While we wait by the mailbox for packages heavy with stereographs (hint) responding to the new assignment, the final selections from among those submitted for the "Children" assignment have been made. As mentioned in last issue's column, the combination of children and animals was used by several entrants to produce some truly appealing views. Picking a couple for publication wasn't easy. Every one of these views made good use of stereo to illustrate the special relationship than can so quickly develop between kids and all sorts of animals. The final choice seems to have emphasized the wide variety in sizes and species of critters pictured with the human subjects.

New Assignment: Hyper!
This includes any stereograph made at greater than "normal" separation. (We'll try to be flexible here, since normal for paired cameras on a bar could be five inches, while normal for a close-up could be less than one inch. Qualifying views will simply need to display noticeable exaggeration of the depth one would expect in a given subject.) Anything from moon views separated by thousands of miles (in effect) to aerial hypers to back yard side-step shots will be welcome. Technical qualities like proper foregrounds, limited moving-object anomalies, and appropriate separation will of course count, but so will innovative approaches and interesting or unusual subjects. Deadline for "Hyper!" will be April 5, 1994.

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 getters, 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.

(Continued on page 32)
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ON THE COVER

"Fresno Big Tree Diameter 24 Feet." is an unnumbered 1870 view by M.M. Hazeltine, one of the masters of west coast stereography and the source of some of the best western images found on cards from a number of different publishers. Our feature by Paul Hickman, "Martin Mason Hazeltine, 1827-1903 A Chronology" follows and illustrates the work and career of this busy artist year by year.
COMMENTS AND OBSERVATIONS

by John Dennis

Editor's View

Coming Attractions

Stereo World's 20th anniversary year will open with our 5th color issue (March/April 1994) and continue with a wide assortment of features, columns and news items in the other five issues of Vol. 21.

In case you wondered about it while watching the TV news coverage, the aftermath of January's earthquake in the Los Angeles area was indeed captured in 3-D by some energetic stereographers. (In one case only hours after the quake while aftershocks kept the ground alive with threatening motion.) A selection of their amazing images, obtained without benefit of press credentials or helicopters, will appear in the color issue.

The huge Kaiser Panorama viewers which displayed 50 stereos to 25 people at a time are mentioned in many texts covering the history of stereography. But few people have seen the actual tinted glass views that filled these devices with weekly changes of pictures in 19th and early 20th century Germany. Thanks to Erhard Senf of the new organization dedicated to the study and preservation of these images, several Kaiser Panorama views will be reproduced in the color issue along with color stereographs of the machines themselves both inside and out. (See Vol. 20 No. 1, page 25.) Part of the text of the article consists of unique observations about the Kaiser Panorama by modernist author/philosopher Walter Benjamin. From February 22 to May 23 of 1994, a Kaiser Panorama will be included in an exhibition dedicated to Benjamin in the George Pompidou Center in Paris. The Panorama, and some table model viewers around the room, will be filled with original hand-tinted stereos like those that fascinated and inspired the writer in his youth.

If you wished you could have gone to the recent Winter Olympics in Norway, perhaps equipped with a stereo camera, the coming color issue has two articles that may be of interest. NSA members Robert James Leonard & Ronald Jay Leonard traveled to the 1992 Winter Olympics in Albertville and took a number of dramatic stereos of events from figure skating to curling – including one of Nancy Kerrigan. The text includes generous information on their techniques and equipment. If Norway itself interests you, the article on Jan Gjessing's multimedia 3-D theater at the Norwegian Forestry Museum features sample images from his show The World of Winds. The triple-screen, rear projection, 14 projector show includes wind and smell effects and gives viewers a ride on a butterfly through the Norwegian countryside and forests.

The assortment of feature articles already scheduled for Vol. 21 is impressive, but please don't let that deter you from researching, writing or suggesting articles of your own on any stereo imaging related subject. Some material takes less space than you might think in an issue, and some topics can be covered in 3 or 4 pages. Among the features to appear for in 1994 are:

"The 1876 Centennial Exhibition As Seen in Stereo" will match views by the Centennial View Company with reports on various aspects of the huge fair from the archives of the New York Times.

"Beaches, Belles and Bathing Costumes" by Norman B. Patterson will feature several views (many surprisingly rare) of people and fashions in or near the water around the turn of the century.

The famous Graf Zeppelin airship of the early 1930s was the subject of a souvenir stereo set sold to passengers. Along with a viewer made from the same aluminum as the frame of the huge craft, the set included 30 views exploring it inside and out – many of which will appear in our article.

The design history of the Realist Macro Stereo camera will be examined and illustrated in detail in a feature by the same team behind the award-winning Realist Custom article in Vol. 19 No. 2.

The ancient game of marbles was documented in stereo by several 19th century stereographers. A collection of these now rare views, showing children from a variety of backgrounds kneeling around circles in the dirt, will illustrate our special feature.

As always, news of the latest in stereo cameras, viewers, and services will appear as soon as we can present it. Our coverage of the rapidly expanding role of stereo imaging in video and computer technology is among the broadest of any non-technical publication, with even more examples and sources of detailed information to appear in Vol. 21.

Stereogram Deeper than Dots

The 3-D image book Stereogram from Cadence Books is now available in major bookstores. The 96 page book reveals (through text, single-image stereograms, and several stereo pairs) historical and factual material on stereo photography and imaging seldom found in mass market publications. It was previewed in last issue's Newviews and a more detailed review will appear in our next issue.

Correction:
There was an error in the reporting of Competitive Exhibit winners at the 1993 NSA Convention in San Diego. (SW Vol. 20 No. 3, page 13.) The last listing for "Best of Category" in Salon A should have read: "There Was An Old Woman Who Lived In A Shoe" by Russell Norton. Two exhibits with similar names and content resulted in an error in transmission of the judging results to Stereo World.
Graflex Attachment Mystery

I bought a stereo camera that has a special attachment that no one I have contacted has ever heard of, nor has it ever been mentioned in any reference. The camera is a Graflex Stereo Graphic (#1014). The close-up attachment is similar to an attachment made for the Realist and documented in the Realist Manual. The attachment is highly machined and not home made. There are no markings on the attachment, which is made especially for the Graflex because of the way it fits on the camera and the special hole for the f stop button. The lens holders are angled inward. Series V filters fit. The way it fits on the camera and especially for the Graflex because it is an attachment made for the Realist and documented in the Manual.

The close-up attachment is held on the camera with two set screws. The lens holders are held on the camera with two set screws. The special hole for the f stop button is highly machined and not home made. There are no markings on the attachment, which is made especially for the Graflex because of the way it fits on the camera and the special hole for the f stop button. The lens holders are angled inward. Series V filters fit. The way it fits on the camera and especially for the Graflex because it is an attachment made for the Realist and documented in the Manual.

Was this in production? Are there lenses or filters available? How successful was this attachment? Is it a one-of-a-kind company prototype? Is this rare? How can I get the optics to make this functional?

Eugene Mitofsky
President, Chicago Stereo Camera Club
3848 W. Loyola Ave.
Lincolnwood, IL 6064

Mounting Debate

I would like to respond to two statements made by Ron Fredrickson in a recent letter: a) Cardboard mounted slides should not be expected to be in perfect alignment and b) sending your slides to an outside service for mounting is better than mounting them yourself.

Regarding cardboard mounting, I do not use it myself, but I have seen Dean Jacobowitz's slides and I can assure you that, yes, cardboard mounted slides can be in perfect alignment.

For years I have been doing my own mounting. It takes me half an hour to cut a 36 exposure film and place the film chips into aluminum masks. I then study the slides and decide which ones to keep. I spend a little more time aligning them carefully and then tape them in place. The whole procedure does not take more than half an hour. Does this sound worse than using an outside service, getting back pseudo or mismatched or even damaged pairs, and then removing them from their cardboard mounts to remount error free, or for projection? I don’t think so!

I would urge stereo photographers to do their own mounting. Contrary to what some people think, mounting does not take a lot of time or skill and it can be the best part of the whole 3-D experience.

George A. Themelis
Brecksville, OH

Regarding point b), it should be noted that Ron Fredrickson said of commercial mounting, "...it's far better than having to do ALL of the mounting myself," (Emphasis added.) He then mentions that he mounts his own slides for exhibitions and programs. In principle, I agree with George Themelis that people should mount their own slides. In reality, the unmounted rolls cluttering my desk drawers and shelves could call my principles into question – not to mention my organizational and filing skills. The use of any commercial mounting service could depend on the number of rolls you shoot vs. the time available for mounting, even if you're as efficient at it as Mr. Themelis.

- Ed.

