Stereographing a Montana Photo-Op

by Dave Davisson

When the most sensational news story since the O.J. Trial broke in his hometown, NSA member Dave Davisson couldn't resist documenting some of the media's coverage of the event with his stereo camera. Fans of Stereo World’s “Assignment 3-D” Column may remember his stereo of a log truck spill in Vol. 22 No. 4—an event that made the Helena Independent Record but failed to draw the attention of CNN, BBC, or NHK.

Assignment 3-D will return to this page in the next issue.

When CNN Broke the story of the capture of a suspect in the “Unabomber” investigation, it was immediately apparent that the quiet little capitol city of Helena, Montana would soon be overrun by national and even international media types. Doubtless, it would to some extent become another media circus ala the O.J. Simpson case.

I wanted to observe this for myself, to watch the pros at work and see the set-ups and cameras and all the other factors involved. On the morning of April 5, 1996, Ted Kaczynski was brought to the Federal Building in Helena for arraignment on charges of possessing bomb components. The media was out in force with satellite uplinks and more than a dozen trucks representing news organizations from all over—Canada and Japan included.

Video and still photographers lined the wall at the parking area. As the suspect was taken from the vehicle to walk the few feet to the entrance, the media swarmed. In that melee, a photographer was injured and a camera was destroyed. The city police, U.S. Marshals and FBI were seriously angry and set rules for coverage of the suspect's return trip. After a five hour wait the officers came out and made the following statement to the media: “Since you people act like animals or bees in a swarm, here are the rules. The first one of you that comes down off that wall will be swarmed by officers and jailed—do I make myself clear?”

Five minutes later Mr. Kaczynski was led out by the marshals and the media got their photo-op. The most professional person on the scene was an 11 or 12 year old with a good camera representing a grade school paper. He appears in the lower right of the only clear view I was able to get of Kaczynski.

Ted Kaczynski is escorted from the Helena Federal Building after his April 5, 1996 arraignment. Among those covering the event was the young photographer at left from a grade school newspaper. Stereo by Dave Davisson.

A mix of local citizens and the media wait on a retaining wall for Ted Kaczynski to emerge from his arraignment at the Federal Building in Helena, Montana. A row of TV news vans with satellite dishes was parked on the road behind the crowd. Stereo by Dave Davisson.
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ON THE COVER

The model 1060 Macro Stereo camera, introduced by Realist Inc. at the end of 1971, was a specialized instrument capable of shooting stereo images from distances of just 4 to 510 inches. Over the following several years the camera outfit was gradually joined by a family of camera, mounting, and viewing accessories which the company referred to as the “complete Macro Stereo system.” Detailed coverage of this system and its history can be found on page 14 A Close Look into the Realist Macro Stereo System by Mark A. Willke and Ron Zakowski. A more detailed look at the life of the camera’s inventor immediately follows on page 36 in Clarence G. Henning: The Man Behind the Macro by Gordon Simons. (Photo by Mark Willke/Carl Wilke)
Bulk Mail Delay Sets New Record

For many years, Stereo World has been mailed to NSA members paying the basic membership fee via the lowest possible postage rate—a non-profit organization bulk rate. While these issues generally arrive one or two weeks later than those sent at the first-class mail rate, delays much longer than that have generally been regional or local problems—until our previous issue, Vol. 22 No. 6!

Somehow, the entire shipment of that issue was delayed or misplaced at some Postal Service Distribution Center with a resulting gap of over a month between the arrival of the first-class mailing vs. the bulk rate mailing. This left the great majority of NSA members waiting and wondering not only about the magazine, but also about all the 1996 NSA convention material inserted in it.

Needless to say, the SW staff, NSA Secretary Larry Hess and the mailing service company in Ohio were also wondering what was wrong. Calls to various levels of Postal Service management resulted in a trace, and magazines eventually started arriving at members' homes around the U.S. in mid May. (We may never learn exactly what happened.) The uneasy thought that the mailing had disappeared down some post office black hole had us within days of ordering another press run of the issue and new copies of the whole set of six convention forms for a special mailing to keep the Rochester arrangements on track.

We apologize to the thousands of NSA members who may have thought they'd been literally cut off from the World, or who knew of people who'd long ago received the issue and convention material via first-class mail, or who read or heard about all the cyber rumors bouncing around the internet. For now, we're told that a switch to another mail category like second-class isn't practical for an organization of our size, so we'll continue advancing the SW schedule back up the calendar, making future postal delays at least seem a little less severe.

Correction

The correct date of birth for James Strong (Vol. 22 No. 5, page 5) is 1820. It was misprinted as 1882 in the feature Nineteenth Century Tourist Views of the Near East.

Anthony Views Listed

Under the title A Consolidated Listing in Numerical Order of Stereoscopic Views Produced by the Anthony Company, T.K. Treadwell has compiled an extensive list of the known views of the Anthony Company, including those which are surely Anthony issues but not so marked.

The E. & H.T. Anthony company was among the largest producers of stereoviews in the world, as well as one of the earliest. During the little more than a decade they were in operation they were rivaled only by the Kilburn Brothers, the London Stereoscopic Company, Ferrier & Soulier, and A. Braun. Not until the end of the century were they exceeded in numbers and scope of coverage by large publishers such as Keystone, Underwood & Underwood, Kilburn, and H.C. White.

The list's four-page introduction covers some of the firm's publishing history, catalogs and numbering system. A two-page list of "code words" gives the number of views published of various subject areas from ALBANY (30 views) to PARIS (26 views) to WP (81 West Point views). The following 100+ pages comprise the listing of individual Anthony views by number, giving the original title or titles published under that number as well as the appropriate code word to tie the view back to its original Anthony catalog category.

Now available in preliminary form, the list will be updated with more of the unmarked views and other input as the information comes in. The price will be $15 per printed copy or $10 per computer diskette from the NSA Book and Information Service, 4201 Nagle Road, Bryan, TX 77801, (409) 846-0209 fax: 691-2432.

E-Mail: INTERNET: 71222.1571@COMPUSERVE.COM
85 Painful Millimeters

Today I got Lucky. I was able to free view Undergound London. The views of the Near East were beyond my ability because of the 85mm spread. Readers in the past have asked you to reduce the spread so that we who pay for this magazine can free view the stereo pairs. Someone on the editorial staff has decided what is best for me without giving me a choice.

Ask the readers if they would like the spread reduced for free viewing. I will never own the pairs. Someone on the editorial staff has decided what is best for me without giving me a choice.

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Readers in the past have asked you to reduce the spread so that we who pay for this magazine can free view the stereo pairs. Someone on the editorial staff has decided what is best for me without giving me a choice.
In the early 1830s, when Kentucky was first being settled, the Conestoga wagon traveled the wilderness roads loaded down with all the earthly goods of families who walked alongside. They traveled 20 miles on a good day, but more often averaged 10 miles. Carrying as much as five tons, the wagons were used in much the same way as trucks today and helped open Kentucky just like the railroads opened up the west.

The wooden boat-shaped wagons, named for the Conestoga Valley in south-east Pennsylvania,
were hand-built by Swiss-German blacksmiths to haul freight. They had no seats because space was considered too valuable for riders. Since each was made by hand, no two were exactly alike, especially in their decorative iron work. Conestogas featured European style linchpins that fastened the wheel to the hub and the first independent braking system in a horse drawn vehicle.

Teamsters, nicknamed “pike boys” or “sharp shooters” were paid about $10 a month to take travelers and freight across the wilderness roads. The teamster rode the lead wheel horse (the left hand horse nearest the wagon) and drove on the right side of the road, a pattern still followed by American drivers. The teamster would holler “Gee” to get the horses to turn left and “Haa” to get them to turn right. Actual shoe soles were used on the brakes for better friction, giving us the term “brake shoe.” Poles were used to lock the rear wheels on steep grades.

Ox-teams were common and were well suited for heavy hauling. As many as 10 horses were harnessed together for rough going in the mountains. Mules were sometimes used for light hauling. Of
course the animals had to be tended after each day's work, and it took considerable time each morning to hitch them up.

Most wagons carried a tool box with a jack, wrenches and plenty of axle grease. Frequent maintenance was needed and repairs required "custom made" parts, as standardization was not common in those times. Even into the 1910s, every town had at least one blacksmith shop and livery.

Roads and trails followed open terrain where possible. Trees and brush were removed by hand, stumps were burned, stones were moved, and large rocks were heated by fire, then dowsed with cold water to split them for easier removal. Near bigger towns, toll roads, bridges and ferries established by land owners and local governments could be found.

