's less than clockwork publication schedule, on at least one occasion in the past two years information about the show arrived just barely too late for the most appropriate issue, with the following issue ending up being delayed to just beyond the date of the show.

However, the announcement for the 1996 L.A. Image Show (on Jan. 13) arrived in plenty of time for inclusion in Vol. 22 No. 4 and was quickly placed in the Calendar file folder with other show and sale announcements. Unfortunately, I left it folded the way it had been in the business envelope when I slipped it into the file. Several days later, during one of the late night/early morning sessions in which the Calendar material gets entered into the computer, I completely missed seeing (or feeling) the folded L.A. Image Show announcement when I grabbed the material for the Vol. 22 No. 4 Calendar. Apologies are due everyone involved (as organizers, dealers or customers) with that major show and its significant stereographica element. A specially flagged reminder sheet to watch for the next L.A. Show now resides in the Calendar file.

Speaking of the Calendar—

Unlike the above glitch, the most common reason that items sent in for the Calendar don't appear there is one of simple timing. Almost every week, one or two show, exhibit or meeting announcements arrive in the mail for events scheduled only a couple of weeks (sometimes days) from the mailing date. As a bimonthly, Stereo World requires a lead time of at least four months if Calendar items are to have any practical value once the magazine reaches the reader. Of course in the case of those events for which we receive no announcement at all, there is no guarantee that we'll pick up the information from other sources or that it will be as accurate as that taken from an original press release or promotional flyer.

Rich Slonaker

It is with sadness and regret that I report the passing of fellow NSA member Rich Slonaker from an unexpected heart attack. He was a friend and coworker at Sleeping Bear Dunes National Lakeshore in Michigan, where he had been the Platte District Ranger for many years. Rich had a great interest in collecting stereoviews and almost every time he came to park headquarters he would stop by my office and tell me about some new find he had made at an estate sale or antique shop. Rich was interested in views of National Park Service areas, and specialized in those of Yosemite National Park, where he had once worked. We both haunted the big flea market at Midland, Michigan twice a year trying to be the first to find the "good stuff". I'll miss him.

–Neal Bullington
Atlanta Not First Hollywood 3-D Movies in Hotel

Stereo World is great—well put together! Keep up the good work! I like the fact that you include previous articles (where & when they were in Stereo World). I still have a couple of early issues I haven’t read—because I received a years worth when I first joined. Good luck getting caught up.


Lawrence Kaufman
Corona, CA

Instant Stereo Prints From Slides

Making colored stereo prints is not always an easy task. One way to make prints without a lot of effort is with the use of a Vivitar Instant Slide Printer. The Vivitar slide printer prints colored positive images from slides using Polaroid 669 Polacolor ER instant film.

Slides taken with a stereo camera are usually smaller than a regular 35mm slide. In order to use stereo slides, a little manipulation will have to be used. I place stereo slides in a cardboard stereo mount. The mount is then cut and placed on top of an empty 35mm slide mount and tucked in place with tape. A separate print is made of each [half] view. Since the stereo slide is smaller than a regular slide, the resulting print will have a black border. This should be cut, resulting in an approximately 2½ x 3½ inch print. These can be viewed as stereo prints with the various viewers available....I am sure there are more ways to adapt the slide printer for stereo use. I have just gotten into this process and will probably find ways to refine this method.

E. Steinberg
Richmond, VA

Search for Murray Views

I am a lecturer in Visual Art at the University of Wollongong in Australia, currently researching a series of 60 stereographs made by George Burnell and E.W. Cole in 1862, entitled "Stereoscopic Views of Murray River Scenery."

There is an incomplete set (51) held by the Art Gallery of South Australia, through which the Murray River flows. My research has turned up 4 missing cards from this series thus far, and I am dedicated to completing the series for cataloging purposes and fulfilling scholarship towards an exhibition.

I would be most grateful if any reader of SW has any information.

Ken Orchard
Faculty of Creative Arts
University of Wollongong
Northfields Ave., Wollongong
New South Wales, Australia, 2515
Fax 0011 61 42 213301

Drunk With Stereopsis

In the Sept./Oct. 1995 issue, on the inside of the front cover, in the "3D Assignment" feature, there is a winning entry which could be called "The Badly Masked Raccoon." An appealing shot of a raccoon at a neatly set table, about to partake of a meal of bread and peanut butter, this stereogram is unfortunately an example of how not to mask. There are annoying phantom bands at either side, which somehow the judges missed.

A less obvious error in the raccoon picture is the failure to keep the images level. If one draws a line between homologous points in the two images, that line should be parallel to the top and bottom edges of the mask. In the raccoon picture, when one lines up a straightedge with the tips of the candles in the two images, one gets a line tilted markedly to the right.

There are several other examples of mismasking in the same issue of Stereo World: the advertisement on page 39; the beach at Dover (page 10; good on the left side, bad on the right side); also, the Tricuspid Valve (top of page 15; left objects too close). Also on the latter page is a close-up part of a "Purple Jellyfish" which is more or less correctly mounted, but has the fault that it includes a tentacle which comes closer than the stereo window, and yet intersects the side of that window.

The UFO picture (top of page 25) has the left margin incorrectly cropped, but the right side is not so bad. The whole picture has too much in front of the frame which should really be behind it. This is a common beginner's problem in stereo: we become so impressed with the stereo effect that we become drunk with stereopsis, and pretty soon we are throwing everything forward of the frame, right into the viewer's lap. It's analogous to thinking that mediocre music will sound better if played louder. The fact that this example comes from the world of high-tech digital (Continued on page 30)

New 3-D Web Address

The internet's 3-D Web site (see SW Vol. 22 No. 3, page 12) now has a new (shorter!) address.

http://www.3d-web.com

To access the 3-D Web's NSA information directly, use http://www.3d-web.com/nsa/nsa.htm

To access the Stereo World material, use http://www.3d-web.com/nsa/sw.htm
In 1867 William James accompanied Mark Twain on an extended tour of Europe and the Near East and became the first American to produce stereographs of the Mideast. Six years later Charles Bierstadt embarked on a similar trip and produced a magnificent series of stereographs of Palestine, Tripoli, and Egypt. About the same time the Kilburn brothers issued an original set of stereographs of the Mideast, but recent evidence shows that they did not visit the area or take these pictures. The Kilburns are not to be counted among the American stereographers on the scene. Then in 1874 a group of Methodists visited, and among them, Professor James Strong and Reverend Abner Dotterer recorded their travels in a stereographic series entitled Tourist Views in Egypt, the Sinai and Palestine. Today these “Tourist Views” are scarce. An extensive literature search revealed only two brief references to the series in Focus East by Nissan Perez [reviewed in SW Vol. 15 No. 6].

After the passage of more than 100 years it is possible only to speculate on why these views are so rare. The photographers were obviously amateurs. The overall...
TOURIST VIEWS
IN EGYPT, THE DESERT OF SINAI, AND PALESTINE,
TAKEN BY
DR. JAMES STRONG, AND REV. A. F. DOTTERER.

[Stereoscopic Series]

The red line below designates the view on the other side of this card.

EGYPT.
1. Great Pyramids at Gosh. 52. Sombrero Fig Trees.
2. Sphinx at Gosh. 53. Hidden Church at Beit Jibrin.
3. Mummies’ Cave at Ben-Hassan. 54. Tomb of Dorex at Jaffa.
9. Second Floor of Temple at Deir Er-Rah. 57. Ferry over the Jordan.
10. Figure of Piankhi at Deir Er-Rah. 58. Temple of Mamou.
12. Interior of Hall at Luxor. 60. Convent of Mar Saba.
13. Arab School at Luxor. JERUSALEM.
17. Rear of Mortar-Bak, Thebes. 63. Fountain of the Virgin.
18. Sitti Gubel, Thebes. 64. S. E. corner of Wall.
22. Deir of Ichemz. 68. Damascus Gate.
25. Isis from Philae. 71. Interior of Herodion.
27. Naac from Philae, S. 73. Interior of Golden Gate.
30. 76. "The Zoar.
31. The Desert.
35. Canopus at Sina. 80. Castle of Biers, Kerak.
37. Garden. 82. Interior of Crusader’s Castle, Kerak.
38. Elephantine. 83. Samarrai.
39. Thebes. 84. Joseph’s Tomb.
40. Hier. 85. Palm Tree at Jerin.
41. Temple of W. Mem. 86. Gideon’s Spring.
42. Caravanserai, W. Mem. 87. Mill at Mercia.
43. Nubia. 88. Convent on Carmel.
44. Petra. 89. Fountain at Nazareth.
45. Dodecagonal Church. 90. Hiram’s Temple.
46. Aquasan from Petra. 91. Leaf-boat on house-top.
47. The Eighteen Petra. 92. Streaks of Jericho at Jumia.
48. Hier. 93. Gate of the Libany.
49. Petra. 94. Mussulmans.
100. Bishor Temple.

The Photographers
Both the literature and the information appearing on the reverse of the views (figure 1) indicates that the photographs were taken by two people, James Strong and Abner Dotterer.

As common with many educated men of the 19th century, Strong had wide-ranging interests and was able to do many things well. His early career included the teaching of classical languages and the founding and building of the Flushing Railroad which later became part of the Long Island Railroad system. Strong was born in New York in 1822 and was appointed Professor of Theology at a newly formed Methodist school, Drew University in Madison, New Jersey, in 1868. Despite never having being ordained as a minister, Strong held this position on the Drew faculty until shortly before his death in 1894. His most important work was The Cyclopedia of Biblical, Theological and Ecclesiastical Literature, a huge ten volume compendium which he initiated with the Rev. John M’Clintock in 1867. Strong continued this work alone after M’Clintock’s death and in Volume 9 gave a clue to dating the “Tourist Views.” Direct reference to the expedition or to its participants has not been found in the Drew University archives or any of the other cited references, though Strong’s biography notes that he traveled extensively in the orient. He joined the American Palestine Exploration Society in 1872.

The Reverend Abner Dotterer remains a shadowy figure. Dott-
Fig. 3. No. 59, "The Rock of Masada." The Roman siege wall is in the foreground.

Fig. 4. No. 80, "Arab Women Churning." The black dress and black tent mark these women as Bedouins.
er sold the “Tourist Views” directly, listing his address for inquiries as 1018 Arch St., Philadelphia, Pa. The Philadelphia street directory does not give a listing for him at Arch Street, but does list addresses for him in 1879, 1883, and 1885. Further search may yield additional information.