Letters

It's my turn to respond to Ron Fredrickson's comments regarding the stereo mounting services offered by Kodak Labs. In his letter in the Sept./Oct. '93 issue of Stereo World, Mr. Fredrickson lambasted me for criticizing Kodak for a very poor job of stereo mounting (e.g. film chips mounted backwards, pseudoscopically, etc.)

What doesn't make sense is that he then went on to reinforce some of my own concerns. In Mr. Fredrickson's own words, "In any case, I have never expected these cardboard mounted slides to be in perfect alignment."

How could Mr. Fredrickson be satisfied with stereo mounting services that are not precise? I know I couldn't. That's why, Mr. Fredrickson, I will continue to mount my own slides. You can have Kodak all to yourself.

Dean R. Jacobowitz
Montville, CT

International Coverage

I'm hard put to single out a single reason that the just-received Vol. 20 No. 4 of our Stereo World strikes me as one of the best in my memory. But it does. Perhaps it's for the reason that the content seems more "seamless" than usual, with a roster of familiar names, headed by one John Dennis. A review of past (including long-past) issues would probably make me out wrong but I can't recall very many issues with anywhere near the same coverage of national/international meetings of the clans such as covered for Eastbourne. In fact if memory serves me right there have been too many national and international gatherings of we 3-Ders which got little or no publicity in SW. Let's hope that Vol. 20 No. 4 ushers in a "new" Stereo World!

Col. (Ret) Melvin M. Lawson
Arlington, VA

(Continued on page 29)
Martin Mason Hazeltine,

by Paul Hickman Dedicated to the Memory of Louis and Jewel Smaus.

1827
July 31: Martin Mason Hazeltine was born in Vermont. He was one of eight children born to Asa and Fanny Hazeltine. His mother was a relative of historian and statesman George Bancroft.

1835
He moved to Cattaraugus County (north of Allegany Mountains), New York, at age eight.

1836
May 4: His younger brother, George Irving Hazeltine was born.
in New York. They remained "for a short time," but moved to Chicago, Illinois. It was "so unhealthy" that they declined an offer of a section of land in the heart of the business district. They moved to Fox River (west of Chicago), now St. Charles.

1850
He went overland to California and remained two years, but returned to Vermont and studied photography. He visited the Crystal Palace Exhibition, New York, where he discovered Daguerreotypes.

1853
October: Martin Mason and George Irving Hazeltine took as steamer in New York City, crossed the Isthmus by a Nicaragua route, and disembarked in San Francisco in December. The brothers "at once" established a partnership as Daguerreotype operators until 1855.

1855
Martin Mason Hazeltine married and had at least six children.

1857
The brothers, Martin Mason and George Irving Hazeltine were gold mining on the South Fork of the American River at the town of Coloma.

1867 & 1871
Wintered in Mendocino County, he photographed in Ukiah. Coastal and giant redwoods: it was an adversarial relationship of frontier

to forests, except for the giant redwoods in the Mariposa Grove in 1864, which were protected as a State Park.

1867

September 8th: Yosemite innkeeper J.M. Hutchings reports that "Messrs. CLARK, LEIDIG, LAMON, WHITNEY, POST, AND HAZELTINE" had volunteered, "on their return from the election," to assist him in chaining off the distances between the town of Mariposa and his Upper Hotel in the Valley.

Hazeltine was the California cameraman for the Boston photographer John P. Soule, who published several stereographs of the Lower Hotel in Yosemite (Nos. 1081 and 1134) which cannot postdate 1869.

1870

Between June 2nd and 8th: M.M. Hazeltine made five souvenir portraits of the Phineas T. Barnum excursion party, beneath Yosemite Falls and beside Mirror Lake. These stereoscopic negatives were then sold to and published by Soule (Nos. 1219 - 20) and the San Francisco firm Thomas Houseworth & Company (Nos. 1679 - 81).

Between June 10th and 18th: On the south bank of the Merced, with the falls in the distance, he made three portraits of the Boston excursion party – one for Soule (No. 1218) and two for Houseworth (Nos. 1601 and 1606).

June 18th: On the giant staircase between the Yosemite and the Little Yosemite valleys, near the base of Nevada Falls, he stopped at Now's Hotel.

Between July 8th and September 18th: He photographed William Snediker and his lumberjacks, cutting a section from a Big Tree in the Fresno Grove for exhibition.

Under his own imprint, he published at least one of these stereographs: "M.M. Hazeltine, Photographer/Sierra Nevada Mountains." Fresno Big Tree, Diameter. 24 Feet. He also sold variant sets of duplicate negatives, five to Houseworth (Nos. 1750 - 54) and five to Soule (Nos. 1280 - 84). A very rare acknowledgment is printed on one example of one of these cards: "Negatives by M. M. Hazeltine."

In the Yosemite region alone, 199 negatives of 1867 and 1870 were published by Soule and 96

"M. M. Hazeltine, Artist./ Yo-Semite Valley, California." Unnumbered. SOUTH DOME FROM GLACIER POINT (on its southern rim, he made an occupational portrait, with a binocular camera and tripod, of the visiting Buffalo photographer, C. L. Pond). 1871. Stereograph. Albumen Prints. Orange and lavender cards. Peter E. Palmquist, Arcata, California.
negatives were published by Houseworth. At the very least 61 pairs of variant negatives—one published by Soule, the other by Houseworth—can all be reasonably attributed to Hazeltine.

1871

Between May 29th and June 10th: In the Valley and on its southern rim, he made several occupational portraits, with a binocular camera and tripod, of the visiting Buffalo photographer C. L. Pond. One was published by Pond (No. 726); the other by his local collaborator: “M. M. Hazeltine, Artist, Yo-Semite Valley, California.” Calaveras Grove with Pond taken by Hazeltine and sold to Houseworth by January 1, 1872.

August 15th: In Yosemite’s high country he made an unnumbered sequence of five stereographs, subsumed under the printed title, Near the Summit of Mount Lyell.

The fourth exposure in the sequence was also given several manuscript titles: No. 41, Mt. Lyell Taken Aug. 15, 18713 and The Glacier on Mt. Lyell in August. John Muir went to Mt. Lyell in October and J. D. Whitney was never there. In Littleton, New Hampshire, a variant

of the fourth negative (63 Yosemite negatives of 1871) was purchased and published by the Kilburn Brothers (No. 971).

John S., a successor to J. W. and J. S. Moulton, was sold fifty retail and wholesale cabinet stereographs of Yosemite taken in 1871 for six distributors from Massachusetts to Minnesota: Dodge, Collier and Perkins of Boston, Massachusetts; Elmer and Tenney of Winona, Minnesota; Lovejoy and Foster of Chicago, Illinois; James Matthews of Rochester, New York; H. Ropes and Company of New York, New York; Surdam and White of New York, New York. He also was sold two anonymous imprints: "American Scenery. The Yosemite Valley, California," and "Yosemite Valley, California."

To expand his local market, he sold duplicate or variant sets of these stereographic negatives to four major American publishers: John P. Soule in Boston, Thomas Houseworth and Company in San Francisco, the Kilburn Brothers in Littleton, New Hampshire, and J. W. and J. S. Moulton in Salem Massachusetts. These stereographs almost never credit their California cameraman. Based on their quality and quantity alone, as their maker, Paul and Kathy Hickman, Jonesboro, Arkansas.
Hazeltine deserves a more prominent place in the art and social history of nineteenth century American landscape photography.

1872

Spring: In the Valley he made an unnumbered stereograph of tourist party.

On May 4th, the editor of the Merced People noted the gift of Yosemite views taken by Hazeltine.

On June 10th the entourage of John Erastus Lester entered the Valley via the Mariposa Trail. “The trail brings us soon to a center of business – Hutching’s Hotel, Smith’s Cosmopolitan Saloon, a store, the photographic gallery of Hazeltine . . . These structures are somewhat crude . . . Several small unfurnished buildings are scattered through the Valley, used for various purposes, as photographic galleries . . .”

Hazeltine’s board-and-batten and shake-roofed gallery was situated on the south side of the Merced, across from the Falls and beneath the Sentinel. Several signs announced that he had “Pictures” and “Views for Sale.” From 1870 to 1872, Hazeltine was forced to share the tourist trade with Yosemite’s other resident photographer, J. J. Reilly. Across the River, the sign on his balloon-frame and canvas gallery read, “STEREOSCOPIC VIEW MANUFACTORY AND GROUPS TAKEN.”


1875
August 1st: Summered in Mendocino County, he photographed in Mendocino City.
He photographed hydraulic mining in North Bloomfield, Nevada County.
J.J. Reilly wintered in San Francisco from 1875 to 1879.