A wagon and team were a necessity in rural America and were a major purchase. In 1900, Sears sold a one-ton capacity wagon for around $40.00 and a harness could be bought for around $12.00. These items were shipped from Jackson, Michigan by rail, with some assembly required. When a shinning cartwheel (silver dollar) or two was a day's pay, a good horse sold locally for $40.00 to $100.00.
Stereo Gems from the Jersey Shore

Review by John Dennis

Monmouth County and many more examples of their views. Text sections ranging from a paragraph to a page cover the production history of each of these publishers including their dealings with other publishers or photographers, types of card stocks used, their numbering systems and catalogs, etc. This is followed by examples of their labels or back designs as well as listings by number and title of every view picturing Monmouth County known from that source. The combined lists total almost 700 examples of such views made between 1859 and 1910—and they aren’t crammed into gray blocks of small type! Each list, whether it includes three titles or dozens, is boldly featured in a box of its own centered on the page.

Nearly every publisher is represented by at least one view, while 36 views by Long Branch, NJ, photographer G.W. Pach appear. (A Pach view of actor J.W. Wallack and friends is used on the book’s cover.) Among the eight examples from the New Jersey Stereoscopic View Company of Red Bank is the delightful view of a children’s railroad train at the Long Branch Ocean Hotel, which is reproduced in the book’s ad in this issue.

The first 79 pages of Double Exposure Two are devoted to a lavishly illustrated history of photography from Niépce to tintypes. Happily, 30 of these pages cover stereography and are illustrated with 36 exceptionally interesting views representing nearly every type of subject documented by 19th century stereographers. For a book aimed largely at people interested in the history of the Jersey shore, the material on stereo’s place in the history of photography and the many stereo gems illustrating it come as an all-too-rare and informative bonus.

Those who found California In Depth (SW Vol. 21 No. 3 page 34) a treasure trove of rare stereographs but wanted to see a similar book in which views were reproduced full size have had their wish granted with Double Exposure Two. Every view in the book is printed in dark brown ink at 100% of original size on light cream paper stock. The effect, while not as rich as duotone reproduction, gives the half-tones a pleasant, easy-to-view look. The binding allows the book to fall open fairly flat, and only a little pressure holds the pages down perfectly level for ideal fusion. The matter of achieving that fusion brings up the book’s one lack—no viewer is included. While Stereo World readers can easily use the lorgnette viewers supplied to NSA members, other purchasers of the book will be on their own.

Author George H. Moss Jr. has written several books and articles on various aspects of New Jersey history, and his vast collection of 19th century Monmouth County photos, stereoviews and other material has served numerous writers, researchers and institutions. The NSA member has also served as a historical consultant for TV documentaries and has received awards for preservation of New Jersey history from the State Historical Commission and Monmouth County.

DOUBLE EXPOSURE TWO
Stereographic Views of the Jersey Shore (1859-1910) and Their Relationship to Pioneer Photography

Featuring subjects from excursion steamers to goat carts and from grand hotels to refreshment stands, 124 stereographs are reproduced full-size in Double Exposure Two by George H. Moss Jr. He estimates that over fifteen hundred different stereoviews of central New Jersey’s Monmouth County were published between 1859 and 1910, and most of the views in the book illustrate that section of the Jersey shore. Examples of some of the best by at least 23 photographers and/or publishers are featured along with a number of views from unknown sources.

If the title sounds familiar to some, it’s because this is an expansion of the author's 1971 book Double Exposure, which covered the same photo-historical subject matter. Double Exposure Two, however, includes over three times the information on known photographers and publishers of stereoviews in

Stereo World March/April 1996
A Basic Chronology of the 22nd Annual NSA Convention

August 1-5, Holiday Inn Genesee Plaza and Riverside Convention Center, Rochester, NY.

THURSDAY, August 1st - Afternoon and evening: room-hopping, meeting old and new friends, convention registration.

FRIDAY, August 2nd - registration, Stereo Theater shows 9:00 AM to 4:00 PM, Spotlight Auction Friday evening.

SATURDAY, August 3rd - Trade Fair 9:00 AM to 5:00 PM, Stereo Theater shows 9:00 AM to 4:00 PM, Awards Banquet 7:00 PM.

SUNDAY, August 4th - President’s Breakfast 8:00 AM, Trade Fair 10:00 AM to 5:00 PM, Stereo Theater shows 10:00 AM to 2:00 PM.

MONDAY, August 5th - Bus Tour/ stereo photography excursion/ nature walk at Letchworth Gorge 9:00 AM to 4:30 PM.

(Note: the Holiday Inn Hotel and the Riverside convention Center are connected by an indoor walkway.)

Convention Contacts

Missing a convention insert form from SW Vol. 22 No. 6? For extra registration forms or information, contact Bill Davis, 942 Gaywood Lane, Webster, NY 14580, (716) 671-7707, fax (716) 787-3049, E-mail: bd3d@ix.netcom.com

For information about the Trade Fair, call John Waldsmith 7:00 to 10:00 PM evenings or weekends. Phone/fax (330) 239-1944. He can also be called about the competitive exhibits.

For details about the Stereo Theater shows or projection arrangements, contact Richard Twichell, 1224 Genesee St., Rochester, NY 14611.

The Holiday Inn Genesee Plaza, 120 E. Main St., Rochester, NY 14604, can be called directly at (716) 546-6400, fax (716) 546-3908. The chain’s national number is (800) 465-4329.
Ray Bohman 1921–1996

The Society has suffered a severe loss with the passing of Ray Bohman of Cedar Rapids, Iowa. Ray was stricken last year with a particularly aggressive brain tumor which failed to yield to surgery. He was able to enjoy a family reunion over the Thanksgiving holiday but not long thereafter had to return to the hospital for continued treatment. His wife Eileen stayed with him constantly for some weeks until the end came on March 12th. He will be long remembered by Society members, especially in the print circuits, for beautiful color stereo views (recognizable at a glance as Bohman originals) of spectacular scenery as well as his special continuing favorite topic: interesting and/or historic bridges.

Ray Bohman was born near Alpha, Illinois, on August 8, 1921. He attended Alpha High School and completed a Bachelor of Science degree in Mechanical Engineering at the University of Illinois. From 1943 to 1946 he served with the U.S. Army Corps of Engineers. In the European Theater of Operations he was with the 1259th Engineering Combat Battalion. He also served at the ATS Training Center at Fort Belvoir, VA, and was a Captain in Motor Transportation. During this period, Ray made his shrewdest life decision when he married Eileen Calmer on January 16, 1944. The union resulted in five children and a delightful bevy of grandchildren.

Engineering

From 1946 to 1950 Ray Bohman worked for Outboard Marine, Inc. (Gale Products and Johnson Motors) as a design Engineer in product design. From 1950 to 1972 he was with Admiral Corporation in several engineering management positions including management of product design activities. He left there in 1972 and until 1989 with Amana Refrigeration, Inc., served as chief engineer of refrigeration products, managing product development. Although ostensibly retired after 1989, Ray was self-employed as a consulting engineer in chlorofloro-carbon alternatives and product design. This kept him quite busy, necessitating considerable travel. In this capacity he was in a hotel room in Beijing, China, overlooking Tiananmen Square on the night of the massacre—the associated international tensions causing his mission to be scrubbed for the time being.

NSA Charter Member

Ray and Eileen have been involved in stereo photography for almost 25 years, and their interest in it began before that. Ray was a charter member of the National Stereoscopic Association and joined the Stereoscopic Society in 1979.

(Continued on page 11)
“N” Scale Viewing

Anaglyphic 3-D images have appeared in some unlikely places over the years, but we’re pretty sure the model seen here (through anaglyphic glasses) is the first time one has shown up on the side of a boxcar. The third in a series of N scale “Circus USA” boxcars from Aztec Manufacturing, this car represents one that would carry a portable 3-D movie theater as one of the circus attractions.

Aztec, which sells by mail order only, carries a number of specially printed cars featuring the logos of well known brand names from Hershey’s Kisses to Reese’s Peanut Butter Cups to a new line of cars with the logos of micro-breweries. As far as is known, the circus car starburst logo is the first use of the “Pad Printing” technique used on the models for an anaglyphic 3-D graphic. Aztec plans more 3-D logos on future cars, possibly including more complex 3-D graphics or photos.