In the absence of a written account, it is assumed that the path taken by the expedition coincides chronologically with the listing of the 100 views, beginning in Egypt, then the Sinai desert, Petra, through Palestine and ending in Lebanon, at that time part of Syria. The route is the logical one, for other photographers of the period where records exist, such as Bierstadt, Wilson and the Englishmen Frith and Good followed this route. It is probable that the contingencies attendant to sea travel, obtaining guides and supplies and the like, dictated the route taken on the pilgrimage.

In Egypt the group made the obligatory visit to the pyramids, and ascended the Nile as far as Philae. Travel most certainly was by paddle wheel steamer, of the type stereographed by the Wilson expedition several years later. [See “William H. Rau’s Photographic Experiences in the East”, SW Vol. 11 No. 2 for more on the 1881-82 Wilson expedition.] From Sinai onward transport was by camel and most probably horse. St. Catherine Monastery, located in the center of the Sinai peninsula, was visited, but since no pictures of the interior of the monastery are shown, it is possible that the pilgrims were not allowed to enter. This was not unusual, for entry required a letter of permission from church authority located in Cairo. The route to Petra unavoidably led through Aquaba, but no views show this place, suggesting that the Bedouins who ruled the area were not the friendliest of hosts to the pilgrims. At Petra they may have had better luck, for several views are shown and a map of the area prepared, which will be discussed later. The Palestine photos indicate that the “Tourists” visited every major place in the Holy Land, continuing on to Lebanon and Beirut and departing for home. Based on the records of contemporary travelers, an estimate of about six months for the journey is plausible.

**The Expedition**

An article written by Strong describing the unique ruins at Petra (Jordan) appeared in Harper’s magazine in the late 1870s. This article contained several woodcuts described as being from photographs by the writer and an undated hand drawn map cited as originating from an original survey. This same map later appeared in Edward Wilson’s *In Scripture Lands*, with an added legend “from an original survey made in 1874 by James Strong and Charles Ward.” Further proof of the expedition’s date was provided by Professor Jacob Wahrmann of Hebrew University in Jerusalem, who supplied copies of woodcuts taken from volume 9 (1880) of M’Clintock and Strong’s *Cyclopedia*. These eight woodcuts were said to be from original photographs by the editor. One showed the Pool of Siloam in Jerusalem and was dated 1874.

Other than Strong, Dotterer and Charles Ward, nothing was found as to the identity of the expedition participants. There were more—since a photo (figure 2) taken at
Fig. 6. No. 62, "Gate of St. Stephen." The Jerusalem landmark is currently called the Lion's Gate in reference to the carved lions which appear to the side and above the gate.

Fig. 7. No. 100, "Bishop Kingsley's Grave", located near Beirut, Lebanon.
Wady-el-Ain in the Sinai shows six men and one woman in western garb of the period. Thus at least eight people (counting the photographer) made the trip. A man wearing a pith helmet of the type favored by English explorers of the period appears in a number of the photographs. Native figures, priests and Jews praying at the Wailing Wall in Jerusalem are also shown. Transport, at least in the desert, was apparently by camel as three of these animals are shown in the Wady-el-Ain photo.

The Views

The view of the greatest importance to Near East archivists in Number 59, “The Rock of Masada” (figure 3). Masada was the last Jewish stronghold against the Romans during the war of 66 to 73 AD. The photo clearly shows the siege wall built by the Romans, which surrounded the mountain to prevent the defenders from escape. A number of experts have examined the view, including Nissan Perez, Curator of Photography, Israel Museum, Jerusalem, and concurred that this is the earliest photograph they have seen of Masada. This picture assumes a place of distinction when considering the symbolic significance of Masada to the modern state of Israel, embodied in the phrase “Masada shall not fall again.”

Two views depict Bedouin life. In one entitled “Arab Women Churning” (figure 4), goat cheese is apparently being made by shaking the contents of goat skins. A second titled “Arab Tents” shows the black tents of the Bedouin in the desert. These represent another first for near East stereographs, a study (albeit small) of life in the desert. Another scene (figure 5) shows an Arab school at Luxor, the students and teachers dimly seen seated in a makeshift hut. A view of another hut at Luxor depicts two women and a girl in their home, without roof, but surrounded by archeological objects which would elevate a modern collector to euphoria. Other views show a ferry which no longer exists over the Jordan River and St. Stephan’s Gate (figure 6) in Jerusalem.

A most unusual view is No. 100, entitled “Bishop Kingsley’s Grave” (figure 7). A veritable treasure trove on matters concerning the history of the Near East, Professor Wahrman provided information that the Methodist Bishop Calvin Kingsley, born in 1812, died in Beirut while enroute home from India.

There is also an unnumbered view, bringing the series total to at least 101 scenes. This photo (figure 8) shows 12 people posed in a field with three tents in the background. Professor Wahrman speculates that the people could be Methodists from the Beirut area, gathered to pay respects to Bishop Kingsley’s last resting place. Alternatively, the photo could be of the expeditionary group. It is possible that at least some of those who participated in the tour are shown here. Hopefully, further research will uncover answers to the mystery which obscures the events associated with this little known 19th century odyssey.

References/Credits

John M’Clintock and James Strong. 1867-81. The Cyclopedia of Biblical, Theological and Ecclesiastical

(Continued on page 30)
The titles are familiar enough: *Transitions*, *Spacehunter—Adventures in the Forbidden Zone*, *Sea Dream, Magic Journeys*—all diversified, ground-breaking 3-D films to be sure. The common thread weaving these films together is Ernie McNabb, who acted as either stereographer or stereo consultant. In addition, he was stereo consultant on the two 70mm 3-D films made for Science North in Sudbury, Ontario, *Wilderness* and *Shooting Star*.

McNabb, whose latest stereography work can be seen in the IMAX 3-D film *Wings of Courage* (*SW* Vol. 22, No. 2), was also a key player in developing IMAX 3-D and the prototype of the first IMAX 3-D rig. Add to this a body of work as cinematographer of countless films (he never kept score) for the National Film Board of Canada (NFB) and several IMAX and OMNIMAX films, and you've got an extraordinary visionary and technician who has pushed the development of 35mm and 70mm 3-D and 2-D filmmaking to the limits. McNabb is currently working on a new NFB project tentatively titled *Helicopter II* in association with the Royal Canadian Geographic Society. (Pinning McNabb down for this article wasn't easy. He was at one time or another on an ice breaker bound from Halifax across the Northwest Passage to Tuktoyaktuk in Canada's Northwest Territories, or in one of the many native communities along the way.)

McNabb, who has an engineering and electronics background, joined the NFB in 1960 as a technician in their Engineering Department. (For those not familiar with the NFB, it's a Canadian government agency—a unique cultural organization created in 1939 by an act of Parliament to initiate, promote and distribute films in the national interest. Since its inception, the NFB has been the recipient of more than 3,000 awards at prestigious festivals worldwide and has won nine Oscars.) Here, he designed film equipment and learned every facet of the filmmaking process while working in the optical animation, printing, editing and other departments. He moved into production very quickly and eventually got the chance.
to use his skills in front of and behind the cameras on the NFB’s acclaimed Harvard Physics Project, which was designed as an interactive learning tool for secondary school physics programs. The entire package was sold to Encyclopedia Britannica, which still distributes it today although not in the original 8mm loop cassette format.

When the NFB science unit faced a financial crunch, McNabb moved on to the camera department, rising up through the ranks to cameraman and director of photography on several projects. His electronics background, knowledge of movie cameras and interest in technology led to Colin Low, a veteran NFB director/producer, seeking out McNabb’s assistance on a 3-D experiment in 1973. Low, who directed the first IMAX 2-D film shown at Osaka’s World’s Fair in 1970, and John Spotton, another NFB pioneer, wanted McNabb to help them develop a large-format 3-D film for the American Bicentennial in 1976. At the time, the NFB was no stranger to 3-D. Their interest in 3-D technology had been ongoing ever since the early 1950s when world-renowned animator Norman McLaren produced two dual-strip 35mm films, *Aroud is Around* and *Now is the Time* for the 1951 World’s Fair in London. Twenty-two years later, McNabb, Low and Spotton developed an updated version of McLaren’s two-camera system with improved optics in a 70mm format.

After some experimental shooting with their new wide-screen system, the three filmmakers went to Russia to investigate and compare 3-D cameras and technology. “The Russians were more advanced in 70mm filmmaking and they had a long history of making 3-D films.” says McNabb.

Stereographer McNabb is seen here (at the rear) during the filming of 1978’s 3-D hit Sea Dreams for Marineland in Florida. The camera, with its SpaceVision over/under lens system, is suspended from wires. While shooting the demo reel at an alligator farm, McNabb was surprised when the largest alligator suddenly lurched forward and snapped at the lens shade on the front of the camera, leaving its teeth marks as a memory of the event.
The Russian 3-D equipment that the Canadians looked at was brand new and had never been used on any film production up to that point. After meetings, long discussions and watching many of their 3-D films made with other systems, the Russians turned over their equipment along with a crew to McNabb, Low and Spotton.

"The experimental 70mm 3-D film we had shot in Canada was with American Panavision cameras," says McNabb. "If the Russian cameras were better, we would have used them to shoot the American Bicentennial Project. As it turned out, the Russian optics were not up to North American standards, and the quality of the images wasn't particularly good." According to McNabb, the Russians recognized the difference immediately when they compared the film shot with the Panavision cameras and the film shot with their equipment. "They envied our large, bright quality images and, above all, they envied the optical system we were using," claims McNabb. "We all agreed that they had an interesting camera but it would not do for our purposes."

McNabb is quick to point out that the 3-D experts they spoke to in Russia were all brilliant, talented and very knowledgeable, but their ability to develop better filming technology was restricted by both financial and political restraints at the time (the early '70s).

In assessing Russian 3-D, McNabb says their stereo images tended to be so natural that you almost forgot you were watching 3-D after a while. "Sometimes you have to surprise your audience and exaggerate a little to remind the audience that they're watching 3-D," adds McNabb. "Also, their film stock tends to favor pastel colors with low contrasts."

One point of interest that McNabb brought to our attention was the fact that Russians shoot in 70mm and print on 70mm stock, whereas North Americans shoot in 65mm and print on 70mm. "It was tricky using our 65mm negative in their 70mm cameras, but we managed," says McNabb.