1876
A. A. Hazeltine was the proprietor of hardware and retail grocery at 423 Davis and resided at 38 Tehama in San Francisco; R. E. Hazeltine was a clerk with A. A. and resided at 423 Davis.
June: Some Yosemite views were purchased from the Valley’s resident photographers, J. J. Reilly and M. M. Hazeltine. Their customer was Frank Bowden, and illustrator for the London Graphic. After Hazeltine returned to Yosemite, the former rivals made the only sensible business decision. They joined forces and formed a monopoly, J. J. Reilly and Co. Visitors like Bowden were directed to their places of business in the upper and lower villages, “opposite Coulter & Murphy’s Hotel, also at Black’s Hotel,” by well-placed stacks of business cards, which touted the new firm’s souvenir portraits, cabinet photographs, and stereographs:

“J.J. Reilly & Co.
for seven summers.
Yo-Semite valley photographer
Parties visiting the Valley, on first arriving, should visit Reilly & Co.’s Photograph Gallery, and... have their photographs taken in costume, or otherwise, showing the great Yo-Semite Falls in the background, and as proof of their visiting the greatest valley in the world, as well as having a picture that will ornament their parlor or drawing-room... Reilly & Co’s large views are beautiful for framing, and they sell them for 50 cents each. Their Stereoscopic Views of the Valley are said, by all publications on photography, to be the best. Their Mirror Views and Clouds Effects are wonderful.”

July 26th through 28th: On the first day of his visit, the eminent photographic scientist Hermann Wilhelm Vogel noted that Hazeltine was doing “a good business” in the taking and selling of “landscape photographs and groups (with the Yosemite Falls as the background).” The affable German photographer introduced himself to his American counterpart, “who was visibly surprised when I told him my name. He pointed to the English edition of my Lehrbuch der Photographie, which lay on his table, declared me his benefactor, and proposed that I accompany him – climbing mountains, hunting bears, and taking photographs together – on a grand eight-day tour of the Sierra Nevada. His offer was tempting, but I still had to decline it, for I was committed to be in San Francisco in five days to deliver a public lecture.”

In exchange for the longer trek, Hazeltine agreed to escort Vogel on a shorter, two-day tour, “The following morning he rode before my hotel. His animal also carried provisions, camera, chemicals, and photographic tent.” On horseback, they climbed the steep, four-mile trail from the foot of the Sentinel to the rim of the Valley at Glacier Point, “Our vantage point was an overhanging rock slab. At Hazel- tine’s request I assumed a position (and not without horror) on the granite block – fissured, lying loose, and projecting beyond the precipice – to serve, along with the awesome rock wilderness in the background, as the object of his camera... We ascended with our horses to the summit of Sentinel Dome... We went downhill, striking the trail to the Little Yosemite Valley... In late evening we reached the foot of Nevada Fall and there in its vicinity the Hotel... We remained the night at Snow’s. The next morning we came to a footpath along the mountain ridge, which afforded a practical view of both (Nevada and Vernal) falls... We soon arrived at the impetuous Merced River. On its bank Hazel- tine, with his family, camped in the open. A tent sheltered their beds; all remaining household utensils lay scattered around outside. Under a stately oak there was

a washing stand. Under it was a superfluous porcelain utensil, and over it, hung from nails in the tree, were a hand towel and vanity mirror. Nearby were tables and chairs, and in the shadow of a maple tree, a steam-cooking machine of more fashionable design. In short, here were complete and even comfortable household effects under God's free heaven. Only in California is such a camping existence possible.

Saying good-bye to and shaking hands with the unpretentious and free-spirited Hazeltine, the German professor was given a lasting "souvenir" of their brief excursion through the high country together - "an ample number of photographs."

1877

January 10th through 17th: At Coulterville, in northwestern Mariposa County, Hazeltine and his family lay prostrated with smallpox. The county newspaper reported that his younger daughter had died, "It first appeared in the family of Mr. Hazeltine, his oldest daughter and a son, about 8 or 9 years old, were all prostrated, and lying quite low with the same disease.

March 24th: Four wood engravings, transcribed from Yosemite views by Reilly and Hazeltine, were printed in the London Graphic. One of these stereographs was taken by Reilly (No. 264). After his final summer in the Valley (1876) and an exchange of duplicate negatives, the image was published under the Yosemite imprint of "M. M. Hazeltine, Successor to J. J. Reilly."

In 1877 an intrepid Scottish mountaineer, George G. Anderson made his third ascent of the Half Dome. He assisted photographer S. C. Walker and publicist J. M. Hutchings in backpacking up "all the photographic apparatus necessary for taking views from the summit." These stereographs of Anderson on the summit were published under four of Hazeltine's imprints: the "Photographer's Pacific Coast", "Sierra Nevada Mountains", "Yosemite Valley, California," and the Artist's "Yo-Semite Valley, California."

1878

May 10th: Hazeltine had opened a new gallery on Virginia Street, near first, in Reno, Nevada. In 1878 he had photographed in Alaska. J. J. Reilly photographed in Maryville, California, from 1879 to 1886.

1880

Age 53, M. M. Hazeltine photographed in Smartville, Yuba County, California. He had four children, ages ten to twenty-one, all born in California.

Hazeltine visited Baker City, Oregon.

1882

Martin M. Hazeltine photographed in Baker City, Oregon.

1883

Martin M. Hazeltine photographed in Paisley, Oregon.

June 16th: "M. M. Hazeltine left for Idaho on Tuesday morning of this week. They went in very comfortable style with their own four horse team, and they made the long trip by easy stages. They intended to visit Yellowstone after a while, and photographed the

marvels of nature there.” Mendocino Beacon.

Martin M. Hazeltine photographed in Baker City, Oregon, from 1884 to 1902.

1887

M. M. Hazeltine published a cabinet-sized stereograph of a stagecoach on the Road between Mariposa and Yosemite in the “Year 1887.” He also published a whole-plate photograph and several stereographs of the Stoneman House, which opened beneath the Half Dome in 1887. In an act of Divine (and esthetic) retribution, the gawky wooden Hotel burned to the ground on August 24th, 1986.

1903

February 16th: Martin M. Hazeltine died at home in Baker City, Oregon, at age seventy-five. He had a fifty year career as photographer of central and northern California, Oregon, Washington, Idaho and Alaska.

1947

December: A Shell Oil station was built on the site of Hazeltine Brothers studio. President of the Baker County Historical Society: “Late Dunham Wright had purchased the glass negatives, or some of them, to build a greenhouse” and he was “reasonably sure all of the negatives were destroyed.”

Sources


Snow’s Casa Nevada Register, vol. 1, 18 June 1870 and vol. 2, 27 July 1876, Yosemite Museum, Yosemite National Park, CA.


San Francisco City Directory (San Francisco: B.C. Vandall, 1876), pp. 573,1359,1363.


“Small Fox at Coulterville,” Mariposa Gazette, 20 Jan. 1877, p. 3.


Yuba County Census, 1880, p. 478.

Mendocino Beacon, June 16, 1883.

The (Baker City) Morning Democrat, Feb. 17, 1903; San Francisco Morning Call, Feb. 17, 1903, P. 8.

by Richard Abbott

Most 3-D images fill only a tiny part of the human visual field, with even the huge screen of a 3-D IMAX theater filling less than 50% for most of the audience. Richard Abbott has applied mathematical precision to the study of exactly how much of our vision various existing and potential 3-D imaging systems fill as the technological movement toward visual "immersion" progresses.

The relative size of the viewed image must of course be related to the camera's angle of coverage for the illusion of true stereoscopic reality to work, and success in that effort certainly doesn't guarantee esthetically pleasing images. For better or worse, the stereo window does disappear as the visual field is filled by the image.

Abandoning any system of lenses for truly wide field imaging, Mr. Abbott has turned to large mirror viewers and spherical screens for his own experiments in "Total View" stereoscopy, which a future article will cover in more detail.

-- Ed.

Measuring the Visual Field – the Cone of Vision

When we hold our eye still and look straight ahead the area seen by one eye is bounded by a generalized cone. A generalized cone is any surface swept out by a straight line which passes through a fixed point and a closed loop not containing the point.

Since a straight line extends infinitely in both directions the cone has two parts. For our purpose "cone" will refer to one of the two parts, as if swept out by a ray or half line. The ice cream cone is a right circular cone. In this case the closed loop is a circle and the fixed point lies on a perpendicular to the plane of the circle through its center.

The analogy of steradians to radians.