The 3-D circus car is $27.95 plus $3.50 shipping from Aztec, 1305 S. Railroad Ave., San Mateo, CA 94402, (415) 345-1668, fax 574-1550. (CA residents add 8.25% sales tax, Alaska or Hawaii add $7.50, outside U.S. add $12.)

FTC to Reimburse Nishika Customers

The saga of the Nishika 3-D camera seems to have come to an end with an announcement by the Federal Trade Commission in March of a settlement in a case charging Nishika Ltd. and five other companies with a nationwide prize promotion scheme. Victims were alleged to have been induced to pay up to $700 for a Nishika camera through promises of additional awards like travel certificates.

The four-lens Nishika camera is worth nowhere near $700 (see SW Vol. 16 No. 2, page 34), and the FTC said the travel certificates were nearly worthless. According to the Las Vegas Review-Journal, “Nishika and the others have signed settlement agreements, approved by two bankruptcy courts, that end the litigation and bar the companies from similar promotions in the future.”

The settlement could result in $9.6 million being made available to the FTC for a customer redress fund and another $1.7 million going to customers already listed as creditors in other bankruptcy proceedings.

Upcoming Stereo Exhibitions

The following exhibitions are open to any stereographers interested in PSA recognized international competitions. The closing dates are listed first, followed by the name of the exhibition, a contact for entry forms, and the entry fees.

- JULY 16, 1996—Southwest Exhibition; Maureda Mixon, 10480 Rancho Rd., LaMesa, CA 91941. North America $5, others $8.
- JULY 16, 1996—41st Traveling Exhibition; Mary E. Bury, APSA, 6525 Sunrise Blvd. #52, Citrus Heights, CA 95610. North America $4.50, others $6.
- JULY 25, 1996—First International Stereo Card Exhibition by Stereoscopic Society of America; Bill Walton, 3739 Meadowlark Dr., Columbus, GA 31906. $6.
View-Master Belgium Plant Closes

Over 40 years of View-Master production and distribution in Europe ended early this year when the Tyco Corporation closed the View-Master Plant in Saint-Niklaas, Belgium. The closure came as a surprise to most of the plant's customers, including 3-D Book Productions of The Netherlands, whose latest View-Master publication is reviewed in this issue. The explanation from Tyco View-Master was that operations will be more efficient when concentrated at the U.S. plant.

Far more than just a branch office of View-Master headquarters in Oregon, the Belgium plant photographed numerous unique reel sets of their own as well as designing and distributing several viewers unique to the European market. (See the View-Master Column in SW Vol. 20 No. 5.) The Belgium plant's Creative Department was responsible for (among many others) the Barcelona Gift Set produced for sale during the 1992 Summer Olympics.

While film processing was done at the Oregon plant, all other manufacturing processes from reel making to injection molding of viewers to packaging could be done at the Belgium plant. While the European market provided customers for scenic, special events, entertainment and commercial reels, the largest markets served by the St. Niklaas operation were Asia and the Far East. Dominating sales in these markets were the thousands of Mecca sets produced every year for distribution in Islamic countries.

The Society

In the 1960s they began collecting early stereo viewcards for their historic interest. In 1971 Ray was able to purchase a used 35mm Iloca stereo camera to use along with several 2-D 35mm rigs that he had. He became intrigued by the prospect of making his own view-cards in "full color" and he concentrated on that aspect of stereo photography from the very beginning.

Over the years Ray and Eileen added considerably to their collection of stereo equipment, especially cameras and viewers. The antique viewers were great to display, but for actual serious viewing, a modern Red Wing viewer was the Bohman choice.

Ray was always busy. Besides 2-D and 3-D photography, his avocations included wood-working and antique furniture restoration as well as being an early addict of personal home computers. He was a volunteer for various committees and activities of First Lutheran Church, Cedar Rapids, IA. An active participant in professional societies, he was a life member of the American Society of Heating, Refrigerating & Air Conditioning Engineers and served on the Technical Committee for Residential Refrigerators & Freezers.

Presidents

Ray's stereo views have appeared in Stereo World from time to time, especially when he was at the right place for a fortuitous photo opportunity. He caught an informal picture of President Gerald Ford at a press conference following a celebrity golf event. At the U.S. Embassy in Beijing, China, on November 1, 1989, Ray met President Nixon, who was kind enough to pose for five stereographs (copies of which reside in the Nixon Library).

Ray Bohman has left a strong mark on the Stereoscopic Society of America. He will not soon be forgotten.

Short Notes

A new arrangement for the Society's Newsletter is in the works and will be outlined later.

Ed & Deb Halcomb of Portage, MI, have taken over the job of Secretary of the (2x2)x2 35mm matched-pair circuit. Retiring secretary Joe O'Toole of Los Altos, CA, has been slow to recover from a fall in his apricot orchard and has had to curtail some of his activities.

More voting results for year 1995 will appear in this space in issues to come.

Congratulations to Society members Stan White and Bill C. Walton who captured first and third places, respectively, in the Photographic Society of America's "Stereo Image of the Year" competition—with stereo prints. That is something new.

Stereo printmakers everywhere are encouraged to enter views in the SSA First International Stereo Card Exhibition by the closing date, July 25, 1996. If you haven't seen the notices, detailed information may be obtained from Bill Walton, 3739 Meadowlark Dr., Columbus, GA 31906.

We are especially pleased to report that Corresponding Secretary Jack Cavender has been making good progress after suffering a stroke last summer. He is back in the folios and participating in Atlanta area club activities.
IMAX 3-D Comes to

by David Starkman & Susan Pinsky

Southern California 3-D movie fans need wait no longer for a 3-D movie theater in their area. On Friday, March 15, 1996 the Edwards IMAX® 3D Theater opened in the city of Irvine, near the junction of the 5 & 405 Freeways in Orange County.

We were lucky enough to attend a press preview, and we were not disappointed! First, there is the impressively large IMAX screen. This one is about 66 feet high and 92 feet wide! The six channel digital sound system uses a total of 80 speakers, which claims to use 12,000 watts! Finally, the 3-D is achieved with an integrated double IMAX projection system utilizing wireless infrared LCD goggles, which also incorporate IMAX's new PSE (Personal Sound Environment) built-in stereo speakers. (See SW Vol. 21 No. 5, page 20.)

In fact, before the films began we were given a sound demonstration of the PSE system. This is not meant to act as stereo headphones, as the theater speaker system is the main source of sound. Rather, it is intended to be used as a supplement to the main sound system to add personalized and stereophonic effects. The effects can be so subtle that we could actually hear a difference between driving from left to right behind us, and then the same car driving from left to right in front of us. Hearing the sounds of a tennis match, we were surprised (thanks to the PSE system) to suddenly hear someone whispering comments in our ears about the match. Now that is really personal! Most subtle, and at the same time amusing, were the sounds of a barber gently snipping away at your hair with scissors, the gently cutting sounds moving about your head just like in real life.

IMAX, one should note, refers to both a format (with a film size more than 10 times that of standard 35mm film) and to the company that manufactures the projection and sound equipment. The Toronto-based firm has also produced and distributed about a third of the movies made in the IMAX format, including Into the Deep.

In the 3-D projector, electronic shutters alternate left and right-eye images 96 times per second as the dual strips of film move past the over/under lenses. Meanwhile, infrared signals from the projection system trigger right and left lenses in the wireless headsets to open and close 48 times per second for each eye, creating the flickerless 3-D effect.

After the PSE sound demonstration we saw Into the Deep—the first underwater IMAX 3-D film. This is a fantastic showcase for 3-D in general, and specifically for the IMAX 3-D system. It was filmed off the Southern California coast by Noel Archambault, who was the stereographer and camera operator for previous 3-D IMAX films The Last Buffalo, Echoes of the Sun, Across the Sea of Time, Wings of Courage, and the non-3-D Rolling Stones film At the Max. Directed by Emmy Award winning underwater filmmaker Howard Hall, Into the Deep is a series of short stories held together by the single underwater location.

Surrounded by the sounds of gulls and surf, with only our 3-D headsets for a diver's mask, we slipped gently into the cool blue sea. Looking up through a forest of kelp to the sunlit surface of the ocean, we were adrift in a world of shimmering sunlight and blue shade.