And what became of the American Bicentennial 3-D project? Experimental footage shot by McNabb, Low and Spotton impressed Canadian officials who were set to back the project, but in the end the film was abandoned. Apparently, no single U.S. city had been chosen as the central focus of the celebration where the film could be shown, and the cost of a traveling 3-D show throughout the nation was considered prohibitive. Pity, because in 1976 the planned large-format 3-D film would probably have been the first American or Canadian dual-strip 70mm film ever made. Although not totally forgotten, this system went into limbo for several years and the creators moved on to other projects.

At a 3-D seminar sponsored by Montreal's Concordia University in 1974, McNabb made contact with director Murray Lerner who wanted to do a stereoscopic film. Together, they produced a 3-D demo film which led them to making Sea Dream for Marineland in Florida. The film is probably the...
most successful 3-D theme park film ever made, as it has been shown all over the world and is still going strong today.

I was surprised to learn from McNabb that most of the "underwater" scenes in the film were actually shot from outside the tanks, except for about two minutes of ocean footage. It's a credit to director and cinematographer Lerner and to stereographer McNabb that Sea Dream doesn't have the look or feel of not being shot underwater. Coral pieces were carefully positioned in the back of the tanks and were faded off naturally, so that audiences thought they were in the ocean. Top lighting made the set-up look even more realistic. McNabb designed the "underwater" equipment, mount and hang glider used in shooting the film.

"SpaceVision, the over/under 3-D system used in the filming, was an extremely high-quality process for that [late '70s] period," points out McNabb. "The lens system was very crude with only a choice of one focal length and three apertures. The optical path was very straightforward. The sharp imagery produced allowed us to project the film on a 57 foot wide screen, quite large for 35mm." (The film was blown up to 70mm in the mid '80s for some showings around the world.)

Asked to compare dual-strip filming and single-strip technology, McNabb claims that there are some disadvantages to both. "With the exception of IMAX 3-D, there's a differential unsteadiness on two-projector systems. Your eyes and brain can integrate that very quickly, but somewhere in the back of your sun-consciousness there must be some fatigue factor that affects the viewer. Nobody has been able to document or explain that finite problem. At least in a single-strip system, where both images are laid down on the same piece of film, if there is a movement in the camera or projector it will be felt by both eyes.

"Each 3-D system isn't perfect. There are some problems with the over/under systems. If you take the projected cone of light and draw a circle around the over and under image, you come to recognize that the fade off of the normal light cone is at the foot of one image and at the head of the other image. The result is a differential in the uniformity of the light."

A few years later, McNabb, on yet another loan from the NFB, worked with Lerner again. This time it was on the Walt Disney film Magic Journeys, the famous dual-strip 70mm film that originally was shown at EPCOT Center in Florida. He and a stellar list of stereo technicians (Steve Hines, Dave English, Don Iwerks, Bob Otto and Lerner) are credited with the 3-D technology used in the ground-breaking film. One of the rigs used in the filming was designed by McNabb. He also designed the aerial mount used for the helicopter shoots and he supervised construction of the underwater system.

When Hollywood gave 3-D another chance (or is it the other way around?) in the early '80s, it was inevitable that McNabb's expertise would be in demand. Columbia Pictures called and he became involved in the $12 million science fantasy adventure Spacehunter—Adventures in the Forbidden Zone, starring Peter Strauss and Molly Ringwald. It was filmed using a 3-D system and NFB rig specially engineered by McNabb. The two-camera system utilized two Panavision cameras and their quality lenses, and a beam splitter.
mirror. The two images from the two cameras were then "shrunk" and optically printed on a single strip of film in horizontal split frames for theatrical showings. For the single-strip film, McNabb even dictated the frame size he wanted on the final prints. "Some people insisted on a big thick margin or 'identifier' between the frames (the left and right eye images), but I wanted to minimize these boundaries so I could use as much area of the frames as we could for the picture." Spacehunter was a huge box office success, one of the few 3-D hits during the mildly received stereo revival in the early '80s.

During the '70s and early '80s, Low and McNabb had worked on IMAX and OMNIMAX productions with other collaborators. Both were convinced that the proportions offered by IMAX were the best for 3-D of the future. They had the NFB rig that had been developed in the '70s. (It had been used in one form or another for McNabb's 3-D projects over the years.) All they needed now were two IMAX cameras (only nine existed in the world in the early '80s) to shoot some test film. Later, there would be even more problems trying to get two IMAX projectors together to project the footage. Some of the original test footage was shot behind the NFB building in Montreal, and some was shot on a sound stage inside.

The results of the collaboration between IMAX and the NFB were, to say the least, overwhelming. A few years later at EXPO '86 in Vancouver, Transitions, the world's first IMAX 3-D film, premiered to world acclaim. (It was co-directed by Low and Tony Ianzelo.) Critics are still unanimous in their praise: no other 3-D system in the world even comes close to the quality and the power of IMAX 3-D.

Since Transitions, McNabb has been involved in several important [2-D] IMAX productions as cinematographer. The First Emperor of China (1989) was a costly cinematic spectacle about Qin Shihuang, who unified China 22 centuries ago and completed the Great Wall of China. One of the film's highlights is seeing the 7,000 life-size terra-cotta soldiers, horses and chariots which were built to surround the emperor's tomb. The figures were unearthed in 1974 and were captured on film by westerners for the first time in the NFB film. Other recent career highlights include the IMAX dramatic film Emergency/Urgence (1991) and Momentum (1992), the first—and only—IMAX HD (High-Definition) film ever made. This EXPO '92 hit, which premiered in Seville, Spain, was filmed and projected at 48 frames per second, twice the rate of conventional film. Only a few IMAX theaters ever got to show the high-definition version of the film after the World's Fair.

McNabb hints that the next great technological advance for IMAX is high-definition IMAX 3-D—dual strip, 15 perforation frames projected at 48 frames per second. Will it be ready for the next big World's Fair in the year 2000? We can hardly wait.

IMAX camera equipment may be state of the art, but transportation to the highest point of the Great Wall of China was definitely not. Donkeys were quickly employed when the gondola lift was closed during the Chinese New Year, and filming of The First Emperor of China resumed. The IMAX 2-D production, with Ernie McNabb as director of photography, premiered at the opening of the Canadian Museum of Civilization in Hull, Quebec, in 1989.
Reel 3-D has done it again with a new book, the second in the "Historical 3-D Reprint Series." This one is titled The Stereoscope and Stereoscopic Photography and was written by F. Drouin in France in 1894. The reprint is from an 1894 English translation.

I read the book from cover to cover and found it so fascinating that I could not put it down until I was done. David and Susan say in their announcement of the book's publication, "Many ideas and innovations in the field of three dimensional imaging seem new and revolutionary today. However, upon further investigation, you will find here a nineteenth century world of forgotten resources...."

That's definitely the case. Drouin's book, as the title suggests, focuses on Stereoscopes. The variety of devices described in the book exceeded my wildest imagination. First, we have the iconoscope, a device eliminates stereoscopic relief by reducing the interocular when viewing close-up objects. Then we have the telestereoscope, which increases the relief of distant objects by increasing the interocular. (Someone who recently rediscovered the device called it a "Godzillascope". According to Drouin, the telestereoscope was invented by Helmholtz in 1857.)

In-between these extremes we find an impressive variety of stereoscopes with mirrors, lenses and/or prisms, from a simple mirror stereoscope to a "View-Magic" style viewer for over/under panoramic print pairs. There is a discussion of single lens 3-D and a mention of projection with polarized light using nicols prisms. Early anaglyphic projection is also covered, but the eclipse technique as described by D’Almeida in 1858 is particularly well illustrated. Drouin singles out this mechanical separation method as giving "admirable effects," and he would learn how prophetic his opinion was if he could see today’s liquid crystal eclipsing 3-D glasses for computer, video and IMAX 3-D applications.

Drouin on France vs. England

"It is curious to note that although the stereoscope was an English invention, the French makers were the first to recognize its possibilities....These makers had, moreover, the satisfaction of seeing their ideas shortly put into practice in England itself."

On "High Speed" 3-D Photography With Flash

"Magnesium light...has at least a duration of a third or a quarter of a second; whilst special mix-
Yes, I know that *Stereo World* is a 3-D magazine, so why write about a tripod? Well, the first time I ever heard of a Kinnard Tripod was more than 10 years ago when I saw it listed in an early 1950s Stereo Realist accessory list. It even had a Stereo Realist company stock number, ST-59. This intrigued me. What was so special about this tripod that the Stereo Realist folks would find it appropriate to make it a listed stereo accessory? All I had was a name without a description, so I forgot about the Kinnard Tripod until, quite by chance, I ran across one at a camera show. Actually, it's been so long that I don't remember the details. My partner Susan may actually have found it (she has a radar eye for interesting things). We only knew that it was a Kinnard Tripod because it is clearly engraved or molded into the flat metal top plate.

The Kinnard is not like any tripod made before or since. It is an elegant answer to the question "How can you make a tripod that will provide a sturdy, five foot high support, yet yet collapse to only 5 inches in length with each leg being a maximum of one inch in diameter?"

It's an interesting question. If you were to use the conventional design of a series of segments, each one getting a bit smaller in diameter and nesting inside the next larger one, you would need about 12 segments, and the diameter of each would have to be fairly large so that the smallest one would still be large enough not to bend. Also, you would have to provide some way to securely lock each segment. So to make a really compact tripod this small would seem impossible in the conventional way.

This is what makes the Kinnard really interesting. It solves the problem by using a uniquely designed 36 foot long spiral of thin stainless coiled steel. By starting wider at the top, and tapering to the foot end, the spiral can be uncoiled and then locked tightly in position. Done properly, the legs can be extended to five feet in height and can support cameras much heavier than the Stereo Realist.

The biggest problem is that the technique for using this tripod is not at all intuitive. Without the instruction manual it is quite difficult, and even with the instructions it takes a bit of practice to do it in a reasonable amount of time. (Although the instructions say you can do it in 50 seconds with practice, at best I would say 50 seconds per leg!)

Standing next to its instruction book, this Kinnard Tripod with legs completely collapsed isn't much larger than a Realist and would fit in nearly any camera bag.