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<th>IN SPACE (3D)</th>
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<td>SOLID ANGLE IS FORMED BY GENERALIZED CONE</td>
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<td>RADIANG MEASURE OF ANGLE = LENGTH OF SUBTENDED ARC ON UNIT CIRCLE</td>
<td>STEREORADIAN MEASURE OF SOLID ANGLE = AREA ON UNIT SPHERE ENCLOSED BY CONE</td>
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<td>TOTAL SOLID ANGLE = 4π (TOTAL AREA OF A UNIT)</td>
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If we choose a point one mile above a lake and picture all straight lines through that point and the shoreline we have a generalized cone. In this case the closed loop is the shoreline. Imagine an old lamp shade bent out of shape. When we turn it on, the area illuminated beyond the shade is bordered by a generalized cone. In this case the
bulb is the fixed point and the wire rim of the shade is the closed loop.

When the eye is fixed looking straight ahead, the generalized cone of vision is formed in a way similar to the lamp shade and bulb. The closed loop is the line of tangency to facial obstructions (brow, nose, and cheek) and for peripheral vision, is determined by the extent to which the pupil can function with no obstructions.

A person with deep set eyes has a smaller cone of vision because the pupil is further back relative to the line of tangency. A person with...
Viewed in a standard View-Master, a scene on a reel covers 15% of the visual field (0.176 stereradians).

From a center seat in row six, a 3-D IMAX picture (or a flat one as well) fills 47.42% of the visual field. The figures could vary somewhat between theaters. The hemispherical OMNIMAX and SOLIDO screens would provide more coverage depending on seat location, as would the various 360° projection systems.

more protruding eyes has a larger cone of vision since the pupil is further forward relative to the line of tangency to the brow, nose, and cheek.

Within the cone of vision, smaller cones whose closed loops are the boundaries of images are of interest. For instance, a television set eight feet away from the viewer forms a cone with one pupil as fixed point and the edges of the screen as the closed loop. All of the visual media including viewers and screens have a cone of visual coverage which can be measured by solid angle and be compared as a percentage of the total visual cone.

Solid Angle: the 3-D Analog to Planar Angle

Everybody knows that a yard has 36 inches because some king’s arm was that long, but why are there 360 degrees in a circle? Wouldn’t 1000 be better, you know, metric and everything? Maybe it’s because 360 has a colorful prime factorization, $2^2 \cdot 3^2 \cdot 5$, making it easily adaptable to other haphazard systems. There is one system that makes sense. Radian measure of angles makes possible a connection between distance and angle. Any angular variable measured in radians need simply be multiplied by the radius to give the corresponding linear variables. One radian is the angle that subtends an arclength of 1 when centered in a unit circle. The three-dimensional analogy to angular measure in radians is the measure of generalized cones in stereradians.

Polar Graphs of Visual Fields

Polar graphs offer a natural way to picture visual fields. The radius of a point on the graph corresponds to the angle off the optical axis which corresponds to the center of the graph. The angle of a point on the graph simply corresponds to the direction in the visual field from the optical axis. If eyeglasses frames were graphed they would look similar to the illustrated graph. The areas of the shaded regions have been calculated on the unit sphere and the solid angles of coverage determined. A proportion of solid angles gives the percent of the total visual field utilized by each medium.
Immersions

Visual Immersion is a phrase which will see more use as expanded visual coverage becomes available. As an image extends over larger visual fields at some point the impression of looking at a picture suddenly becomes the experience of being in an environment. The experience of viewing such an image leaves an impression which cannot be duplicated in any other way.

Any lens system such as virtual reality is doomed to failure in the visual immersion game. Having pushed the lens solution close to its theoretical limit and still only achieving 44% coverage [as in the SRI virtual reality system] does not speak well for the approach.

Admittedly, having the entire sphere of image available [via interactive controls] enhances the experience, but for true immersion at least 75% of the visual field must be used – certainly nothing less than 50%.

The complete cross vision stereoscope is a large 2 mirrored stereoscope with the central angle closed from the traditional 90°, far enough to clean up the reflection of the brow experienced in the 90° version. The image extends all the way to the natural boundary of the visual field, from the brow to the nose to the cheek. Even though it covers only 57% of the visual field, having everything natural in the cross visual field from each side enhances immersion far more than the availability of an extended image.

Programming and computer graphics by Nicolas Cadou. Illustrations by Ann-Marie Dohn.

The image seen in the virtual reality system by SRI covers 44.5% of the visual field (1.3 stereradians). The full rectangle was included in calculations.

Complete cross vision stereo through a 2 mirror viewer with a 60° central angle covers 57% of the visual field (1.9 stereradians).
The RBT X2 Stereo Camera: A Hands-On Test Report

by David Starkman

The RBT X2 Stereo Camera is the latest “joined SLR” stereo camera to come to market, and the second model to be produced by the German company RBT Raum- bilitechnik. The first prototype of this model was shown at the Paris International Stereoscopic Union Congress in 1991, and was reported on in detail in Stereo World Vol. 19, No. 5, Nov./Dec. '92. Since 1991 over 100 cameras have been produced. Just a short time ago, two years of thinking about it became reality when I picked up my new X2 at the ISU Congress in Eastbourne, England. I’ve gone through more than 15 rolls of film since then (not normal for me, but I was a happy tourist with a new camera to test!), and, as I have been asked many times what I think of this camera, I am writing this report to share a few personal comments with you.

My first impression is that this camera really looks nice—and serious! It has two coupled 28-70mm Tokina zoom lenses, an LCD function display on top, and built-in motor drive. Very Serious! The second impression is that this is a HEAVY camera. Not as heavy as two SLRs, but HEAVY. When I finally got it to a scale I found that it actually weighs 3 pounds, 12 ounces (1.7 Kilograms) with batteries, sky filters and film installed. OK, it is heavy, and that alone will eliminate it’s desirability for many people.

Other than the weight I have to say that I’m really pleased with the camera so far. As far as I have been able to tell, RBT has managed to keep EVERY feature of the Ricoh KR-10m on which the camera is based. This includes aperture priority auto exposure with full manual override, auto exposure lock, motor wind and rewind, single or continuous 2fps firing, self timer, multiple exposure, +/- override of auto exposure, and “auto bracket” (takes 3 shots in a row, 1 normal, one over +0.5EV, and one under -0.5EV). On Bulb the LCD even shows a count from one to 99 seconds!

Loading the camera is a dream. Just put the film cassette into the chamber and stretch the end of the leader just beyond the green mark. Make sure it is straight in it’s path and close the back. It auto winds to the first frame, ready to shoot! Film loaded, film advance, exposure counter, film rewind, and rewind completed are all indicated by symbols on the top LCD panel. It’s easy to burn a lot of film, because the motor advance makes it so quick and easy to be ready for the next shot. Through the use of a custom electronic chip the RBT X2 automatically takes care of the alternating 1 and 3 frame wind system required on such cameras. An unusual feature of the camera is that there is no sprocket wheel to run the film over when loading. A sensor actually counts off the film sprocket holes electronically.

Another feature which I especially like is a small window on the back cover which allows one to read the film speed and length of the enclosed cassette. A simple idea, but nice to have, especially if, like me, you leave a loaded camera sitting unused for many weeks at a time. DX film coding automatically sets the ASA film speed, so that is one less item to worry about. If you don’t like the rated speed you can increase or decrease the exposure by +4 to -4 in ½ EV increments. To finish the features list, the film is automatically rewound after the last shot.

Having used another camera for 3 years which does not have a Bulb feature, it is nice to not only get Bulb, but up to 36 seconds on Auto exposure, and 16 seconds on manually set exposures. Flash synch is at 1/60th sec., and the top speed is 1/2000th.

As reported before, the camera comes in three models:

A) 65mm lens base with 24x33mm image size, 20 stereo pairs per 36x roll.
B) 75mm lens base with 24x36mm image size, 18 stereo pairs per 36x roll.
C) 65mm lens base with 24x36mm image size, 13 stereo pairs per 36x roll.
Models A & C have the advantage of easy stereo previewing of your scene through the 65mm spaced viewfinders, and, some would argue, a closer to average human eye spacing of the lens base.

Model B has the advantage of film appearing exactly the same as normal 35mm slides (except, of course, that every other image is actually one of the two parts of a stereo slide pair). This was my choice, as I actually prefer the extra 10mm of stereo base, and definitely prefer the ability to get standard 2"x2" (50x50mm) lab mounting - not possible with the other two models. Although this mounting is not good enough for slide show presentations, it is usually more than adequate for hand-viewer or autofocus projector previewing and editing. This is much more convenient than having dozens of uncut filmstrips to deal with and makes editing much, much faster. Stereo viewing through the viewfinders is not as easy but it is possible, although it's a bit of an eye stretch and you can't see the entire scene in 3-D.