Like busy inhabitants of some underwater village, the animals of the sea went about their business, unconcerned by our presence. A baby shark struggled out of its case and swam off to cope with life alone. A moray eel peered out from his den, lying in wait for the octopus he smelled nearby. A fiery red Garibaldi fish guarded his nest. He paused from his endless round of housekeeping chores to attract a female with his graceful courtship dance. The tiny fish to emerge from her eggs will face many hazards, among them the stinging tentacles of the tube anemone and the paralyzing sting of the pelagic jellyfish that floated before us, a purple mass within a swirl of transparent veils. As night fell, nocturnal creatures made their appearance. We were amazed to watch what the IMAX team managed to film this one particular night in all the year when the opalescent squid mate, drawn from all over the ocean by the light of the spring moon. Their wild frenzy surrounded us, then gradually subsided. The females anchored their egg cases in the sand of the ocean floor, and then all the adults died. We wouldn't have believed it if we had not seen it!

Day dawned, and sea lions playfully swooped and swerved around us. Then, in a grand finale of infinite beauty, thousands upon thousands of Spanish mackerel surrounded us, shimmering like fish made of light, weaving and darting with the harmony of a single creature. Slowly, reluctantly, we left the haunting and deeply dimensional beauty of the underwater world.

The experience was breathtaking and thrilling. Diving to depths of 30-150 feet, we shared an underwater intimacy with these fascinating creatures that most of us will never have. This glorious, flicker-free dimensional film pulled us in, swallowed us up and left us feeling exhilarated.

"This glorious, flicker-free dimensional film pulled us in, swallowed us up and left us feeling exhilarated."
incorporating specific natural sounds, narrated by actress Kate Nelligan, with music by composers Micky Erbe and Maribeth Solomon. Among the orchestra’s 50 instruments, a Chinese violin and wooden flutes heightened the enchantment of being in another world. A sense of place, mood and rhythm were simultaneously estab-

lished in both the visual and aural sense.

Wings of courage was shown next and we’re sorry to say that it left us a bit cold (and not because of our 3-D struggle through a snow-

storm!). This film didn’t contain the cinematography, the color or texture of Into the Deep. The film tells the true story of three French aviation pioneers who make the first historic and dangerous airmail flights over the Andes mountains. Unfortunately, the story line was very weak, and the character development was, well, never developed. This is the first dramatic film with well-known actors to be shot in any IMAX format, and it does give a glimpse of the possibilities that this medium holds for this type of film. In a cafe scene we really felt like we were practically sitting at the table with the rest of the characters. When the main character’s tiny plane crashes in the Andes, we almost felt like we were there in the plane and in the later struggle for survival. (See SWVol. 22 No. 3, page 18.)

By the end of this year, about two dozen theaters with these high-tech capabilities will be open. The Imax Corporation expects to open an estimated 20 to 25 new theaters each year. Richard L. Gel-
fond, vice chairman and one of these partners, says commercial developers are preparing to announce another IMAX project in Los Angeles and yet another elsewhere in Southern California. Meanwhile, the California Museum of Science and Industry in Los Angeles is replacing its 12-year-old IMAX theater with a bigger 3-D facility, now under construction as part of a museum renovation, and set to open in the spring of 1997.

“As we’re rebuilding the museum, we felt it necessary to do the same for IMAX,” says Jeff Rudolph, the museum’s executive director. For the museum, which does not charge admission, the IMAX theater is a major source of revenue. But Rudolph says he is “not concerned” that the museum’s long-
time regional monopoly on IMAX has come to a close. For the museum, the IMAX films (most about 40 minutes long) are “part of an all-
day experience,” he notes, adding that much of the museum’s IMAX business comes from school field trips. “There’s more than enough of an audience. We’re not going to be competing for market share.”

Into the Deep and Wings of Courage are currently being shown at the Edwards IMAX Theater at the Irvine Entertainment Center in Irvine. Tickets to each film are $8 general, $7 for seniors and $6 for children 11 and younger. Advance tickets are available at the box office or by calling (714) 777-3456. IMAX films bring a special quali-
ty to the audience that no other experience can touch. 3-D IMAX offers even more by adding the third dimension and the Personal Sound Environment. We personally visit IMAX theaters whenever we can around the world, and we will continue to do so even more now. They’ve hit on a winning combi-
nation, and the public will surely support this process the moment they see it. 

Letters

(Continued from page 3)

for a piece of the past, possibly their native countries. I don’t think anyone knew what they were going through. At the time I had no idea of the significance of the find. I immediately joined in and took Italy, Germany and a few other boxes. I noticed that my wife had picked up a bunch of animals, and I commented that she is always picking up the animals. I never knew that they would have the significance that they have. I thought that Germany was important because the views were pre-
World War I, and I figured that many of the buildings would have been destroyed.

We returned home and looked through all the views that we had purchased, but with little knowledge and no viewer, we packed them away till we could investigate them further.

This brings us to the present. It’s a year since the discovery of the views. We purchased Stereo Views—

An Illustrated History and Price Guide by John Waldsmith. While reading the information we started to realize the importance of this collection. Globe Stereographic Compa-
ny views were mentioned as being “Rarely offered”. We checked our views to find over 100 views by Globe. The series of views depicts mounted animals from all over the world. The views appear to have never been published and are pos-
sibly part of a museum collection of animals. We are as sure as one can be that these are part of the Lynn C. Skeels private collection.

Since we are not collectors of stereoviews, we will soon be offering approximately 500 views, from Globe Stereographic and Stereo-
Travel Co. for private sale.

Bart Catena

Whitestone, NY
Close-up photography can produce dramatic photos, but close-up stereo photography goes one step further. Photographs taken at distances closer than the naked eye can focus are able to provide previously unseen detail, but a stereo close-up's larger-than-life sensation is enhanced by the very small interocular distance of the camera's lenses during the exposure. The resulting view simulates how the original scene would have appeared if your size were reduced to the point where your eyes were spaced about the same as the camera's lenses.

(Stereo by Mark Wilke)
Imagine what the world would look like if you could be temporarily transformed into a mouse. The garden would be full of flowers bigger than umbrellas. Insects the size of small dogs would scamper by. Those tiny pebbles in the driveway might suddenly seem more like boulders, and dew drops as big as baseballs would sparkle in the morning sun on surfboard-size blades of grass.

Dramatic sights like these can be realistically captured and experienced through close-up stereo photography. Two-dimensional close-ups can often reveal interesting details which would not be visible with the naked eye, but using high magnification to record large images of small subjects still does not completely convey the monstrous, larger-than-life surroundings that you would experience as a mouse. The missing element here is stereo, and the key factor is the amount of separation between the two images. While normal stereo cameras have a lens separation approximately the same as the average human’s eye spacing, stereo close-up photography uses much smaller separations. With lenses spaced about the same as the eyes of the mouse you had become, the resulting stereo views would take on a truly gigantic appearance, as if your eyes were actually that close together as you viewed the scene.
Clarence C. Henning set out in the late 1950s to combine his love of stereo photography and his love of close-up insect photography. In the process, he hand-built in his basement what would one day be produced as the Realist 1060 Macro Stereo Camera. (August 1992 stereo by Gordon Simons)

While constructing his hand-made macro stereo cameras, Clarence sometimes had to grind down the sides of the lens barrels in order to allow the tight spacing required to fit the lenses onto the front of the shutter. Without the capability of manufacturing specially made parts, he filled cracks and holes with a black epoxy-like patching compound which can be seen here around the lenses. (Stereo by Mark Willke)

While any camera with a close-up lens can be used to record sequential left and right images of stationary subjects with a slight movement between exposures, very few cameras capable of instantaneous close-up stereo photography have ever been put on the market. Realist Inc. introduced such a camera in the early 1970s—the model 1060 Macro Stereo camera. It was a very specialized rig intended strictly for taking close-up stereos, and in fact was not capable of producing conventional stereo pairs from normal distances. Production was brief, however, and today that camera is highly sought after by stereographers and camera collectors alike. One might expect such a specialized camera to have been researched and developed by a team of experts employed specifically for that purpose by a company looking to bring just such a product to market. However, as has often been the case in the world of stereo, this camera's history is much more interesting than that.

The Do-It-Yourself Dilemma

The unavailability of mass-produced stereo equipment often forces stereographers to improvise, experiment, and build their own makeshift equipment in order to create the stereo images that they have envisioned. Occasionally, the resulting handmade equipment may appear to have enough potential to warrant mass production, making the item available to other stereographers who are not quite as technically skilled and therefore would not have been able to design and build similar equipment by themselves. A good example is Seton Rochwite's handmade 35mm stereoscopic camera, which he built out of frustration after waiting for one of the major camera companies to introduce a stereo camera that would make use of the recently introduced 35mm Kodachrome film. Although his intention in creating that camera was strictly to build himself a usable piece of equipment that he was unable to purchase, the David White Company saw commercial potential in it and mass produced it as the Stereo Realist which became the best selling 35mm stereo camera in America.