Around 1985, in the search for instructions, I decided to take a chance that the Kinnard Company of Milwaukee might still be in business. I called information and they said they did have a listing for Kinnard Photography. I called the number and asked if they had anything to do with the Kinnard Tripod. The answer was "hold on, you want to talk to my father." So, on the telephone I met Wolcott Kinnard, the inventor and manufacturer of the Kinnard tripod! They were made just after the war, from about 1948 to the mid 1950s, and were not a great commercial success. I would guess that this was due to the difficulty is setting up the tripod. People in general prefer to use items that are so intuitive that instructions are not needed. Although I got a verbal set of instructions, Mr. Kinnard did not
Fully extended, the Kinnard provides a stable, five foot high platform for nearly any camera but lacks a pan and tilt head. Here the author demonstrates the difference between one in use and one ready for stowing in a camera bag or even a large coat pocket.

even have a copy of the manual that he could copy for me. He did turn out to be an interesting inventor, and he was working on the design of a new stereo camera and viewer system. He sent us copies of some of his pending patent designs, and we corresponded over the years. Finally he moved and we lost track of Mr. Kinnard. As far as we know, none of his stereo designs were ever produced.

Why was the Kinnard listed as a Stereo Realist accessory? In those days, Kodachrome film was rated at ASA 10. In order to get reasonable depth of field, \( \frac{1}{30} \)th at f/5.6 was commonly used, and slower speeds were required if the weather got gray at all. This made a tripod a very handy item to have around. Someone at the David White Company must have discovered the Kinnard Tripod and decided that this was just the answer for having a tripod so small that you could always keep it in the camera bag.

I don't know how many Kinnard Tripods were actually made, or how rare they are today. I must have a crazy fondness for them because over the years we've acquired four of them, and two of the monopods. One even came in the original box with instructions! (I'll be happy to supply a set for \$3.00 plus SASE to anyone who needs one to finally figure out how to use the Kinnard. The secret is to turn the tripod ribbed cup foot in the "unlock" direction while pulling out the leg. When it gets tight one grasps the spiral steel part of the leg near, but not on, the ribbed cup and rotates it in the opposite direction while pulling and loosening further. These motions are repeated until the leg is extended to the desired length, then the ribbed cup foot is turned tightly in the lock direction until the leg is solidly in place. Then set it up and put a bit of weight on it to test it. Happy hunting for the only "official" 3-D tripod ever made! 😊

Only in its physical dimensions does this book resemble anything like the above. Researched and written by NSA member Mead B. Kibbey and edited by NSA President Peter Palmquist, *The Railroad Photographs of Alfred A. Hart, Artist* is a detailed, illustrated account of Hart's stereo documentation of the construction of the Central Pacific Railroad. But both Hart's work and Kibbey's book are far grander in scope, quality and detail than any single sentence could convey.

To begin with, Hart didn't just shoot a bunch of railroad views. He documented the entire project, from its start in Sacramento in 1864 to the driving of the golden spike in Utah in 1869, publishing 364 stereographs covering every major phase of the construction. And Mr. Kibbey didn't just "research" Hart's work. He also traveled to more than 50 of the locations stereographed by Hart over a hundred years earlier, capturing images (when trees and terrain allowed) matching the coverage and angle of Hart's views. Some of this, in order to better understand just what was involved in getting the original views, was done using a 5 x 8 inch wet-plate stereo camera and an 1860s tripod. The extent of Kibbey's devotion to his subject (beyond just reaching remote locations in the Sierra Nevada Mountains and the Nevada desert) is nicely illustrated in a paragraph from his introduction describing the challenges of following Hart's tripod-prints:

Some of his finest photographs were taken from the tops of boxcars or locomotives and because of this, I carried a six-foot folding ladder on my truck, and by setting it up between the rails and standing on the top rung, I could get my camera at almost the same elevation Hart used. Unfortunately when I was on top of that trembling ladder (the ties were spaced so that only two of the ladder's four legs were resting on a tie), the sound of an approaching train greatly reduced my interest in perfectly duplicating Hart's composition. By using modern topographic maps, many isolated locations were quite apparent, but often proved to be more than a mile from even a four-wheel-drive road. In those instances several hours were needed to hike in and back out with my camera, a light tripod, the rolled map, 8-by-10 inch enlarged copies of the appropriate Hart prints, and a compass to measure the direction of the shadows in his photographs (to help establish the time of day when he had taken the original views).

Several of these recent photos (taken during the early 1990s) are included next to Hart's 1860s images, while others reveal in close detail what remains today of that massive construction project. One example shows a hand-drilled blast hole in perfect cross section on the wall of a tunnel and another presents a pile of massive timbers that once formed part of the miles of snowsheds protecting the tracks in the High Sierra.

**The CPRR and the Stereographer**

A brief history of the Central Pacific's construction provides a dramatic background to our appreciation of the task Hart faced as he accompanied the crews through mountains, tunnels and deserts with his dark tent, wet plate stereo camera and heavy tripod. Close attention is given to the blasting and excavation techniques used in the many tunnels required to cross the mountains, as well as to the miles of snowsheds constructed between the tunnels. The photographic coverage of the completion ceremonies at Promontory, Utah gets detailed attention and illustration, comparing the work of photographer A.J. Russell with that of Hart. As the last rail was laid, the two photographers captured the scene from the tops of the facing locomotives. Both photos are reproduced in the book, with an enlarged portion of the Russell shot showing Hart's stereo camera standing on the cab roof of the Union Pacific locomotive ready to take Hart's view No. 357. Later, while Russell was taking his famous photo of the trains meeting directly over the famous golden spike, Hart was on the other side of the tracks capturing the dignitaries, the army band and the locomotives in two separate stereographs—one for each locomotive. Author Kibbey includes the first composite reproduction of the two...
Hart views (Nos. 359 & 358) to reveal the famous meeting (showing both trains as in the Russell shot) as seen from the other side of the track.

The story of Hart's life and career in photography follows, including several spectacular enlargements of his work with some full views as well. Details of his business relations with the CPRR and Lawrence & Houseworth are traced, as is the history and eventual fate of his CPRR negatives. On page 58, the enlarged right images from a Hart view and of a similar view taken from just a couple of feet away are reproduced as an example of his work done for Thomas Houseworth. The images, taken from the unfinished dome of the California State Capitol, can be fused (a possibility not mentioned in the captions) to provide an unintentional hyper-stereo of a section of Sacramento in 1867/68.

The Extras

For most writers, the above two sections would probably seem to cover the subject quite adequately. For Mead Kibbey, they serve almost as an extended introduction to the wide selection of information and images filling the remaining two-thirds of the book. A chapter on "Photographic and Production Methods" provides extensive material on the wet collodion process used by Hart, including formulas and illustrations from texts of the day. In his efforts to understand 19th century photographic technology, the author even experimented with his own salted paper prints. Hart's cameras and other equipment are discussed and illustrated in equal detail, and the steps involved in making stereo prints are outlined from sensitizing the albumin paper with silver nitrate to applying the printed title strips to the mounted views.

The balance of the book is devoted to seven appendices that make it an even more indispensable reference work for those fascinated by Hart's work and/or the CPRR. Most notable for stereoview collectors is the first, in which every one of Hart's 364 views of the CPRR is reproduced. In order to include all the views they are arranged 12 to a page, requiring reduction to about 47% of the original size. While this permits easy free-viewing, the section is valuable mainly as a reference since the high quality and detail of the original views is lost. The book is a first in that it documents a stereographer's entire body of work on a major subject, and yet while it illustrates the stereos, it isn't actually illustrated in stereo. (This makes a Stereo World article using some of this material an intriguing possibility for the future.)

A numerical list of the Hart CPRR views follows, including the mileage of each subject east along the track from Sacramento and notes relating to several of the views and their later publication by Houseworth and/or Watkins. Another list presents the view titles in geographical order of their distance from Sacramento, starting with No. 234 taken at the Sacramento Railroad Wharves. A third list presents the public sources of Hart CPRR views, including the Bancroft Library, the Crocker Art Museum, the California State Library, the Huntington Library, the University of Nevada Library, the Library of Congress and the New York Public Library.

Appendix E is a reprint of the article "Alfred Hart: Photographer of the Central Pacific Railroad" by Glenn Willumson from Vol. 12 No. 1 of History of Photography, London 1988. Appendix E presents an explanation of transposing images in stereo printing along with more details of 19th century stereo cameras, dark tents and chemistry. Appendix G reprints sections of Hart's The Traveler's Own Book, published in 1870 as an aid to those traveling between Chicago and San Francisco. While the lithographed illustrations of some of the scenery were based on Hart's views, the views themselves are not mentioned in his descriptions of places to be seen or on the maps tracing every mile of the journey.

By any standard, The Railroad Photographs of Alfred A. Hart, Artist is a major work of historical research and reference. Images are identified and dated whenever possible and cross-referenced to each other to a degree seldom seen, while sources are provided for nearly any railroad or photographic historical questions that could arise. The only concern is that the encyclopedic thoroughness of the book not intimidate writers interested in the lives and work of other stereographers also in need of wider and deeper appreciation. A book with less information, fewer images, more limited areas of coverage and only ordinary levels of energy applied to research could still be an outstanding contribution to the history of stereography (and could perhaps have more room for full size stereoviews). In any case, it will probably be a long time before anything nearly as impressive as Mr. Kibbey's book is published.

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The London Underground (also affectionately known as "The Tube") is world famous. Today's Londoners and tourists use it daily, with little regard for the history that made it possible. In fact, underground railways in the London area go back to 1863, but it was not until 1890 that the first fully electric "deep tube" railway went into service as The City & South London Railway. Eventually other lines were constructed and connected until they formed the system as it is known today.

Traveling from Big Ben to Piccadilly Circus, one enters the deep tunnels by steep escalators. One penetrates the arteries of the city, a weaving, snaking maze of tunnels that take you everywhere you want to go. All the history and magic of London surround the traveler—Buckingham Palace, Leicester Square, the British Museum, St. Paul's Cathedral, Harrod's, the Tower of London and many important sites where historical characters from Henry VIII to Winston Churchill once trod. One can get around by bus or taxi, but the way the locals travel easily and quickly is by the Underground.