The Eastbourne ISU Congress was a good advertisement for the RBT cameras, as this no doubt was the largest concentration of their cameras in use ever in one place at the same time. At least six of the X2 models were delivered to buyers there, and probably an equal number of cameras already owned turned up there to be used by their owners.

Is it perfect? Well, no camera ever is. I've already said that I like it a lot, but I took this opportunity to talk to several other RBT camera owners.

We all agree that it is a bit large and heavy. Other than that the only negative features mentioned were the lack of a depth-of-field scale on the zoom lenses and the lack of a depth-of-field preview button. The latter was not a feature of the original camera, and on today's SLRs is usually only found on high-end professional cameras. We also found that the coupling rod of the 28-70mm zoom lenses is uneven spacing between the focal lengths) before I noticed the problem. Now I zoom a bit more slowly and carefully!

The overall finish of the camera is very nice. There is no external evidence that two cameras were cut up and joined together. It really has a factory finished look. The exterior is mostly a matte black (fine crinkle finish. This was probably used because it makes it easier to cover up the joining of the two cameras, but it seems more prone to wear than a smooth finish would be.

One camera that I know of developed serious problems after a few days. It would not sense that a film was loaded, when, in fact, a film really was in place. I also talked to the owner of camera number 2, and he told me that the camera had to be sent back once for service, due to the auto rewind engaging before the actual end of the roll. He said that the owner of the first X2 model had also had problems. In both cases the defects were repaired by RBT and the cameras have been in use for almost 2 years without further problems. On my own camera I discovered that the battery low level indicator is not accurate. I did get more than 15 rolls on one set of batteries, however. One user complained of uneven spacing between the images on film, creating a problem with getting automatic lab mounting.

This brings up a caveat for any buyer of any custom built 3-D camera, including one as nice as the RBT: assume that sooner or later the camera will have to be sent back to the maker for service! If you can't handle the thought (or expense) of shipping your camera overseas for service, then custom cameras are not for you. They just aren't factory made cameras, and some problems are to be expected. However, until a major manufacturer decides to make such a camera this is the only way to get a true 1994 model stereo camera.

A final consideration is the price. This is about DM 4,000.00 (US$2,500.00) for a complete camera with coupled, matched zooms, tripod centering plate, handgrip with electronic cable release, and a nifty soft carrying bag. Yes, this is a lot of money for a stereo camera. However, considering the custom work involved with it's creation this does not seem out of line compared to limited production cameras like the Widelux panoramic camera (times 2!).

For more information write to: RBT Raumbildtechnik, Karlstrasse 19, D-73773 Aichwald, Germany or FAX 001-49-711-36 39 56.

Cascade Stereoscopic Club Launched

About 40 enthusiastic people from all over Oregon and Washington attended the first meeting of the Cascade Stereoscopic Club, held January 29, 1994 in Portland. Introductions were followed by slide projection shows and a brief business meeting in which officers were named and meeting times discussed. The new group fills a gap that has been felt for a complete camera (times 2!).

New PSA Print Folio

For stereo print makers, a new postal folio is forming under the auspices of the Stereo Division of the Photographic Society of America. The folio operates under rules somewhat different from those of the Stereoscopic Society of America, and participation requires payment of the $35 PSA membership fee. For information, contact inter-folio secretary Warren Callahan, 6115 79th St. E, Puyallup, WA 98371.

This column depends on readers for information. (We don't know everything!) Please send information or questions to David Starkman, NewViews Editor, P.O. Box 2368, Culver City, CA 90231.
Three-Dimensional Postage Stamps

by William P. Wergin

Stereo Stamps – Five Different Formats

Postage stamps are generally thought of as flat or two-dimensional objects. An obvious exception to this statement is a series of molded plastic stamps that were issued by Bhutan in 1971-72 (Scott #126-126i and #145-145f). These stamps, which are about 1/16" thick, have a contoured or sculpted surface that gives a three-dimensional relief to the subject matter. Because the visual depth of these stamps is limited to their rather shallow thickness, the molded issues are not particularly impressive examples of three-dimensional stamps.

Two-dimensional stamps that can be impressively perceived in three dimensions have been minted in four other formats. Anaglyphs were used to create the earliest stamps of this type. In 1956, Italy issued two anaglyph postage stamps to commemorate their admission into the United Nations (Scott #718-719). The two stamps, along with details of this event have been recently presented in Stereo World (Vol. 19 No. 3 page 9).

The advantage of printing stamps as anaglyphs is that the two images, which exhibit the parallax necessary for stereo perception, can be incorporated into a single issue. The distinct disadvantage is that to perceive the stereo image, viewers must wear specialized glasses, which are not common household items among philatelists.

From 1967 to 1973 Ajman, Bhutan, Manama and Umm al Qiwain issued nearly 400 different stereo stamps using a plastic lenticular format. This format incorporates two or more views that exhibit parallax into a single stamp. The
A three-dimensional image exhibits an apparent depth that greatly exceeds the thickness of the stamp and can be easily seen when these issues are examined without the aid of any specialized viewers or glasses. This phenomenon is possible because the surface of these stamps consists of extruded plastic coating that is composed of narrow vertical lenticules, about 200 per inch. Beneath each lenticule is an image array composed of narrow strips called lineiform image bands (which may be less than 1/6000 inch wide) from two or more separate images that exhibit parallax. The lenticules act as lenses that function to separate the different images by focusing a set of image bands, which forms one of the images, to one eye and directing that from the other set to the other eye. Consequently, when the stamp is observed at a distance of about one foot, each eye sees only one image; the brain superimposes the distinct views and perceives the objects depicted on the stamp as a single three-dimensional scene having depth that far exceeds the thickness of the stamp. Photos from the Nimslo, Nishika and Trilogy cameras are printed and perceived in a similar fashion.

In 1991, Finland (Scott #810-811) issued what I believe to be the first and only two stamps that form a stereo pair. The stamps, which depict an Erlenmeyer flask and a model of a camphor molecule, honor the centenary of the founding of the Chemists' Club at the Helsinki University of Technology and the Finnish Chemical Society. The two stamps are sold only as a horizontal pair separated by a blank space.

The final format that has been used to produce three-dimensional postage is the hologram. This format was first used for postage by Austria in 1988. To create a hologram, the interference pattern resulting from a split laser beam is recorded as an interferogram that contains parallax information. The U.S. Postal Service first used a hologram as postage on a prestamped envelope on December 3, 1989 (Scott #U617). The hologram, which pictures a shuttle docking at a space station, was released at the closing of the World Stamp Exposition held in Washington, D.C. A 29 cent version of this issue (Scott #U635) was also released on January 21, 1992. Poland (Scott #3056) issued a variation of the three-dimensional hologram in November of 1991. In this stamp, which was released in conjunction with Philanippon '91, the image appears to be animated. This illusion occurs because the hologram contains two different, two-dimensional images of a butterfly; one having the wings partially folded, the other with the wings opened. When the stamp is repeatedly tilted to change the angle of incident light, the two images are seen in rapid succession resulting in the appearance of the butterfly flapping its wings. One of the recent hologram stamps, which was previously described in Stereo World was issued by Canada in October, 1992, to commemorate their achievements in space. The latest postal item featuring a hologram is a souvenir sheet that was issued by San Marino on March 26, 1993. The sheet, commemorating the inauguration of state television, contains three 2,000-lira stamps. The center stamp, which illustrates San Marino City at night, contains a small circular hologram in its upper-left corner. The hologram depicts a satellite that is positioned to appear as if it is in orbit over the city. The hologram stamp was designed for San Marino by Pirkko Vahtero of Setec Oy, a Finnish publishing house that printed the souvenir sheet in an edition of 250,000. This is the same designer and firm that also produced the four hologram stamps that were previously issued by Finland. Holograms are relatively new in the postal field; however, during the last five years they have been used by seven countries for thirteen different issues. The U.S. Postal service plans to continue using holograms on stamps. Furthermore, they are currently experimenting with paper holograms to replace the mylar type foil that is currently used. Consequently, in the future I would expect to see many more three-dimensional stamp issues based on holography.
"Pseudo" Stereo Stamps

[The author is using here the dictionary meaning of "pseudo" as opposed to the concept of reversed 3-D planes.]