When that camera made its debut in 1947, a photography enthusiast named Clarence G. Henning was one of those who was immediately impressed with it's results. "I was overtaken by the depth and detail recorded by the camera," he recalled. Although stereo was a new experience for him, his love of photography had begun many years earlier. His real passion had always been close-up photography, especially of insects in their natural habitats. "My interest in nature photography started in my teens," explained Clarence. "I was living on a farm and surrounded by all the elements of nature. As the years passed, I became the proud owner of a Leica. My interest was now more on entomology than on general nature photography. I was having a problem getting close-ups of my small subjects. At that time, the single lens reflex camera with interchangeable lenses and bellows for extending the lens was not available or was too expensive. However, I did manage to fit the
Leica with a sliding ground glass and plus-lenses. This allowed me to get about 12 inches from my small subjects. The Leica camera was shifted over to one side, and in its place there was a ground glass. You focussed the image on that, and then you’d slide the camera back in place of the ground glass and make your exposure. But that just didn’t work out! I mean, if you tried to take a picture of a bee on a flower, you’d focus on the flower and you’d have to wait for the bee. Bees are very uncooperative!"

Clarence was such a believer in the Realist camera that in 1949 he joined the David White Company as an employee. His enthusiasm for stereo photography remained strong over the ensuing years, but so did his love of close-up insect photography. When it became apparent to him that no one—not even his own employer—had any plans to introduce a camera that would combine these two interests, he began working on his own home-made rig. In fact, the phrase "home-made" is especially accurate in this case. Because the development of this camera was not a David White Company project, Clarence worked on it entirely at home, on his own time, for his own personal use. "I was still very much interested in entomological photography," he recalled. "My dream was to develop a stereo camera that would allow me to work within inches of my small subjects. After about a year of experimenting, I developed a macro stereo camera using the Realist camera body. My first set of slides convinced me that this was the ultimate in close-up nature photography."

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A comparison of camera top plates, looking from back to front. The top photo shows a normal Stereo Realist camera. The small knob on the back of the top plate controlled the camera's double-exposure prevention feature, and the nearby small circular window on top indicated whether the film had been advanced after the last exposure. The shutter release button can be seen beyond that. Clarence Henning’s original hand-made macro stereo cameras did not utilize this double-exposure prevention system or even the original shutter release button (second photo). He glued screws into the remaining holes to fill them, and attached the shutter release button in place in its depressed position. When the production model camera was built (third photo), it too contained parts from the normal Realist camera, so special plugs were produced to seal the unused holes. New top plates were made later in production which did not contain the unneeded holes, resulting in a cleaner, simpler looking camera (fourth photo). Note that even the flash shoe was no longer recessed into the top plate, but consisted of a separate shoe assembly attached to the surface.

(Stereos by John Roll/Dean Kamie/Mark Wilke)
The shutter and lens assemblies on Clarence Henning's earliest hand-made macro stereo cameras were installed in the location normally occupied by the right lens on a regular Realist stereo camera.

In order to squeeze an additional exposure onto the end of each roll of film, Clarence installed the shutter and lens assemblies of his later cameras in the position normally occupied by the left lens on a regular Realist stereo camera.

An internal view of a model 1042 Realist camera (top) compared with that of a model 1060 Macro Stereo camera (bottom). Note that the right window of the normal film aperture has been blocked off in the Macro Stereo camera, and the left window has been enlarged to twice its normal width. A thin metal septum has been installed in the middle of this enlarged opening to allow two separate images to reach the film side-by-side. The film advance and rewind systems remain the same in both cameras.

The rangefinder arm assembly for the initial evaluation version of the Realist Macro Stereo camera attached to the tripod socket, just as on Clarence's hand-made cameras. Although Clarence had covered his cameras' lens boards with black leather, Realist Inc. instead painted that part black on its evaluation cameras.
Simplicity of operation was a feature stressed in Realist Macro Stereo camera advertisements. Its fixed focus, fixed lens opening, and strobe illumination made it essentially a point & shoot camera. After loading the film, the photographer simply positioned the rangefinder arms on either side of the subject and pulled the trigger built into the pistol grip. The only step that was easy to overlook was advancing the film ahead before making each exposure, since the camera contained no double-exposure prevention system.

(Stereo by John Dennis/Mark Willie)

The rangefinder arms for the production model 1060 Macro Stereo camera had been redesigned so that they no longer attached to the tripod socket. Instead, they were connected to a collar which snapped over the front of the camera’s lens housing. The lens board was given the same satin chrome finish as on regular Realist stereo cameras.

(Photo courtesy of Ron Zakowski)

The final Macro Stereo camera outfits sold contained a different flash unit and hand grip. The original flash unit used a rechargeable battery exclusively, which eventually had trouble holding a charge. The original hand grip sometimes suffered from trigger/cable release problems.

(Photo by John Roll/Dean Kamin)

STERO WORLD  March/April 1996
These dramatic close-up slides were well-received by all who had the opportunity to view them, and so much interest in his invention was generated that it was ultimately mass-produced. Clarence Henning had designed and hand-built what would eventually become the Realist model 1060 Macro Stereo camera.

A Camera is Born

Clearly, being employed at a major stereo camera manufacturing plant had proven to be a tremendous advantage to Clarence as he created his specialized stereo rig, since it was easier to adapt existing parts than to create entirely new ones. He had begun with an ordinary Stereo Realist camera body, complete with its standard film advance mechanism. He then obtained a blank lens board and installed one large leaf shutter in the approximate location usually occupied by the Realist's right lens. In front of this shutter he installed a pair of 35mm lenses, which contained very small specially-made fixed apertures. The distance between these apertures was only about 15mm. The fact that both lenses were mounted in front of the same single shutter assured perfect synchronization of the left and right images.

The left window of the normal film aperture plate inside the camera was blocked off, and the right window was...
enlarged to twice its normal width. A narrow metal septum was installed vertically in the center of this newly enlarged opening, in order to prevent the two images from overlapping onto each other. While the aperture plate inside the regular Realist camera moves in or out as the camera is being focussed, Clarence permanently fixed this plate into position in his macro camera. The lenses were also permanently mounted in place, prefocussed to provide a sharp image of subjects just a few inches away. The actual area photographed by this camera was an approximate square that measured less than two inches by two inches. The left and right images appeared side-by-side on the film, instead of being separated by two unrelated frames as on film exposed in a regular Realist-format camera. Because the total amount of film used per exposure was still ten perforations, however, the standard Realist film advance provided the proper amount of film movement needed between exposures to make use of the entire roll.

Clarence used a strobe flash unit to illuminate his tiny subjects. He found one whose intensity provided a correct exposure to the lenses with their small fixed apertures. The light provided by this strobe was so bright, in fact, that at faster shutter speeds, any ambient light (even direct sunlight) had no affect on the exposure. The strobe’s brief burst of light helped to freeze any movement of the subject as the photo was taken—a definite advantage when photographing fast-moving insects.

The viewfinder located between the lenses of the regular Realist camera would not have worked on Clarence’s macro camera. Part of it would have been obscured by the large leaf shutter assembly, but even if that hadn’t been a problem, the image seen through it would have been of a different area than that being photographed by the camera’s lenses. Clarence realized that an optical viewfinder would be extremely difficult to include on his camera, so he decided instead to use a mechanical framing guide. He built a pair of wire arms which he attached to a block of metal that fastened to the

The model 1060 macro stereo camera outfit was sold in a foam-lined case with specially cut compartments to securely hold all of the outfit’s various components. A warning to anyone who owns one of these outfits but who hasn’t taken it out of its case in a while: check on it soon. Unfortunately, the foam had only about a 20-year lifespan before disintegrating into a crumbling, sticky, gooey mess. Since even the very last of these outfits to be sold are now at about that age, you may find that the foam is now holding your camera and its accessories a little more firmly than you would like! The foam in the case shown here is breaking down rapidly.

(Photo by John Roll/Dean Karnin)

Legend

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<tr>
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<th>Description</th>
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<td>INSTRUCTION MANUAL</td>
</tr>
<tr>
<td>1060-906</td>
<td>INSTRUCTIONS (FLASH GUN)</td>
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<td>1060-907</td>
<td>COUPON-FREE MOUNTING</td>
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<td>1060-914</td>
<td>CAMERA ASSEMBLY</td>
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Engineering drawing number 1060 for packaging of the Macro Stereo camera outfit, listing everything to be enclosed. The drawing was originally completed December 3, 1971, and contains a revision made on November 27, 1972. (Courtesy of Ron Zakowski)
tripod socket on the bottom of the camera. These arms were used to position the camera correctly in relation to the desired subject matter, both to see what area was being photographed and to be sure that it was the correct distance from the camera in order to obtain the sharpest focus and the proper illumination from the strobe.