For its observance of the "1890-1990 Tube Centenary—One Hundred Years of Electric Underground Railways" the London Transport Museum mounted a historical exhibit. In doing research a number of stereoscopic views were discovered in the museum archives. These were not commercial views, but were apparently taken around 1907 simply to document the work in progress. The images illustrate the workmen, the conditions and the complex construction necessary to create the tunnels nearly 60 feet under London that are part of this famous transportation system. Many views show the process of enlarging existing tunnels and illustrate the use of tunneling techniques like the use of compressed air and airlocks. Except for the simple captions with the pictures, no documentation or photographer information was discovered.

The museum felt that these views would provide an interesting souvenir of the occasion, and called upon London's renowned 3-D expert David Burder to find a way to make this possible. The result was a set of nine 7 x 7¾ inch anaglyphic stereo images, each on a full-page size card with caption and the Tube Centenary logo. The sets include two pairs of red/green Tube Centenary glasses and are still available from Reel 3-D Enterprises, Box 2368 Culver City, CA 90231 as stock number 5007SW for $12.95 plus $3.00 shipping (outside the U.S. $5.00 shipping).
"Laying tracks in the "step plate" junction at Camden Town." Even with the moderately fast film available in 1907, exposures in the tunnels were long enough for some of the workers to move their arms or heads or "ghost out" entirely.

All stereographs from the London Transport Museum.

"The new tunnel from Camden Town breaking through to the old terminus at Euston. Timbers temporarily support the roof following removal of the shield." Crude wiring for the construction lights (and perhaps the photographer's flood lights) is visible at the upper left.

"New shield-driven tunnel under construction, connecting Euston and Camden Town. The pipe carries liquid concrete grout to fill the void behind the tunnel lining."
"Building the junction of the new line from Charing Cross onto the enlarged City & South London line at Kensington."

"In some areas, miners worked under compressed air in order to reduce water seepage into the enlargement workings. This airlock was just north of King's Cross."

"Tunnel miners with a contractor's battery locomotive."
"Survey work in progress." While the high contrast, uneven lighting of the original photos is a challenge, more detail is visible in the set's anaglyphic enlargements.

"Looking through a shield into the old narrow tunnel. The circular shield has 'rolled' a little as excavation proceeded."

"The original tunnel was enlarged with the aid of a modified Greathead Shield. In this view from the newly enlarged tunnel, the old tunnel can be seen through the opening in the shield."
Over a year after 1994's planet-wide marketing explosion of single image stereograms via posters, books, cards, and nearly every other flat surface not moving or under water, it may be hard to believe that more than a dozen or so breathing humans still can't free-view. In fact, there are plenty of people with perfectly functional stereo vision who never quite got the knack. (Some of them are even NSA members!) And of course there are those who remain convinced that the entire phenomenon was a massive hoax perpetrated against them personally through an international conspiracy of planted agents pretending to see non-existent images.

**Magic Eye Training**

Hope remains alive for all of these long-suffering souls with the release of *Magic Eye: How to See 3D* by Dr. Marc Grossman and Rachel Cooper, published by N.E. Thing Enterprises and Andrews and McMeel. This most recent of the Magic Eye 3-D books is a step-by-step training manual aimed at enabling anyone with a trace of binocular vision to free-view Magic Eye stereograms. Along the way, it explains the basics of stereo vision with the help of cartoon characters, colorful illustrations and a precisely crafted text largely free of technical jargon. While many tricks to learning and improving free-viewing are left out and coverage of stereo vision theory is condensed to a few paragraphs, the book nevertheless is the most visually direct and effective manual on the subject yet published.

Concepts like depth perception, parallel viewing, divergence, convergence, etc. are illustrated and explained clearly and directly. An "Eye Hop" game and a "Framing" game demonstrate (by positioning a thumb in front of your nose) how the eyes work together but from different points of view. The famous "Frankfurter Experiment" with two fingers meeting in front of your eyes proves the ability of parallax to create an illusion, while other illustrations serve as "warm up" exercises for eye muscle control and as a check of your visual field.

**Starting With Pairs!**

The free-viewing exercises follow, and the first four pages are filled with actual stereo pair drawings and photos, making the book a useful and practical addition to any stereo library—even those otherwise "above" the inclusion of single image stereogram material. The Magic Eye stereograms appear later in the book as a sort of final challenge and treat for those who learn to master the basics of free-viewing with traditional image pairs. Central to the training program is the "X-Ray Vision Game" in which the reader literally looks through a clear plastic page bound into the book. Printed on this page are three stereo pair drawings plus a pair of fusion dots at the top, all at about 35mm separation for ease in practice and ready fusion of the image.
Dr. Marc Grossman, O.D., is an optometrist and acupuncturist who treats patients with therapeutic exercises and nutrition, as well as traditional means, for a variety of vision problems. While the use of vision therapy techniques for many eye problems isn’t universally accepted, Dr. Grossman has been on the Board of Examiners for licensure of New York State and has consulted to the United States Military Academy at West Point in their Performance Enhancement Center as well as consulting to school systems and rehabilitation centers in the treatment of visual disabilities.

The NSA Connection

Stereo photography used in the book is by NSA members Ron Labbe, Paul Wing and Fred Hatt, with 3-D consulting by Gerald Marks. Ron Labbe also served as an associate editor (for N.E. Thing Enterprises) and (with Rachel Cooper) as production manager. As promised at the 1995 NSA/ISU Atlanta International 3-D Festival, the NSA address is among those listed at the back of the book.

While there is no little irony in the fact that How to See 3D has appeared well after the 1994 boom year for stereogram publishing, the book is nonetheless a valuable and unique tool for spreading the skill among those who at first have trouble maintaining fusion of dots printed at the top of the page. (Unlike other Magic Eye books, this one includes fusion dots above most of the stereograms.)

Along with several full-page stereograms of relatively simple objects are basic explanations of how these images are made, covering both wallpaper effect (“floater”) stereograms and hidden image (“random dot”) stereograms. While the section covers computer conversion of wire frame 3-D models and grayscale images into random pattern single image stereograms, anyone seriously interested in technical aspects of the subject should read Dan Richardson’s Create Stereograms on Your PC, Waite Group Press 1994. (See SW Vol.21 No. 3, page 29.)

The Authors

Rachel Cooper is a freelance writer and computer graphics artist who long suffered from a total lack of depth perception. After a course of visual therapy and exercises similar to those found in How to See 3D, she achieved stable depth perception in 1993. Finding life “really better in 3-D,” her electronic publishing now focuses on digital technology to create 3-D images. Cooper and co-author Dr. Grossman have formed IN FOCUS Vision Products, devoted to the direction and production of 3-D art and workshops for vision education and entertainment. (Contact Rachel Cooper, 93 Bedford St. Suite 5D, New York, NY 10014.)

Jason Mulkey tests his “X-Ray Vision” with stereo pairs on the transparent page in How to See 3D. As the pairs have a separation of only about 35mm, gazing through the page at a light colored wall just a few feet away will fuse them. Refocusing on the center 3-D image is relatively easy at these separations and distances.

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While many bookstores haven't handled any single image stereogram books since the holiday season of 1994 (when it was hard not to find them), others have maintained at least a minimal selection of the big selling *Magic Eye* books along with one or two other titles. While the books are seldom found on front shelves any longer, many of these same stores have also stocked the SIS titles published during 1995—providing new material next to the "classics" for consumers now totally hooked on stereogram images.

Some, like the collection of stereograms loosely relating to the predictions of Nostradamus or the book filed with minimal-depth images of pastel angels, attempted to combine the popular stereogram format with very specific subjects more appropriate to one or two page coverage. Others, like *Magic Eye: How to See 3D* (see review in this issue) could contribute substantially to the public's knowledge and appreciation of the whole realm of stereo imaging. Three additional SIS books currently found in many stores illustrate popular cartoon characters, Sunday comic strips and fantasy/science fiction cover art through stereograms.

* Lana Tunes — *Magic Eye*, Andrew and McMeel 1995, features Bugs Bunny, Yosemite Sam, The Road Runner, Daffy Duck, etc. in a collection of stereograms combined with cartoon drawings of most of the Lana Tunes characters. While the stereograms by the N.E. Thing crew generally maintain their high quality of work, much of the image on each page is dominated by the flat drawing of the character—which becomes even more distracting when the stereogram is fused. The book should appeal to kids not quite yet into mortal combat computer games, although the fact that the stereograms reveal mostly simple props associated with the characters rather than the characters themselves may be a little disappointing.

* Magic Eye — Best of the Sunday Comics*, William Morrow & Co. Inc. 1995, teams N.E. Thing's 3-D skills with classic and current comic strip art from King Features Syndicate. Each page presents several panels from a popular comic strip with a stereogram relating to the subject of the strip or the personality of the character. Among others, these include Flash Gordon, Krazy Kat, Prince Valiant, Popeye, Hagar, Hi & Lois, Luann, Blondie and Beetle Baily. Some of the strips with several panels leave little room for much of a stereogram, even with the strips reduced in scale. But since the stereograms, like those in the *Lana Tunes* book, include only simple props from the stories or themes of the strips, the reproduced comics themselves often remain the most interesting material on the page. The stereogram for Popeye's friend Wimpy, for instance, consists of a single hamburger. Easily the best in the book is a very impressive Viking ship stereogram floating above Hagar's strip.

*Boris Vallejo's 3D Magic*, Stewart, Tabori & Chang 1995, combines the fantasy/sci-fi/sword & sorcery art of Boris Vallejo with stereograms by Al E. Barber. This is another publication in which flat drawings appear on the same page with stereograms, but most of these hulked-out heroes holding a sword in one hand and a barely clad woman in the other are kept small enough to interfere little with fusion of the 3-D image. Unfortunately, most of the stereograms themselves are extremely simple arrangements of flying dragons, skulls or threatening monsters set in craggy alien landscapes. Some include bothersome anomalies when fused and some are simply computer distorted (folded and/or stretched) reproductions of Vallejo's art—known worldwide on fantasy book covers, posters and calendars. One wallpaper-effect field of naked women floats in a single, flat plane above a likewise flat array of skulls. Another stepped series of horizontal planes displays rows of naked women as if being auditioned for the next adolescent fantasy requiring heroic proportions, a domineering countenance and provocative posing skills with a really big sword.
North America's Historic Buildings

by Neal Bullington

"New Wing, Patent Office, Washington, D.C. U.S.A." is the title of Kilburn view No. 3088, showing the old Patent Office in Washington, D.C. Located at F and G Streets between 7th and 9th Streets NW, it was begun in 1840 by architect William P. Elliot. He was followed in 1849-1851 by Robert Mills and in 1851-1867 by Edward Clark. In this Greek Doric building the U.S. Patent Office encouraged inventors through the legal protection offered by patent laws, and stimulated them through its patent model displays and reference library. It remains in federal ownership and now houses the offices and galleries of the National Collection of Fine Arts and the National Portrait Gallery of the Smithsonian Institution. It is listed as a National Historic Landmark.