The Finnish issue is the only known pair of stamps that was intentionally printed as a stereo pair. However, by comparing two ordinary stamps of any given issue I have found dozens (hundreds undoubtedly exist) of other examples of pseudostereo postage from all over the world. This phenomenon occurs because a type of parallax information, consisting of horizontal color shifts, frequently but unintentionally takes place during the printing process. When more than one plate is engraved or when more than one color is used to print a stamp, if the color(s) on one stamp is horizontally shifted ever so slightly during another printing, the two stamps will contain information that the brain perceives as parallax. When two such stamps are viewed as a stereo pair, they will exhibit a unique pseudostereo effect, i.e. the objects that are depicted with the color that was shifted will appear on a plane or level that is slightly above or below the objects that were printed with the other colors. Reversing the left and right stamps will reverse the relative levels of the three-dimensional planes. As a philatelist, one of my favorite examples of this phenomenon is depicted in the Stamp Collecting issue (Scott #1474). In this multicolored stamp, the rim of the hand lens and the magnified stamp are printed in black and brown, respectively, whereas the background is a dull green. These two stamps came from different engravings or printings because in one of the issues the black and brown colors are slightly shifted with respect to the green. As a result, when the two stamps are viewed as a stereo pair, the hand lens, which lies above the plane of the page, appears as a distinct 3-D object, while the small stamp within the circular frame of the lens, which also floats above the background, seems to be magnified. This pseudostereoe pair is certainly as impressive as the genuine planned pair issued by Finland, even though the U.S. Postal Service had no intention of creating a 3-D stamp when the Stamp Collecting issue was released.

Many other issues can be found that exhibit this trait. In the Save Our Air issue (Scott #1413), the glove and the seagull are pseudostereo. This stamp was issued along with three other stamps on the same sheet: Save Our Soil, Save Our Water and Save Our Cities. Because of the color shifts each pair that is assembled from the two dif-
different sheets exhibits a pseudostereo image of the globe as well as the wheatfield, bluegill fish or city playground, respectively.

Color shifts are not restricted to older issues. The pair of stamps from the Minerals USA issue from 1992 has a shift in the color that was used to illustrate azurite. As a result the mineral specimen appears to have a flat polished surface that projects outward from the stamp. The 1992 Space issue also exhibits a black color shift that provides the shuttle and some of the satellites with the illusion that they are indeed floating in space. These are but a few of the many U.S. stamps that illustrate interesting color shifts. Similar examples could be illustrated with foreign issues as well. The challenge is to find pseudostereo pairs that are perceived as logical 3-D images or, for those readers who have a more bizarre inclination, find pairs that produce illogical or humorous images.

This discussion was primarily meant to provide information about three-dimensional philately and to give stereologists the new challenge of finding color shifts in stamps that produce interesting (or perhaps humorous) views of our postage. However, this phenomenon may have other, more practical applications. Counterfeiting, for example, unless done by an extremely accurate photographic procedure, would undoubtedly have some very slight differences that would produce a 3-D effect when the genuine and the counterfeit stamp were viewed as a stereo pair. I would be interested in hearing from readers who may have examples of counterfeit postage that could be compared in this manner or who may be aware of other examples of 3-D postage.

**Sources**

The numbers listed in parenthesis are from the Scott Catalogs, a standard reference source used by dealers and collectors in the U.S. to identify and classify postage stamps.


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**Three-Dimensional (Stereo) Stamps**

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**Stereo Pairs**

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**Holograms**

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*Trivial States Catalog Nos.
**Michel Catalog Nos.
We mentioned in a recent issue that the Adelphi Hotel Unknown might have been located at Saratoga Springs, NY. That now appears to be incorrect. The reasons several members have given us are that the building is the wrong architectural style and there is no Brownlow Street at the New
York location. They feel that the Unknown was probably located in Great Britain.

Andy Griscom verified that the seated man shown on the inside cover of the May/June '93 issue is Nickerson of Provincetown, Mass.

Andy has view #12 from that series, and it shows the same man in a photo wagon at nearby Orleans.

Our first Unknown this time was submitted by Dave Wood. It is an orange cabinet card of a very elaborate group of stone buildings. A small sign on the lawn reads "Notice - Public Entrance." Dave has another view of the same buildings taken from a different angle, that has the pencil notation "By Miss R.R. McLaughlin Muir."

The second view was submitted by F. Lowell Neighbors, and is a salmon-colored card of a man seated at a desk. It looks like an amateur view and is probably unlikely to be identified, but we thought it interesting because of the stereo viewer at the upper left.

The last view was sent to by Larry Rochette. The orange card is of a town photographed from a high bluff. The rocky river in the foreground suggests a scene in the northeastern U.S.

Going crazy guessing the who, what or where of unidentified views in your collection? Get help from the entire NSA membership by sending views to The Unknowns, 5880 London Dr., Traverse City, MI 49684 with return postage. Even views with printed titles from major publishers can sometimes fail to identify some aspect of the subject. (Unusual subjects or interesting street scenes are more likely to be printed here than generic houses or postures.) Send information on subjects you recognize to the same address.

---

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| POSTCARD PAGE 4 pocket top load | $0.16  
| 4" X 5"                     | $0.08  
| STEREO / #6 3/4 COVER (3 3/4" X 7") | $0.08  
| STEREO POLYESTER            | $0.11  
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| BOUDOIR (5 1/2" X 8 1/2")  | $0.08  
| 8" X 10"                    | $0.08  
| 11" X 14"                   | $0.08  
| 16" X 20" (unsealed flap)   | $0.20  

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A geographically dispersed organization such as the Stereoscopic Society depends on the initiative and volunteer efforts of its members to make it work. Although, considering the difficulties, it would seem unlikely that such a group would long survive we are now enjoying the 75th year of continuous activity since the inception of the American Branch. When individual members watch for and correct problems as they arise, many difficulties are avoided. When individual effort enriches the Society experience we all get an added bonus from our membership.

The Society has endured because the enthusiasm and determination that seem to accompany an interest in making stereographs have made it so. Still, each of us has other responsibilities and necessities that have to be addressed and it is essential that we can pass on the baton of leadership when circumstances dictate.

Judy Proffitt

Since the print group was divided into two circuits in 1990 it has been our good fortune to have Judy Proffitt of Richmond, VA serve as the Secretary of the Ovine (O) Circuit. Judy is one of a kind, and 100% is the least she ever puts into any project. Prior to taking on the duties of O Circuit Secretary she initiated the office of Supplies Secretary and held that position from 1988 into 1990. One of her colorful envelopes in the mail always made a trip to the mailbox worthwhile. No one in recent years has given more of themselves to achieve a better Society.

Judy has accepted a full-time position at Byrd Press where her part-time involvement had grown more substantial during 1993. This has forced a reordering of priorities and a hiatus from Society activities for a while. She has turned the administration of the Ovine Print Circuit over to David Lee of Sacramento, CA. We cannot thank Judy enough for all that she has done and look forward to continued association in the years to come.

Judy will continue with two projects which she initiated. One is the occasional circulation of the Mystery Folio in which stereo printmakers enter views with no marks or labels to identify the makers. All of the participants then try to match the stereo views with the stereographer and see who is the best sleuth. The other project is the periodic updating of the Print Circuit Yearbook. A result of great effort on her part, the Yearbook was first issued by Judy in 1991 and contains biographies and stereo portraits of all current participants in the various print circuits as well as a section on the history of the Society as a whole. Nothing like it, to my knowledge, has existed for Society members of any branch, group, or country. Much time and toil went into it and we owe Judy a considerable debt. It has already proven to be very useful and it demonstrates anew how individual initiative among the membership benefits everyone.

New Print Secretary

We are fortunate to have David M. Lee take over from Judy Proffitt as the new secretary of the O Print Circuit. David has an academic background in physical education and psychology, has taught photography, and has been a counselor of DUI violators in addition to a variety of other experiences in an active career. He is the owner of The Singular Image, Photography and Custom Enlarging.

David became interested in Stereo photography while taking a perceptual psychology class and has been an active stereographer for more than ten years. He joined the Society in 1991 and although he has a lot of equipment he especially likes to use twin Rolleiflex TLRs on a slide bar. Born in Monica, CA, David and his family now reside in Sacramento, CA.

New Print Circuits Inaugurated

A new regular print circuit has been started in order to relieve the pressure of membership increases over the past year. Initially it will be of smaller size and have a mix of new recruits as well as veteran volunteers who choose to sign up. Nancy Sobottka of Florence, OR is the secretary of the new group which has been designated the Feline Print Circuit (FP). Nancy has been a member of the Society since 1984 and is a master at producing high quality stereo views, mainly with her favorite Nimlo camera (properly adapted for general purposes). Nancy is many things that can't be summarized well in the limited space available here, but she writes, volunteers, works hard for women's rights, is outspoken, toils hard and plays hard, and is a grandmother and a cat fancier - to name a few. Nancy and her husband, Craig Daniels, operate STEREOTYPE, a business which involves stereo consulting as well as marketing modern views and stereoscopes. The new circuit began circulating folios in November, 1993.