Noticeably missing from Clarence's rig were many Realist camera parts that were simply not needed. The focus knob was absent, as well as the entire rangefinder system. None of the usual shutter and timing mechanism was present either, since the large leaf shutter installed on the front of the camera had replaced it. That also meant that the double exposure prevention feature found on the regular Realist camera at that time was absent as well, because it would not have functioned with this new external shutter. Double exposures were easily made, whether intentional or not. Clarence filled several empty holes in the Realist body that resulted from unused or removed parts by simply epoxying large-headed screws into them, and even the original (unused) shutter button was glued into place in its depressed position.

An Enthusiastic Reception

It wasn't long after Clarence had completed his macro stereo camera when the word began to spread about it and its breathtaking images. He began receiving requests for information on the camera from people in medical and industrial fields, and although he didn't have the equipment to produce the camera in any significant numbers, he did eventually hand-build several more of them which he sold to various businesses and individuals.

Interestingly, after building the first few cameras, Clarence decided to move the shutter and lens assembly toward the other end of subsequent cameras he built, into the location normally occupied by the Realist's left lens. The function of the camera remained essentially the same, but this change allowed for one additional exposure at the end of each roll of film.

One of Clarence's hand-made cameras was purchased by AO Smith, a Milwaukee metallurgical manufacturing company which was very enthusiastic about the camera and the slides that could be created with it. "AO Smith was so well pleased with the results that they wrote a letter to Realist." (David White Company had changed its name to Realist Inc. in the mid 1950s, and eventually changed it back to David White Company again in 1990.) "As a result of that letter, the president of Realist called me in his office and said, 'Well maybe this thing has got possibilities,'" recalled Clarence. A small preliminary run of about 20 factory-built Realist Macro Stereo cameras was completed and shipped to professionals in the medical, dental and metallurgical fields. These units were to be returned after a period of testing and evaluation, along with the user's comments and suggestions on this proposed new product. The assessments were positive, and it was decided that the camera should be put into regular production.

The initial evaluation units were very similar in appearance to Clarence's hand made cameras, although they were refined slightly. The front plate (lens board) of these units was painted black (Clarence's had been covered with black leather), and the rangefinder arms were attached to the tripod.
socket on the bottom of the camera, just as Clarence had done. More refinements were made before subsequent manufacturing actually began. The front plate (lens board) of the production model was changed from black to the same satin chrome finish used on the rest of the camera's plated parts. Also, the camera's rangefinder arms were redesigned. They were given 3-position adjustable tips, which could be located one half inch behind, directly at, or one half inch inside of the camera's area of sharp focus, depending on the photographic situation and the photographer's preference. (That area of sharp focus was only 1 ½ inches deep, between 4 inches and 5 ½ inches from the camera's lenses.) These new arms were attached to a collar that snapped over the lens housing (which was also changed from black to satin chrome), thus freeing-up the tripod socket on the bottom of the camera. A pistol-grip handle was provided which screwed into this socket, and the handle's built-in trigger button released the camera's shutter by way of a cable release. The camera was intended to be carried by this handle, so no provision was provided for attaching a neck strap.

Other attributes of the evaluation camera were carried over unchanged into the production model. Both contained Prontor self-cocking shutters with speeds up to $\frac{1}{25}$ sec. (plus B and T settings). Both were built using standard Realist parts, and just as with Clarence's original handmade units, this left some holes in the camera's exterior due to some unused Realist features. These were filled with custom-made metal plugs, although eventually, specially-machined parts that contained no extra holes were created, so later examples of the production camera did not require plugs in those locations.

A Metz 180 rechargeable strobe flash was included as part of both the evaluation outfits and the production model outfits. It provided proper exposure for Kodachrome II transparency film, whose speed was 25. An adjustable tilting bracket was included to hold the flash unit on top of the camera. One end of the bracket slipped into the camera's accessory shoe (which had no electrical connection to the shutter.) The flash attached to the other end of the bracket, which swiveled so that it could be aimed precisely at the subject. The flash's PC cord was then plugged directly into the x-sync PC socket on the side of the leaf shutter.

The Metz 180's rechargeable NiCad battery apparently proved to be troublesome, sometimes refusing to hold a proper charge. As a result, a different flash unit powered by replaceable alkaline batteries—the Soligor MK-3AES—was substituted in place of the Metz 180 in later camera outfits sold. Owners of the camera also reported difficulties with the original pistol-grip handle and its built-in cable release, so later outfits contained a different style of handle which was made by Samigon. This new handle contained a hori-
Realist Inc. published a series of News Bulletins on macro stereo photography which were mailed to registered owners of the camera and anyone else who requested a free subscription. This publication was not as informative or attractive as the company’s Realist News from 20 years earlier, nor did it contain the sheer volume or variety of articles. The September 7, 1973 issue shown here discussed remounting stereo close-up slides that had originally been shot in other formats, so that they could be viewed in Realist-format viewers. The other issue shown here, from March 1974, seems to have been more of an advertisement than a newsletter. Aimed at science teachers, it described the benefits and advantages of using the Realist Macro Stereo system in the classroom.

(Courtesy of Ron Zokowski)

Realist Inc., announces the introduction of a proven system for converting stereo pairs taken with any format camera, and using stereo slides for use in Realist portable viewers or the Realist Video-Stereoscope Projector.

Materials needed:
1. Realist Metal Mask #2120
2. Realist Folder #2126 (NEW SELF-HEALING FOLDER)
3. Realist Aligning Guide (available soon)
4. White cotton gloves so that you will not fingerprint the film.

If your film has been processed and mounted in the standard 2 x 2 mount, it will be necessary to remove the film from these mounts; if from Baldwin camera, frames #1 and #3 are stereo pairs.

1. Lay the stereo pair on the table so that the number 2120 properly. This is the back of the slides.
2. Lay the Realist mask #2120 on the table so that you can read the number 2120 properly. This is the back of the slides.
3. Remove each transparency from its 2 x 2 mount. Transfer onto the equivalent space in the Realist mask, sliding the top port of the film into the upper channel of the mask and the bottom edge into the bottom channel.

Are the film flat in mask.

Because the transparency from the 2 x 2 mount is wider than the standard stereo transparency, it will be necessary to cover the subject matter that you wish to view in each window. The Realist #2120 metal mask has windows spaced at 61.25 mm with each window measuring 21.63 mm wide by 23 mm high.
individual compartments snugly holding the camera, rangefinder arms, handle, cable release, flash unit, recharger, and tilting flash bracket. The kit's suggested retail price was $539 when it was put on the market at the end of 1971.

The Total Macro Stereo System

After the introduction of the camera outfit, Realist Inc. began creating a range of accessories intended to enhance the shooting, mounting and viewing of Macro Stereo slides. These products, when teamed with the camera, became what the company referred to as the "Total Macro Stereo System." "Total capability" boasted one brochure. "From exposure to mounting to viewing. 'The System' is all you need."

While much of this system consisted of new products, several of its components were items which had first been introduced many years earlier as accessories to be used with Realist Inc.'s regular stereo cameras, but which were still being sold in the early 1970s. These survivors from the stereo boom of the 1950s had suddenly become a part of the Macro Stereo system, but obviously they could still be used with regular Realist-format slides as well. Similarly, because they conformed to the original Realist format, the system's new mounting and viewing products were not limited to use exclusively with Macro slides either, but would work just as well with any Realist-format slides.

Detail of engineering drawing number 1060-704, showing the rangefinder arm assembly of the Macro Stereo camera. The drawing was originally completed April 28, 1971, and contains revisions from as late as June 13, 1972. (Courtesy of Ron Zakowski)

This schematic diagram, adapted for reproduction here from a 1975 brochure, shows the complete Realist Macro Stereo system. Stressing the concept of a total system, the brochure reads in part: "Combined, the Realist Macro Stereo Camera, mounting supplies, and viewing equipment make a complete photographic system. Everything required to produce close up three dimensional transparencies for technical analysis is provided. No other camera system on the market offers this comprehensive approach to macro stereo photography."
Engineering drawing number 1060-700, showing the entire Macro Stereo camera assembly. The drawing was originally completed March 16, 1971, and contains revisions from as late as January 23, 1975. Note that the later top plate is shown, which did not include the unnecessary holes of the original top plate adapted from the regular Realist stereo camera.
(Courtesy of Ron Zakowski)
Realist Inc. also briefly published a series of newsletters for Macro Stereo camera users. The Macro Stereo Photography Realist News Bulletin contained mounting tips and other information on "the system." It was mailed to registered Macro Stereo camera owners and to anyone else who requested a free subscription.