"Historical 3-D Reprint Revives 1894 Text"

(Continued from page 15)

On the Value of Stereoscopy

"In our opinion Stereoscopic relief forms one of the most beautiful phenomena of natural philosophy. It is impossible not to be filled with admiration on first using the stereoscope. We have seen a catalog of machinery, illustrated stereoscopically. By no other process can the exterior aspect of an object be so clearly shown."

On the Subject of Orthostereoscopy

"We shall now examine in detail the conditions necessary to produce by photography the same effect as that given by a direct view of the object itself; in other words, how far apart the lenses of the two cameras should be, to secure exact relief. On this point authorities on stereoscopic matters have expressed radically different opinions..."

The Stereoscope and Stereoscopic Photography helped me understand and appreciate the stereoscopic knowledge of the late 19th century. My thanks to Reel 3-D Enterprises for making this rare work available to us today. The 188 page book is similar in appearance and quality to Stereoscopic Phenomena of Light and Sight, the first in the historical 3-D reprint series. (SW Vol. 21 No. 1 page 48.) Priced at $14.95, the book is available from Reel 3-D Enterprises, Box 2368, Culver City, CA 90231. For shipping charges and ordering information, call them at (310) 837-2368, fax (310) 558-1653.

(Adapted from a review circulated on the internet photo-3d mail list.)
3-D Photo Booths

by Don Marren

It's an idea whose time has finally come: the commercial use of Polaroid 3-D photographs. Although not available for sale to the public, the custom-made cameras can be found in some new and innovative 3-D Photo Booths that are popping up around the U.S. this winter. Distributor Photo Vend International hails them as an "Amazing New Dimension in Photo Booths." In this case the hyperbole is right on.

The 3-D technology is licensed from HinesLab, Inc. of Glendale, CA, which is headed by 3-D guru Steve Hines. The big news is the unique feature of Hines' revolutionary photographic system: the anaglyphic 3-D instant photographs produced look "normal," and are compatible for 2-D viewing without glasses.

A special filter arrangement (patent pending) behind the single lens of the Polaroid camera is the key to the 3-D/2-D instant photo phenomenon. The filter allows full color photos while separating two color fields for reproduction on a single color photo for viewing with anaglyphic glasses. Amazingly, there are barely any noticeable "fringes" of the two-color fields registered on the instant prints, so the HinesLab system is suitable for either 3-D or 2-D viewing. (A similar system was developed over 20 years ago by Video WEST, Inc., and another in 1990 by David Burder under the name Q-DOS. The latter system was installed in some Vivitar SLR lenses marketed in Europe—see SW Vol. 17 No. 4 page 31 and Vol. 18 No. 1 page 30.)

The special cameras with the HinesLab optics use large-size industrial film which produces a 3 x 4 inch image. The camera has a capacity of 300 photos in the automatic film loader. The photo frame and anaglyphic glasses are dispensed in an envelope at the same time that the picture is delivered. The frames are preprinted with special 3-D graphics that are also compatible with 2-D viewing. These graphics could be customized to reflect the location of the booth—a theme park, tourist location, shopping mall, etc.

The photo booths are decorated with bold, attention-getting graphics and an electronic 3-D style sign. The graphics on the booth, like the photo frames, can be customized to suit the location. Fun "voice instructions" tell the customer when to smile. A bill acceptor with multiple vend settings is standard equipment. (Each photograph costs about $5, depending on the location of the booth.)

Among other new 3-D developments from HinesLab is the company's three-dimensional video monitor that doesn't require any special glasses for viewing. The autostereoscopic TV/computer dis-

More IMAX 3-D Theaters—and maybe some Sea of Time Sequels

IMAX 3-D continues to spread around the world with new theaters planned or under discussion in the U.S., Germany, Asia and South America. The Imax Corporation has reportedly entered into an agreement with Boofscope GmbH to open 10 IMAX 3-D theaters in Germany, with the first scheduled for Leipzig in 1997. The theaters would be part of multiplex venues like the Sony Theaters Lincoln Square complex in New York.

In the U.S., Imax has formed a joint venture with Caesars World in Las Vegas where a 3-D IMAX Dome theater is planned at Caesars' Palace casino for 1997. Meanwhile, the IMAX 3-D film Across the Sea of Time will soon be more accessible to California residents. It will open in May of 1996 at the new Edwards IMAX complex in Irvine.

According to an article in the UCR California Museum of Photography newsletter, Sony is already working with the museum (home of the famed Keystone/Mast stereo collection) on possible new films that would feature the past and present of other cities the way Sea of Time explores New York. These could include San Francisco, Tokyo, and London.

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play can be seen from any viewing position. Science and engineering journals are already hailing this system as a major breakthrough in the use of 3-D for video arcade games, engineering and scientific visualization, television, video phones, etc. Look for a detailed report on this new system in an upcoming issue.

HinesLab is a name familiar to Stereo World readers. The HinesLab StereoCam", which is continually being updated, is still the preferred 35mm/70mm/video dual-camera assembly mount for 3-D filmmaking. Recently, it was used to shoot Disney's Honey, I Shrunk the Audience and the upcoming T2-3D film attraction for Universal Studios in Florida.

For details contact HinesLab, Inc., 4525-B, San Fernando Rd., Glendale, CA 91204 or Photo Vend International, 535 Canyon Woods Circle, Suite 235, San Ramon, CA 94583.

A 3-D Photo Booth photo in its frame folder as seen through anaglyphic glasses. The camera's split anaglyphic filters are centered in the single lens, with the 3-D effect depending on near and far parts of the image falling outside the zone of sharp focus to acquire their anaglyphic color fringes. A photo booth, where close portraits are taken with a large format Polaroid camera is ideal for getting the maximum effect from a system dependent on shallow depth of field.

A 3-D Lumber Treatment

The current prize for the least likely publication in which to find an article illustrated with high quality stereo pairs is the November, 1995 issue of The Lumber Cooper, published by the Northwestern Retail Lumber Association.

But in this case, the ten black & white stereographs for the article "The World's First 3-D Tour of A Wood Treating Plant" were done by NSA member Ron Labbe. They illustrate the basic steps involved in pressure treating lumber with chromated copper arsenate for use in playgrounds, landscaping, utility poles, backyard decks, etc. An additional view is included in an adjoining ad for Wolmanized pressure treated wood along with a 3-D version of the company's logo. The same logo appears on a folding Added Dimension viewer (especially designed for easy assembly and on-the-page viewing) bound into the magazine in the middle of the article.

While the piece will gather no awards for high drama or scenic beauty, it's nevertheless encouraging to see such careful 3-D work used in a project of this sort. The article was inspired, in part, by industrial stereos reproduced as part of the Berkshire Mills article in the July/Aug. '94 issue of Stereo World, according to author and NSA member Huck De Venzio who is advertising manager for Wolmanized and other wood treatment firms owned by the Hickson Timber Protection Corporation.

For reprints of the article, contact Huck De Venzio, Hickson Corp., 1955 Lake Park Dr., Suite 250, Smyrna GA 30080.

Stereoscopy Over/Under

The ISU quarterly journal Stereoscopy has generally used photos (whether flat or stereo) rather sparingly and in reduced formats due to space limitations. Reproduction wasn't always the best, especially in the small sizes printed on non-coated stock. That changed dramatically with the first issue (Series 2 - No. 24) by new editor Michael Gordon. Not only are several articles illustrated with side-by-side pairs for easy free-viewing, but three pairs occupy entire pages in an over/under format for viewing with the View-Magic mirror viewer.

The quality, especially in the "Salon" section, is impressive for a publication of this type. Three of the winning stereos in the 1995 PSA Stereo Image of the Year competition are well reproduced in another article. Membership in the International Stereoscopic Union is U.S. $20 per year. Contact Horst Hoyer, 165 Watchung Ave., Montclair, NJ 07043. or Judy Fentress, PO Box 19-119, Hamilton, New Zealand.
3-D Glasses to Flip Over

A new design of flip-up, clip-on polarized 3-D glasses is now available. Using standard polarization angles, the glasses will work for virtually any polarized slide or movie projection. The squeeze spring-clip design is similar to that used in flip-up sunglasses, and allows fitting over eyeglasses without scratching.

The lenses, which are large enough to cover most available eyeglass lenses, can be flipped up during intermission or for making projection adjustments. Smudges and fingerprints from constantly taking glasses on and off and stuffing them in a pocket (or losing them) could be a thing of the past. The glasses are made of the same sort of plastic and look identical to clip-on sunglasses - which could make it advisable to mark the soft plastic case with a large “3-D” to discourage family members from accidentally grabbing them when packing for a beach trip.

The new flip-up 3-D clip-ons are available for $12.95 (plus shipping) from Reel 3-D Enterprises, Box 2368, Culver City, CA 90231. For complete ordering information call (310) 837-2368.

Letters

(Continued from page 3)

animation only makes me fearful, that if we don’t respect fundamental visual principles, more sophisticated technology will lead us into still more impressive errors.

Paul S. Boyer
Morristown, NJ

In the case of the raccoon view, the judges were obviously impressed mainly with the subject matter. However, Stereo World policy on window masking and image alignment has evolved over the years into a rather complex set of compromises. Images that arrive as loose print pairs or as transparencies in any format (mounted or not) generally get masked for proper stereo window and alignment in reproduction. In the case of transparencies, this is done when prints made from the images are trimmed and mounted as a pair for half-tone scanning as a single negative that the printer can easily handle.

Mounted vintage stereographs are reproduced as-is for their historical value as both images and artifacts. For consistency, this policy is extended to modern mounted print pairs—especially those on mounts that include logos, titles or other information or decoration.

Exceptions to this policy are commercially published transparencies like View-Master reels or Tru-Vue filmstrips or frame pairs from movies, videos or computer imaging systems. These are generally presented as warts and all in order to show our readers as closely as possible what they would see if viewing the image or system directly. In the case of current high-tech imaging systems, it’s especially important to reveal the all too frequent lack of attention to stereo principles that your letter points out. We could probably rail at such deficiencies in every caption, but at the likely risk of coming to be regarded as pediatric curmudgeons.