Bill C. Walton of Columbus, GA, who is Secretary of the SPEEDY print folios (each limited to twelve members) reports the inauguration (Continued on next page)
The Magazine Rack

Read a good photographic magazine lately? Looking for a back issue to recall an article you thought you would never forget? Need an old copy for research or information?

The Oliver Wendell Holmes Library might be able to help you. But let us hasten to caution you that we do not have all the issues of all periodicals. (Hint: would you like to donate a subscription? We would welcome it.)

Contributors have been generous to pass along magazines, booklets, pamphlets, brochures, articles, etc. of photographic subject matter. We have some 80 library-shelf boxes with titles alphabetized.

Included are such titles as Amateur Photographer, American Stereo Journal, Camera 35, Keystone Heights, Modern Photography, Photographic Historian, and U.S. Camera.

Then there are society publications such as The Photographist (Western Photographic Collectors Association), Photographic Canada, Photographic Historical Society of New England Journal of Photographic History (Photographic Historical Society of New England), and Photographica (American Photographic Historical Society).

A number of photographic clubs have been kind enough to put the Library on their mailing lists, too. We would like more— are we on your list?

The Book Shelf

The shelves at the Oliver Wendell Holmes Research Library contain a wide range of books and pamphlets pertaining to the fields of stereo and non-stereo photography. The Library's holdings continue to grow as generous contributions pass along written material for the NSA's use or donate funds so that current periodicals and books may be purchased.

Among outstanding stereographers represented are: Carleton E. Watkins, Photographer of the American West by NSA member Peter E. Palmquist

Mathew Brady. Historian With a Camera by James D. Horan

Eadweard Muybridge, The Man Who Invented the Moving Picture by Kevin MacDonnell

Timothy O'Sullivan, America's Forgotten Photographer by James D. Horan

Collections

Do you remember the NSA Amateur Photographic Exchange Club? From 1975 to 1981 its members actively exchanged views, and in 1985 the late Laurance Wolfe gave the Library some 315 stereo views produced by 26 different club members during APEC's life. The productions of both "pro" and "amateur" club members are at the Eastern College location for your viewing pleasure. As Larry pointed out, the subjects covered a wide range—from a gnat's head to towering Canadian scenery!

History

The jacket of William H. Fox Talbot (Andre Jammes, Macmillan Publishing) highlights some of the accomplishments of this Renaissance man who invented the negative-positive process. Talbot translated MacBeth into Greek verse, compiled an Assyrian dictionary, wrote essays on the physical laws of light, and published the first book of art to be illustrated with photographs of the art works. (He also quite probably attempted history first stereo photograph at the request of Charles Wheatstone. See Stereo World Vol. 18 No. 2 page 6.)

The NSA has established the Oliver Wendell Holmes Stereoscopic Research Library, located at Eastern College, St. Davids, PA 19087. This library offers to researchers a large body of information on the history, development, and continued applications of stereoscopy. It contains early catalogs and trade lists of stereo photographers and publishers, a collection of books and periodicals (both antique and current) on stereoscopy and related photographic techniques, and a large study collection of both antique and modern stereo images.
Larry Hess has lined up an impressive assortment of presentations for the 1994 NSA Convention’s Stereo Theater in Milwaukee. They include:


"THE STATE FAIR" by David Lee – breathtaking night views of the colors and excitement at the California State Fair.

"GEORGIA ON MY MIND" by Cynthia Morton – a 3-D glimpse of modern-day Atlanta, host to the 1995 ISU/NSA congress.

"SLIDES OF THE PAST" – Ray Holstein reaches into the Holmes Library collection and presents the work of award-winning PSA stereographers of the 1950s.

"THE WORLD BENEATH YOUR FEET" by Walter C. Erbach – exquisite stereo macro views by an expert camera builder and photographer show some of life’s little pleasures.

"LAND OF ENCHANTMENT" by Paul Miligan – the archeological and geological beauty of New Mexico seen through a variety of stereo techniques.

"IT’S A SMALL WORLD" by Edward Miller – Macro close-up stereography.

"3-D EXTRAVAGANZA" by Manley Koehler – wide screen 3-D (panoramic) travel and human interest images created and projected with wide screen anamorphic lenses.

For more information contact
Larry Hess, 15358 Kerlin Dr.,
Granger, IN 46530.

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"Kamikaze" by David M. Lee is from his show "The State Fair" – one of the highlights of the Stereo Theater at the 20th Anniversary NSA Convention June 17-19 in Milwaukee, Wisconsin. This view is one of a series of dramatic night stereos, mostly time exposures, taken at the 1993 California State Fair.

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January/February 1994 STEREO WORLD
March 19-20 (NM)  
Santa Fe Camera Show and Swap Meet, High Mesa Inn, 3347 Cerillios Rd., Santa Fe, NM.  Call Lynn, 505-989-1101.

March 20 (MA)  
5th Annual Spring Boston Antique Photo Show, Westford Registry Hotel, Westford, MA.  Contact Russell Norton, Box 1070, New Haven, CT 06504.  Call 203-562-7800.

March 20 (ONT)  
Photographic Historical Society of Canada Spring Photographica Fair, Queensway Lions Centre, 3 Queensway Lions Court, Toronto, Ontario.  Contact Mark Singer, 421 Horsham Ave., North York, Ont. M2R 1H3, Canada.  Call 416-221-8888.

March 20 (England)  

March 20 (IL)  
Chicago Photographic Collectors Society Spring Camera & Image Show, Ramada Hotel O'Hare, 6600 Mannheim Road, Rosemont, IL.  Contact Jim Mayer, 708-323-4427.

March 20-27 (IN)  
Indianapolis Photorama USA, Indianapolis Armory, 3912 W. Minnesota, Indianapolis, IN.  Contact Photorama USA, 20219 Mack Ave., Grosse Pointe Woods, MI 48236.  Call 313-884-2243.

March 20-27 (TX)  
Photographic Collectors of Houston Photographic Super Fleamarket, Holiday Inn Hobby Airport, Houston, TX.  Contact Leonard Hart, Box 70226, Houston, TX 77270.  Call 713-884-2243.

March 20 (VA)  
Barone Camera Swap Meet, Holiday Inn, 1489 Jeff Davis Hwy., Arlington, VA.  Contact Camera Swap Meet c/o Barone & Co., Box 18043, Oxon Hill, MD 20745.  Call 703-768-2231.

March 26-27 (m)  
Indianapolis Photorama USA, Indianapolis Armory, 3912 W. Minnesota, Indianapolis, IN.  Contact Photorama USA, 20219 Mack Ave., Grosse Pointe Woods, MI 48236.  Call 313-884-2243.

March 26-27 (TX)  
Photographic Collectors of Houston Photographic Super Fleamarket, Holiday Inn Hobby Airport, Houston, TX.  Contact Leonard Hart, Box 70226, Houston, TX 77270.  Call 713-884-2243.

March 27 (VA)  
Barone Camera Swap Meet, Holiday Inn, 1489 Jeff Davis Hwy., Arlington, VA.  Contact Camera Swap Meet c/o Barone & Co., Box 18043, Oxon Hill, MD 20745.  Call 703-768-2231.

April 2 (PA)  

April 30 (AR)  
NSA SOUTH CENTRAL REGION MEETING, 8 am - 3 pm, Four Runners Inn, Rt. 4 Box 306, Eureka Springs, AR.  Contact Ken Bates, 26 Cherokee Pl., Eureka Springs, AR 72632.  Call 501-253-8763.

May 8 (England)  

June 17-19 (WI)  
NSA 20th Anniversary Convention, Hyatt Regency Hotel & Mecca Convention Center, Milwaukee, WI.  Contact Harry Richards, 11506 N. Laguna Dr., Mequon, WI 53092.  Call 414-242-0649.