**Camera Accessories**

While experimenting with his original hand-made macro stereo camera, Clarence Henning discovered that the set distance between the camera and the subject could be altered with the use of plus- and minus-diopter lenses. "Just for the fun of it," he recalled, "I put a +3 lens on the camera, in front of the two lenses, not knowing what the result would be. But fortunately, the curvature of the plus-lens made up for the shorter distance the camera would work from the subject, and it worked out all right."

The model 1060 Macro Stereo camera outfit did not include any such auxiliary lenses, but Realist Inc. advertised a set of "accessory plus and minus power lenses" in 1973. These individual glass lenses were to be placed in a filter holder which snapped onto the camera front, allowing photos to be taken at distances other than the camera's normal pre-set range of sharp focus. However, the use of such lenses was tricky, because the camera's rangefinder arms would no longer show the proper distance between the camera and the subject (or the actual area being recorded on the film). A simpler solution for using accessory lenses with the Macro Stereo camera was made available with the introduction in 1974 of the model 1525 Accessory Lens kit. This outfit consisted of three plus-lenses, providing increased magnification (and therefore closer working distances from the camera to the subject), and one minus-lens, which reduced the normal amount of magnification (allowing the camera to be positioned further back from the subject).

Each of these four lenses was designed to attach over the front of the model 1060 Macro Stereo camera's lens housing in place of the detachable rangefinder arm assembly, covering both of the camera's lenses. The kit contained +3, +6, +10 and -3 lenses, and each one contained its own pair of rangefinder arms already attached to its frame. These special arms were used instead of the normal-length ones supplied with the camera, and showed the corrected distance and framing to be used...
with each individual accessory lens. The +10 lens brought the camera up about two inches away from the subject, capturing an area only 28mm by 30mm. Moving in the other direction, the -3 lens allowed a distance of 8 inches between camera and subject, and an area of coverage of 100mm by 107mm.

In order to make up for the flash being so much closer to the subject when either of the two strongest plus-lenses was used, neutral-density filters were built into those lenses, something Clarence was not in favor of. "I don't like to stick anything in front of the lenses, because it doesn't add anything to the definition," he explained. "Somebody in California came up with an adjustable shutter on the flash. But that didn't work out well either because it ended up aiming the flash in different directions,
and it wouldn't put the light where you wanted it." Clarence instead preferred placing neutral density filters in front of the strobe flash unit itself, to cut down the illumination before it reached the subject.

Like the camera itself, the model 1525 Accessory Lens kit was sold in its own padded plastic case, which had individual compartments to hold all four lenses. It's suggested list price was $130.

**Mounting Accessories**

Realist Inc operated a complete Macro Stereo slide processing and mounting service for those who did not wish to pursue that aspect of stereo photography. Customers were urged in one brochure to mail their exposed film to the company from anywhere in the world, to always be assured of the highest quality service available. However, photographers who preferred mounting their own slides could purchase an assortment of mounting accessories offered as part of the Macro Stereo system.

The model 2330 Aligning Gauge was a new item created to help simplify the process of accurately mounting Macro Stereo images in Realist aluminum masks. It consisted of a rectangular piece of clear plastic scribed with horizontal and vertical lines at specific distances from each other. The horizontal lines were used to assure that the left and right images were positioned on the same horizontal level in the slide mask, and the vertical lines indicated the minimum and maximum separation of the near and far points in the view while still allowing comfortable projection. Once the film chips were inserted into a mask, it was held against a raised bar along the bottom of the aligning gauge, and the position of the film chips was then adjusted according to the scribed lines.

As with much of the Macro Stereo system, the model 2330 Aligning Gauge could be used with regular Realist-format slides as well. The same near and far point indicators would result in proper mounting for projection. Strange enough, the mounting instructions included with the aligning gauge explained how to set the correct near point, but didn't mention the dangers of allowing any part of the scene to extend beyond the gauge's far point indicator. It was extremely easy to shoot scenes with the Macro Stereo camera whose distant objects fell well beyond the range of comfortable projection, and often even beyond the range of comfortable hand viewing! It was important to consciously limit the range of depth when shooting with the Macro Stereo camera, because this excess parallax could not be compensated for in the mounting process.

The standard model 2120 "Distant" Aluminum Mask, which Realist Inc. had continued to produce since its introduction in 1954, was the one recommended for mounting Macro Stereo slides, and so it too became a part of the Macro Stereo system. The model 2121 "Medium" and model 2122 "Close-up" Masks, which had also been manufactured since 1954, remained available after the introduction of the Macro Stereo system, although they were not considered a part of it. These masks were intended for proper mounting of views taken with the regular...
Realist cameras from distances closer than about seven feet, since such photos needed to have slight masking applied to their outside edges to compensate for the inability of the camera's lenses to converge inward toward close subjects. Logic would seem to dictate the use of the model 2122 “Close-up” Masks for mounting the extreme close-ups created with the model 1060 Macro Stereo camera as well, but because this camera was designed to take only close-ups, this masking of the outside edges was not necessary. The model 2120 “Distant” Mask would work properly and would provide a full-width Realist-format image.

After the film chips had been properly aligned in a mask, Realist Inc. recommended inserting the whole assembly into a cardboard folder, to protect and add rigidity to the lightweight and otherwise flexible mask itself. The company had produced such folders ever since the introduction of the aluminum masks, and had sold similar ones before that to be used with the original paper heat-seal masks. The use of the folder was very simple. After it was folded in half along a prescored line, a mask was inserted so that the folder covered it on both sides. Finally, a piece of adhesive tape was applied along the open edge at the top to hold the whole thing together.

This final step was eliminated by another new item introduced as part of the Macro Stereo system—the model 2126 Self-Sealing Folder. Two strips of adhesive inside this folder were exposed just before use by peeling off a pair of paper liners, and after a mask was inserted, the folder was sealed by pressing firmly along its top edge.

No mention was made in the mounting instructions supplied with the aligning gauge as one of the required items for mounting Macro Stereo slides, the listing was followed by “(available at camera store).” Realist Inc. apparently felt that there were suitable cutters available from other manufacturers, and therefore didn’t offer one of its own. The mounting instructions also listed white cotton gloves as a requirement, to avoid getting fingerprints on the film, but again, Realist Inc. had evidently decided to leave the manufacture and sale of those to others.

**Viewing Accessories**

Two existing Realist Inc. handheld stereo viewers were designated as components of the Macro Stereo system. The model 2061 (originally called model ST-61) red-button viewer, designed by Seton Rochwite, had been introduced at the same time as the original Stereo Realist camera in 1947. It required two D-cell batteries (or an optional AC transformer which was no longer available from the company after the 1950s) for its illumination, and contained quality double-element glass lenses.

The model 2062 (originally called model ST-6256) green-button viewer had been introduced in 1955. It offered a choice of using two D-cell batteries to light a 3-volt bulb, or an AC rheostat to light an 80-volt bulb with variable intensity controlled by a dial on the back of the viewer. The lenses were very similar to those of the model 2061 viewer.

The new model 2066 Ortho Stereo viewer was introduced as the third handheld viewer in the Macro Stereo system. Its appearance and operation were almost identical to that of the model 2061 red-button viewer, except for its gold focus knob and its black light button containing a gold Stereo Realist logo. The major difference between the two viewers was hidden inside, however. The model 2066 was equipped with a pair of 35mm four-element glass lenses, the same focal length used on the model 1060 Macro Stereo camera. Realist Inc.’s other two viewers contained 44mm double-element lenses, so the model 2066 viewer provided a dramatic increase in image size (20% larger, according to Realist Inc.) over other stereo slide viewers. This higher magnifi-
The model 2062 AC/DC viewer (left) and the model 2061 DC viewer (right) were both promoted in the 1970s as being a part of the Realist Macro Stereo system, even though they had been available for use with regular Realist-format slides since 1955 and 1947, respectively. The only new stereo hand viewer created for viewing Macro Stereo slides was the model 2066 Ortho Stereo viewer, which was built out of most of the same parts as the model 2061. Concealed inside, however, was a pair of 35mm 4-element lenses, which provided dramatically larger, more realistic images.