- Ed.

Introduction (Continued from page 9)

Lititations. 10 volumes, Harper Bros., New York. Vol. 9, 1880, contains woodcuts made from Strong’s original photographs.

McClintock and Strong. 1970s. Articles in Harper’s Magazine contain woodcuts from photos taken on the expedition and a map of Petra from an original survey.


The author acknowledges the assistance of the following people in providing information for this article:

Jacob Wahrman, Professor Emeritus of Genetics, Hebrew University, Jerusalem, Israel.

Kenneth Finkel, Curator of Prints, Library Society of Philadelphia.

Jean Schoenthaler, Librarian, Drew University, Madison, New Jersey.

Leslie Starobin, Associate Professor, Framingham State College, Massachusetts, for taking the 35mm photos used in this article from the original stereographs. All stereographs shown are from the author’s collection.

Letters

(Continued from page 3)

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- Ed.

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November/December 1995 STEREO WORLD
Call for Stereo Theater Programs

The 1996 program committee is soliciting proposals for submission of stereo programs for the Stereo Theater, one of the most popular events at the annual convention. The committee will be looking for original, well-paced slide and motion picture material in a variety of formats. Particularly desirable will be programs utilizing multi-image effects which will employ our extra-wide screen and highly flexible projection capabilities to best advantage. Length will normally be limited to 20 minutes to accommodate as many presenters as possible. The committee may require advance screening of any presentation to ensure projectability, length, and suitability.

Applicant presenters will be asked for a detailed description of their material as to technical data including format, number of slides, equipment required, type of change-cueing, soundtrack, and synchronization.

Equipment and Projection

We will have available a large variety of projection and sound equipment, including Brackett Dissolvers (at least 2), 8 or 12 Ektagraphic III carousel projectors, a 4-channel cassette deck, and an ElectroSonic dissolve unit. Projection will be upon a 21 x 7 foot high-gain silver screen. We will expect to fill the screen, top to bottom, by projecting 35mm slides of various formats through 180mm lenses with a throw of 52 feet. Other formats may be accommodated by using the presenter’s own equipment or by working with our experienced projection staff under the leadership of master stereo projectionist William Duggan. Presenters needing unusual equipment must provide for their own requirements.

PLEASE SUBMIT YOUR PROPOSALS AS SOON AS POSSIBLE. YOU WILL BE CONTACTED WITH A REQUEST FOR FURTHER SPECIFIC INFORMATION BY THE COMMITTEE.

Please complete at least side 1 of the Stereo Theater form on the insert in this issue. Send the completed form (or a request for additional forms) to: Richard M. Twichell, Program Chairman, 1224 Genesse St., Rochester, NY 14611.
For Sale

3-D ANAGLYPH T-SHIRTS made up of text that relates to different aspects of stereo interests, limited edition. $15, each plus $3 shipping. Lincoln Kamm, 2733 East Harbor Blvd., Ventura, CA 93001, or call: (805) 639-0109.

3-REEL PACKET BUYOUT from Canadian store. Rare Mint, Never opened English/French language VM 3-reel packets produced by GAF (Canada) Ltd., c. 1977. A041-C 100,E Highway 34 - Suite 115, Matawan, NJ 07747.


CENTERFOLD STARS now available in all their natural beauty in Realist format 3-D slide sets. This is an adult rated material, publication quality, shot at the same time as photo sets for famous men's magazines. We stock color photos and instruction for making slides. 3-D slides of over 60 different amateur and professional models. Sample Centerfold 3-D set of 8 slides only $19.95, 16 slides only $19.95 (add $4 for viewer). Free illustrated newsletter with order ($5 without order), we pay shipping. These sets are hot, you must be over 21 to order or request information. Foreign orders add $3 per set, U.S. funds only. International Press Association, 100-E Highway 34 - Suite 115, Matawan, NJ 07747.

“CHICAGO AND ITS MAKERS - 1833-1929” (1,065 pages), Lavishly illustrated with stereo halves of old Chicago by John Carbutt (24), Copelin & Melander (43), P.B. Greene, etc. Includes over 600 biographical sketches of famous Chicagoans, $50 pp. William Bray, 1916 Cardinal Lake Dr., Cherry Hill, NJ 08003.

CONTemporary stereo photographs with archival prints, adhesives, mounts and sleeves. Includes Asia, Oceania and the Middle East. Send $2 for list. Photographic commissions accepted. Solid Illusion Photography, 675 Crevier, St. Laurent, Quebec H4L 2V6 Canada.

Stereophonicon. 211 Schoolhouse Ct., Matawan, NJ 07747.


“NEXT REEL, PLEASE” : The Book of View-Master Masters. In two sections: the first has 1000 reels listed, with their views, by reel and variety number. It identifies which reels and varieties have the same or different views. The second has the views indexed, with their reel numbers, by subject. It helps find the views about a subject no matter on what reel it is located. Prices include postage and handling: U.S. $42.50, Canada $45. U.S. From other countries please write first. Texas orders must include Texas sales tax. Order from Bob’s Double Vision, 4917 Cockrell Ave., Fort Worth, TX 76133-1701.


REALIST ST-64 stereo views, brown body with ivory light button and focus knob. Exc., $125 plus shipping. Mark Willie, 200 SW 89th Ave., Portland, OR 97225, (503) 297-7653.

SEND SASE for short list of stereo equipment for sale. Bruce Hanson, Box 89437, Honolulu, HI 96830-9437. I would like to buy the Exakta stereo attachments and will pay any reasonable amount for the complete set or individual pieces. I would also like to buy: Kindar or Hypnor lens, Wollensak and Realist 2.8 and Custom Cameras, stereo daguerreotypes, and the Toshiba Stereo Camcorder. Fax: (808) 732-9761.


The SEARY M-8 Realist format heat sealer and mounter is back. Beautifully cast and machined in the US to assure highest quality seals and long life. Will take Pic-Mount heat seal mounts which are readily available. 110V, AC, satisfaction guaranteed. US prices: $225 plus $10 shipping, 100 mounts only $10, 300 mounts $27 (add $1/100 mounts shipping). Write for foreign prices or further info and picture. Send orders to: International Press Assoc., 100-E Highway 34 - Suite 115, Matawan, NJ 07747.

TOSHIBA 3-D CAMCORDER (SK-307). Perfect condition, takes great 3-D videos with sound that play in normal VCRs. Includes 2 batteries and charger, AC adapter, VHS-C cassette adapter, Multi-function remote control, 3 pairs of LCD glasses and driver box, 3 sets of close-up lenses, wireless microphone, portable light, owner’s manual and instructions, shop manual (it’s never needed repair). All accessory cables and connectors, it needs nothing and it’s a complete system ready to go. Best offer over $5000 US. Peter Sinclair, 200 Silver Birch Ave., Toronto M4E 3L5 Canada. (416) 690-0377.

WANTED

1904 ST. LOUIS WORLD’S FAIR stereo views. Wes Griffith, 4 Schoolhouse Ct., O’Fallon, MO 63366, (314) 272-1791.


AZARNA TERRITORY. All pre-1920 stereo views, post cards, images, documents of Arizona stage stations, stage coaches, Cochise County towns including Cochise Dragoon, Tombstone, Willcox, Pearce, Bisbee. Send price and copy to: Brad Smith, Box 1093, Cochise, AZ 85606.

BICYCLING-CYCLING. All stereo views, photos, ephemera and memorabilia. Anything! (Also Phrenology & W.C. Fields & Toronto). Loren Shields, 131 Beecroft Rd. #2408, Willowdale, Ont. M2N 6G9, Canada, (416) 733-3777, Fax (416) 733-9595.
BUFFALO/BISON stereo views wanted, especially ones by N.A. Forsyth. R.M. Rowell, 4510 Gregg Road, Madison, WI 53705.


COLORADO MINING TOWNS AND RAILROADS - all photographers - stereo views, cabinets, CDVs, large photos, glass negatives, albums, books with real photographs. David S. Digerness, 4953 Perry St., Denver, CO 80212-2630, (303) 455-3946. Specialties: Locomotives, mining towns, stages, freight wagons.

DARIUS KINSEY - flat mount stereo views and large format only. Also material by Clarke and Clarence Kinsey. Alan Young, 404 Westlea Dr., Westfield IN 46074.

FLORIDA STEREOS and photos, especially Palatka, St. Augustine and Daytona areas. New collector. Send approvals/Xeroxes to: Meri MacGibbon, 211 Varden Rd., Coral Ridge, FL 33140.

FLORIDA STEREOS of historical value, especially Tallahassee, Tampa and Gainesville. Price and describe or send on approval; highest prices paid for pre-1890 views. No St. Augustine. Henrickson, PO Box 21153, Kennedy Space Center, FL 32815.

GERMANY STEREOS VIEWS, single views or boxed sets (towns, villages, scenery, markets, people). Also interested in correspondence and exchange with "Germany-collectors". Please send xerox, list or descriptions. Klaus Kemper, Kommerscheidterstr. 146, D-52385, Nideggen, Germany.


I COLLECT VIEWS OF SAN DIEGO, California in Realist or View-Master format! Contact Dave Weiner, PO Box 12193, La Jolla, CA 92039.

ILCO VIEWER AND ARROW VIEWER with tray-magazines. Best c/w DC/AC. Grant Bailey c/o Muscle Stress Center, 43 West Main St. - Rt. 44, Avon, CT 06001.

I'M LOOKING for the following 1950s Realist Permanent mounts from "The Realist Library of Scenic Stereographic Originals": 206, 402, 410, 411, 412, 413, 504, 806, 901, 902, 907, 910, 918, 919, 921, 922, 929, 3000, 3100, 3105, 3111, 3112, 3113, 4000, 4001, 4002, 4100, 4101, 4901, 4903. Mark Wilke, 200 SW 89th Ave., Portland, OR 97225. (503) 297-7653.

JOHN H. FOUCHE. Top prices paid for any photo by Fouch. Trade if desired. Xerox copies needed for research. Jim Brust, 1907 Rapallo Place, San Pedro, CA 90732.

L. HENSSELF - Hawley, PA and Port Jervis, NY. H.S. Fifield - New Hampton, NY. Send xerox & price to D. Wood, Box 838, Milford, PA 18337.