Letters  (Continued from page 3)  

More Computers & Realists  
Please continue to give space to computer stereo techniques and recent photos from NSA members.  I would love to see more technical articles on how I can create a setup with matched 35mm SLRs.  I would also like to see an exhaustive article on the Realist cameras: what types are commonly available and how do they differ; what can they do (what are their ranges, from near to far, with and without attachments); how do they work (lens arrangement, negatives produced); what are the modern development ST mounting techniques; what are their performance compare to a pair of modern SLRs, etc.  Finally, I agree with a recent letter which mentioned that reprints of traditional stereo card pairs is usually boring and often features NO REAL DEPTH.  I'm sure they are important for historical reasons, but I refuse to even look at those old photos which feature the exploitation of a culture or people.  Overall, I love the magazine and look forward to receiving each issue.  Please keep up the high quality work.  
Chris Helms  
Albuquerque, NM

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A cute little .218" x .938" glass spirit level comes with simple instructions for gluing it onto a Nimso Camera.  The Bubble centers in your viewfinder's projected frame gap.  Send $5 to:  
StereoType  
PO Box 1637  
Florence, Oregon 97439  
(Yes: we have new 'scopes!)
HI-SPEED 3-D - Spectacular slides of water balloons in mid-air. FEW LEFT! The "Just View It!" T-shirt. A 100% cotton grey T-shirt showing a reel of 3-D pictures and viewing them. Written in both English and French, with instructions on how to use this modern, curiously designed stereoscope. Now available from NSA Book Service, 4201 Nagle Rd., Bryan, TX 77801. Price (including postage) $10.00 USA, Canada $15.00. Overseas add $2.00 surface, $4.00 air. Dealers Welcome!


ARTHUR GIRLING'S "Stereo Drawing - A Theory of 3-D Vision and Its Application to Stereo Drawings". 100 pages hardbound. $15 - $12. Stereo photographers are finding that the book applies equally to stereophotography and is a mine of information on methods of making 3-D pictures and viewing them. Written in non-technical language and profusely illustrated with B&W drawings as well as 11 pages of superb line art. A must for the serious stereoscopist. Now available from NSA Book Service, 4201 Nagle Rd., Bryan, TX 77801. Price (including postage) $10.00 USA, Canada $15.00. Overseas add $2.00 surface, $4.00 air.


FED STEREOS CAMERA MODEL M, complete with case, etc. Direct import from Russia. Only $299. Plus $30 for air postage. Send your order and check to: 3-D Book productions, PO Box 19, 9530 AA Borger, Netherlands. Prompt Service. FEW LEFT! The "Just View It!" T-shirt. A 100% cotton grey T-shirt showing a reel & Model C Sizes M-L. $15/shirt (shipping $3). Chris Pitzer, 2033 W. Grace St., Richmond, VA 23220.

HI-SPEED 3-D - Spectacular slides of water balloons in mid-air. - plus a light bulb smash and a milk drop coronet. - as shown in the July and November 1992 issues of Stereo World and at the San Diego convention. 6 x 2 x 2 slides (3 pairs) $13.; or any 12 slides (6 pairs) $22.50; including U.S. postage - Satisfaction Guaranteed. Franklin Rocks, 260 Sheridan Ave., Suite 304, Palo Alto, CA 94306.

JOHN WALDSMITH'S "Stereo Views, An Illustrated History and Price Guide" available signed from the author, $22.95 softbound, add $2.95 postage and handling. Please note: the hardbound edition is sold out. MasterCard, VISA and Discover accepted. John Waldsmith, PO Box 191, Sycamore, IL 60178.

KEYSTONE METAL STEREO VIEWER with light and approximately 50 stereo cards $75. Nishika camera, case, flash, video, all in boxes like new $115 plus UPS, (708) 965-6424, 6-9 PM, Morton Grove, IL.

KOASLIDE II viewer, ex-cond., w/box. $90. Lat- tie Smart, 1809 Brickhouse Ln., Fallston, MD 21047, (410) 877-3592.

MAIL/PHONE BID AUCTION, coming this Spring, private collection including many nice Dakota (Deadwood, etc.), famous people, etc. Send $3 for catalog. John Waldsmith, 302 Granger Rd., Medina, OH 44256.

MY 17th LIST of 3-D equipment and View-Master reels is now available. Send US $1.00 for this and the next list. Francois Beaulieu, C.P. 63 CDN, Montreal, Quebec, Canada H3S 2S4.

NEW CATALOG! We've got more 3-D publications available! Send $7.95 for booklet loaded with pictures, viewing tips and everything you will want to know about 3-D. Send to: 3-D Book productions, Box 1769, Weaverville, CA 96093, A50525. Works great, $100 + shipping. C. Simmons (619) 757-7116.


STEREO VIEWS AND POSTCARDS, sent mail order to you. Several thousand stereo views, and over 100,000 postcards. Send me your want list. Speeding, 22 Tanglewood Rd., Sterling, MA 01654.

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SUPERCHARGE your Stereo Realist red button viewer! Send $7.95 for booklet loaded with viewer maintenance, repair, and improvement tips. Supplies, transformers, and repair services also available. SASE to G. Themelis, 10243 Edgewood Rd., Hercules, CA 94549.

TDC STEREO VIVID PROJECTOR, Model 116. New projection lamps. Best offer within 30 days of this ad. David Eisenman, 303 Hessel Blvd., Champaign, IL 61820.

"VIRTUAL DIALOGUES" - a full color holographic stereogram in a limited edition of 100 nickel plates 220 x 240mm (like very high tech daguerreotypes) - $550 each (framed). Contact Holograms-3D, 4 Macaulay Road, London SW4 OQX. U.K. Fax 44-81-622-3308.

WE NOW STOCK the SaturnScope (M1.5), elegantly made of Mahogany with glass lenses, folding handle, and pedestal base; also the popular and handsome CedarEdge stereoscope with stand. Stereotype, PO Box 1637, Florence, OR 97439.
FOR MY OWN USE - Realist and Illoca Rapid with 2.8 lenses, also Kodak, Belpasca and an Edixa with meter. Broken Realist 45 and also need Kodaslide II viewer. Gill Van Horn, PO Box 207, Liano, CA 95644, (803) 261-9207.

FOR RESEARCH purposes and manuscript. Photographed copies (I'll pay) from Alexander Gardner's Incidents of the War series. Stereo views #387 - Jt. Jones, Bowen and Coster. Also #389 - Group of General Andrew Porter's Staff. Contact Don Schwarcz. 1159 Vassar, South Lyon, MI 48178, (313) 437-9195.


GREAT 3-D TRANSPARENCIES of all kinds of animals. Send prices and samples. John D. Britton, 6686 NW 28th St., Fort Lauderdale, FL 33313-2077.

GREAT BARRINGTON, Massachusetts stereo views, RP postcards, all photos wanted. Also, views of Egremont, Housatonic, Sheffield, Stockbridge and Van Deusenville, MA wanted. Gary Levelle, PO Box 562, Great Barrington, MA 01230.

GREAT EASTERN (The Leviathan, between 1851-1888), anything concerning. Stereos, CDVs, Albumen, tints, ambrotypes, daguerreotypes, pamphlets, books prints, paintings, ephemera, antiques, sheet music. Call (collect) or write: Fred Schoonhoven, 2782 Colt NE, Grand Rapids, MI 49505. (616) 364-8614.

HANOVER, PA stereo views. Any views by P.S. and H.E. Weaver or C.J. Tyson of Gettysburg. John Richter, 34 South St., Hanover, PA 17331, (717) 637-7154.

HARDHAT DIVERS WANTED! Stereo views, CDVs, albumen prints, cabinet cards, photographs, daguerreotypes, ambrotypes, tints, RP post cards, etc. Also early underwater photographs. Gary Piecik, 617 Guaymas Court, San Ramon, CA 94583 (510) 866-0848.


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

ILLINOIS and MISSOURI! stereo views wanted. Can use most Missouri and Illinois (non-Chicago) views of street scenes and Public Buildings. Philip Germann, Box 195, Quincy, IL 62206.

INDIANA. Stereo views of Lake Maxinkuckee, Culver, IN by Frank M. Lacey, photographer. Vance Block, Indianapolis. 9 views published of camps, clubhouses, etc., c. 1890s. Also 8x10 views. John Cleveland, 1054 East Shore Dr., Culver, IN 46511, (219) 842-3169.

KLONDIKE, ALASKA & HAWAIIAN views wanted, especially by less common publishers, Dawson City, gold rush ascension views needed. Also need photos, postcards & ephemera from same areas. Ralph Bennett, 416 Gold St., Juneau, AK 99801.

LOUISIANA and NEW YORK CITY stereo views wanted and daguerreotypes of children with toys or just nicely tinted. Also interesting cameras, other images. TDC Vivid proj, for sale with Selectron changer, case. Larry Berke, 28 Marksman Lane, Levittown, NY 11756-5110. (516) 796-7290.

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(Continued on next page)
Assignment 3-D

(Continued from inside front cover)

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