MICHIGAN, especially B.F. Childs and Schuyler Baldwin. Also H.H. Bennett raftin views. We will buy or trade. Ken & Bonnie Williams, Box 458, Mattawan, MI 49071, (616)

MUYBRIDGE VIEWS - Top prices paid. Also Michigan and Mining - the 3Ms. Many views available for trade. Leonard Walle, 47530 Edinborough Lane, Novi, MI 48374.


PARK CITY, UTAH WANTED. Enthusiastic collector wants stereo views, photos, post cards, trade tokens, stock certificates from Park City, thanks! Linda Roberts, 1088 East Rubio St., Alhadea, CA 91010.

SEEKING STEREO VIEWS of any subject by Mathew Brady, especially interested in views labelled "Mathew Brady, New York" or "M. Brady, New York". Those collectors with information or objects please contact: Jeana Foley, Department of Prints & Photographs, National Portrait Gallery, Smithsonian Institution, F Street at 9th, NW, MRC 213, Washington D.C. 20560. email: npgem0116@siwm.si.edu

SINGLE VIEWS, or complete sets of "Longfellow's Wayside Inn" done by D.C. Osborn, Medford, MA. Enthusiastic collector wants stereo views, photos, post cards, trade tokens, stock certificates from Park City, thanks! Linda Roberts, 1088 East Rubio St., Alhadea, CA 91010.

STEREO DASQUERETYPES: all kinds, all nations & subjects. Any condition. Ken Appollo, PO Box 241, Rhinecliff, NY 12574, (914) 876-5232.

STEREO REALIST 1525 Accessory Lens Kit for Stereo Camera AND 3-VIEWER. MFD. BY: Hunter Corporation, 1401 Bonnie Doone Corona Del Mar, CA 92625

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800-903-TECO
**Calendar**

**February 24**  (CA)  
San Diego Camera Show & Sale, Al Bahr Shrine Temple, 5440 Kearny Mesa Rd., San Diego, CA. Contact Anton at Bargain Camera Shows, Box 5352, Santa Monica, CA 90409, (310) 578-7446.

**February 24**  (FL)  

**February 24**  (IL)  

**February 25**  (CA)  
Burbank Camera Show & Sale, Aeronautical District Lodge, 2600 W. Victory Blvd., Burbank, CA. Contact Anton at Bargain Camera Shows, Box 5352, Santa Monica, CA 90409, (310) 578-7446.

**March 2**  (MS)  
Ocean Springs Photographic Equipment Swap Meet, Latimer Community Center, Ocean Springs, MS. Contact David Stres, 11708 Jordon Rd., Ocean Springs, MS 36565, (601) 392-6974 after 5pm or wknds.

**March 3**  (CA)  
Santa Monica Camera Show & Sale, Santa Monica Civic Auditorium. Contact Anton at Bargain Camera Shows, Box 5352, Santa Monica, CA 90409, (310) 578-7446.

**March 9-10**  (CA)  
San Francisco Bay Area Camera Show, Scottish Rite Center, 1547 E. 17th Ave., San Francisco, CA 94110, (415) 578-2368.

**March 10**  (CA)  
Pasadena Camera Show & Sale, Pasadena Elks Lodge, 400 W. Colorado Blvd., Pasadena, CA. Contact Anton at Bargain Camera Shows, Box 5352, Santa Monica, CA 90409, (310) 578-7446.

**March 10**  (FL)  
Camera Exchange Show & Sale, Holiday Inn, Deland, FL. Contact Florida Camera Shows, (904) 738-0549.

**March 10**  (NJ)  
Second Sunday Camera Show, Fireman’s Hall, Parish Dr., Wayne, NJ. Contact Second Sunday Camera Shows, 25 Leary Ave., Bloomingdale, NJ 07403, (201) 838-4301.

**March 17**  (GA)  
Atlanta Camera Show & Fair, Holiday Inn Northwest, 1-75 & Dek Rd., Atlanta, GA. Contact Atlanta Camera Shows, Box 360083, Decatur, GA 30036, (770) 987-2773.

**March 23**  (CA)  
Culver City Camera Show & Sale, Veterans Memorial Building, 4117 Overland Ave., Culver City, CA. Contact Derek Borthwick Show Prods., Box 1018, West Covina, CA 91793, (818) 913-4046.

**March 24**  (CA)  
San Diego Camera Show & Sale (see Feb. 24).

**March 24**  (VA)  
DC Antique Photographic Image Show! Rosslyn Westpark Hotel, 1900 N. Ft. Meyer Dr., Arlington, VA. Contact Russell Norton, Box 1070, New Haven, CT 06504, (203) 562-7800.

**March 24**  (NY)  

**March 31**  (CA)  
Burbank Camera Show & Sale (see Feb. 25).

**March 31**  (CO)  
Denver, Colorado Camerarama Photo Fair, Holiday Inn Airport. Contact Richard Feiman, F&S Cameras, Box 17307, Colorado Springs, CO 80935, (719) 481-4626.

**March 31**  (MA)  
Boston Antique Photographic Image Show! Westford Regency, Westford, MA. Contact Russell Norton, Box 1070, New Haven, CT 06504, (203) 562-7800.

**April 27**  (TX)  
NSA SOUTH CENTRAL REGION SPRING MEETING, Lockheed Recreation Association, 3400 Bryant Irvin Rd., Fort Worth, TX. April 27, 9am to 4pm. Show & Tell, all formats. Easy access from any of the freeways in Fort Worth. Contact Bob Shotsberger, 4917 Cockrell Ave., Fort Worth, TX 76133, (817) 921-1439.

**Upcoming National NSA Conventions**

1996
Rochester, NY  August 1-5

1997
Bellevue, WA  July 4-6

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P.O. Box 2368
Culver City, CA 90231 USA

Telephone: +1 (310) 837-2368
Fax: +1 (310) 558-1653
e-mail: reel3d@aol.com

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The three-reel View-Master packet for the Atlanta International 3-D Festival was designed and produced by 3-D Book Productions in the Netherlands and includes detailed text describing the scenes.

**Reel A:** Contemporary views by Atlanta Stereographic Association members Bill Walton, Larry Moor, Cynthia Morton and Clark Brown.

**Reel B:** The Battle of Atlanta commemorated through rare stereo-views.

**Reel C:** The Atlanta Cotton States Exposition of 1895, using some of the historic views seen in the Stereo Theater show, and the Invited Exhibit of the same name by Mike Griffith.

While they last, the packets are available for $10 (postage included) from the NSA, PO Box 398, Sycamore, OH 44882.

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**STEREOSCOPIC SOCIETY OF AMERICA**

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A PSA recognized exhibition for makers of full size stereo print views

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For rules and entry forms, send SASE to:

Bill Walton
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Columbus, GA 31906

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There are 556 illustrations including every one of Hart's 364 CPRR views and the text covers details of building tunnels, snowsheds and bridges with information on laying 10 miles of track in 12 hours and 19th century stereo production. This hard-cover publication is 12 x 9 inches and 240 pages.

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The 200 lot sale of antique and collectable photographica includes a rare early Sliding Box Wet Plate Camera, a Zeiss "Ergo", a Stirn "Concealed Vest Camera", as well as a "Magic Photoret" and a "Ticka" Watch Camera, both in original boxes. There is a good selection of subminiatures, collectable and useable stereo cameras, as well as a group of Kodaks including a scarce rose pink Beau Brownie. Stereo viewers are well represented, including a rare "Loyd's American Stereoscope" as well as a Smith, Beck & Beck Cabinet model, two Alex Beckers table top viewers, a "Taxiphote", a selection of Brewster viewers in various styles and a ca. 1950's coin-op viewer. The magic lantern section features a rare mahogany and brass Bi-Unial and other magic lanterns, together with a wide variety of mechanical and other lantern slides. Optical items include an unusual Kaleidoscope, an Ernst Plank Praxinoscope, a rare French "Cinematographe Enfantin" Zoetrope, a "Filoscope" and other persistence of vision items. A good selection of Daguerreotypes including images by Vance, Cooley, Terry, DeShong, Helsby, Bogardus and a beautifully tinted Stereo Daguerreotype by Claudet. Subjects include fine portraits, a 1/4 plate of three musicians and a post mortem. A selection of Ambrotypes and an Autochrome complete the image section.

Illustrated catalog $12.00(US & Canada) $15.00 (Overseas), includes list of prices realized.
Now there are 3-D cardboard viewers that can be painted, decorated, assembled and mailed to show reproduction of your stereo views. There are two versions. Both versions view the European format of 6 x 13 cm and the American 2.5" x 5". For inexpensive reproductions simply make 71% whole card reductions of 3.5" x 7" Holmes-Bates cards.

### EH 71-A
Cut from 14-point Bristol board, this viewer is shipped as an unprinted flat in order to receive your appliques, printing, stampings, or other custom art work. It's then easily assembled with double face tape, staples or your favorite glue. The EH 71-A features a self-erecting lateral septum piece (like that in a standard stereoscope). Fold-up sides lock the erect viewer into a rigid trapezoidal cross section. Its stage can be cut away for use as a 6 x 13 transparency viewer or a page-poised "book" viewer.

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<tr>
<th>QUANTITY</th>
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<td>1 to 10</td>
<td>$2.50 Each</td>
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### EH 71-B
This viewer differs from the "EH 71-A" version in being pre-printed, assembled, without sides, and having a fold-up longitudinal (separator style) septum that locks the viewer erect.

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### HAND-HELD LORGNETTE
The Added Dimension lorgnette (the one with the popular flip-up brow rest feature) now has even better optical quality. Its 10" focal length and prism power can accommodate stereo pairs up to 4 inches wide (8" total, any height).

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### TEMPLES
These flexible, snap-on temples have a 4-position adjustment for comfort. They convert our lorgnette into a pair of 3-D viewing glasses, which frees your hands to hold a book or magazine and turn the pages. With its temples and flip-up brow rest, our lorgnette can be worn with or without your normal reading glasses.

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Packet #A 571
Packet #B 486

Contact me to get on my mailing list (No Charge). Please specify if your interest is Stereo Cards, View-Master, or both.

Sir David Brewster
and his invention

Mark Twain
The teddy bear sequence from Transitions, the first IMAX 3-D film. Director of photography and stereographer was Ernie McNabb, the subject of Don Marren's article "The 3-D Film Career of Ernie McNabb" on page 10 of this issue. On-set stereo by Heather McNabb.