(Photo by John Dennis/Mark Wilke)

An internal view of a model 2061 red-button viewer lens (top) compared with that of a model 2066 Ortho Stereo viewer (bottom). Notice that the model 2066 lens contains a threaded extension tube in place of the model 2061 lens retaining ring, providing the extra room required to hold the two additional lens elements. In order to allow these extension tubes to fit inside the viewer, the geared focussing shaft had to be machined away, leaving just enough of the gear teeth to still engage properly. (Stereos by Mark Wilke)

An internal view of a model 2061 red-button viewer lens (top) compared with that of a model 2066 Ortho Stereo viewer (bottom). Notice that the model 2066 lens contains a threaded extension tube in place of the model 2061 lens retaining ring, providing the extra room required to hold the two additional lens elements. In order to allow these extension tubes to fit inside the viewer, the geared focussing shaft had to be machined away, leaving just enough of the gear teeth to still engage properly. (Stereos by Mark Wilke)

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cation made the often dramatic macro slides appear even more dramatic, although the viewer would work just as well with any regular Realist-format slides. Likewise, because slides produced with the model 1060 camera conformed to the standard Realist format, they could also be viewed in any Realist-format viewer.

According to Herbert C. McKay in his book Principles of Stereoscopy, identical focal length of camera and viewer lenses is one of the requirements of orthostereoscopy, which he defines as "stereoscopy in which the objects when viewed appear in their full life size and at their full natural distance." In addition to matched camera and viewer lens focal length, he explains that they must have identical lens separation, and that this lens separation must match the interpupillary distance of the observer. Because of the Macro Stereo camera's extremely close lens spacing, these final two criteria would not have been met when viewing Macro Stereo slides with the model 2066 viewer. Still, some stereographers embrace a looser definition of orthostereo, stipulating only that the focal length of the camera and viewer lenses be the same. The importance of such a match is stressed by J. Moir Dalzell in his book Practical Stereoscopic Photography: "The most frequent cause of deformation is a stereoscope with eyepieces of a focal length other than that of the camera lenses. The apparent dimension of the virtual image in depth will vary in direct proportion to the focal length of the viewing lenses; too short a focal length compresses the view fore and aft, and vice versa."
The list price of the model 2066 Ortho Stereo viewer was $50, compared with $35 at the time for the model 2061 red-button viewer and $45 for the model 2062 green-button viewer.

A new self-contained rear-screen projector—the model 3012 Vista Stereo viewer—was another new viewing accessory introduced as part of the Macro Stereo system. Its main advantage promoted in Realist Inc. literature was its ability to display stereo slides in 3-D for group viewing—something not possible with hand viewers. This 58 pound device was constructed out of the body of a large microfiche viewer. It accepted special slide holders that each held six slides spread out flat into two rows of three. One of these holders at a time was inserted into the projector’s glass carrier. Each slide was rear-projected onto a 19” x 13” glass screen, which was viewed with a pair of polarized glasses. (Model 2081 [plastic lensed] and model 2082 [glass lensed] Polaroid viewing glasses were offered as additional components of the Macro Stereo system.) Advancing from one slide to the next was done a bit differently than with other stereo projectors. The glass up against the front surface of the viewer, the entire slide cannot be seen without moving the viewer back & forth and up & down.

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The model 2066 Ortho Stereo viewer more closely meets McKay’s rigid definition of orthostereo when used for viewing slides made with a regular Realist-format camera, whose 70mm lens separation is much closer to the average person’s interpupillary spacing, and whose lenses’ 35mm focal length is an exact match with that of the viewer’s. It is unfortunate that this instrument was not made available about 20 years earlier, during the stereo boom of the 1950s. Still, its increased image size is almost too much of a good thing for people like myself who wear glasses. If your face is not positioned right up against the front surface of the viewer, the entire slide cannot be seen without moving the viewer back & forth and up & down.

Realist’s model 3012 Vista Stereo viewer allowed stereo slides to be displayed for group viewing. The left and right images were polarized and rear-projected onto the unit’s screen, which was then viewed with standard polarized glasses. (Stereo by John Roll/Dean Kamin)
The model 3012 Vista Stereo viewer was constructed out of a large microfiche viewer, and its origin was still very apparent in the finished product. The slides were loaded into special slide holders in groups of six, and one of these holders at a time was inserted into the viewer's carrier, much the same way that microfiche would be loaded into a viewer. The carrier was then moved through a series of six different positions in order to view all six slides before replacing the slide holder with one containing the next six slides. A large pointer on the front of the carrier indicated proper positioning of the carrier for each of the slides. The slide holder visible in this photo contains only one slide, but a fully-loaded holder would contain another slide just to the right of the one shown, and four more further back inside the carrier. (Stereo by John Roll/Dean Karnin)

carrier holding the slides was moved by way of a microfiche viewer-style pointing device, and six numbered squares on the surface below the pointer indicated where it needed to be positioned to view each of the six slides. After viewing the sixth slide, the entire slide holder was removed from the carrier and replaced with another one which contained the next six slides. These slide holders were available for cardboard-mounted slides (model 2420) and glass-mounted slides (model 2421), despite the fact that glass mounting was not even mentioned in the mounting instructions. Realist Inc. suggested using the holders for filing and cataloging slides in groups of six.

In addition to slides created with the Macro Stereo camera, any other Realist-format slides could be projected with the Vista Stereo viewer as well. The horizontal rectangular shape of its screen was apparently left over from its original design as a microfiche viewer, since the stereo image contained in a Realist-format slide is almost square. The unit's 50mm lenses enlarged a Realist-format image to the full height of its screen, but the image's width was about the same as its height, leaving large blank areas along the screen's left and right edges. Because the unit contained no internal Realist-format apertures, 7-perf European-format slides could also be projected in their entirety, with their horizontal rectangular images coming much closer to filling the whole screen.

The model 3012 Vista Stereo viewer had a list price of $695. It was originally slated for a production run of 150 units, but due to lack of demand, the number of units actually manufactured was less than 50.

The End of a Stereo Era

Sales of the model 1060 Macro Stereo camera outfit were slower than expected, and production was halted after only about one year. The demand for Realist Inc.'s other stereo products had steadily fallen off as well, and by the end of 1972, the company was no longer manufacturing any stereo cameras at all. Even so, the existing slow-selling stock on hand allowed the Macro Stereo camera to remain available until well into 1976. In fact, several of the accessories created specifically for use with that camera as part of the Macro Stereo system were not even introduced until more than a year after production of the camera itself had ended!

Many of the Macro Stereo cameras sold were purchased by businesses and research facilities for specific professional and scientific uses, but it's likely that at least a few were also sold to photography enthusiasts. The $539 price was certainly well beyond the reach of the casual snapshotter, however, and while many hobbyists may have dreamed of owning the unit, not many could justify spending that much money on something to be used strictly for pleasure. In fact, Realist Inc. may have discouraged any such prospective customers with its response to the question, "Do I have to be a professional to use 'The [Macro Stereo] System'?'" in the Q & A section of a promotional brochure. "Yes," was the answer. "Only a professional would want to use macro stereo photography. It's a specialized medium. But you don't have to be a professional photographer to use 'The System'. Just follow the instructions. You'll get professional results. Every time."

Other brochures for the camera outfit revealed what some of these professional uses might be: "Experts in many fields are discovering new applications every day for the Realist Macro Stereo camera. ORTHODONTISTS, PATHOLOGISTS, BIOLOGISTS, MEDICAL PHOTOGRAPHERS, CRIME LAB INVESTIGATORS, AND INDUSTRIAL INSPECTION TECHNICIANS have recognized this camera as an invaluable tool in their professions."

Eventually prices were cut to clear out remaining inventory, and the complete model 1060 Macro Stereo camera outfit was briefly available for around $250. Forty-five-year David White employee Ron Zakowski, who was a Photographic Department Manager there during production of the camera, recalls that some prospective customers who had expressed interest in the camera later changed their minds once they had actually
taken delivery of it. He is not certain of the details allowing the return of these outfits, but he eventually ended up with quite a pile of them occupying the corner of his office. "There must have been at least a couple dozen of them that we got back," he says. "They were eventually disassembled and used for parts."

Earlier, the returned original evaluation models had also been slated for disassembly, and Ron feels it is unlikely that any of them escaped that process. Although complete factory records no longer exist, Ron has studied the files that did survive, and he estimates that the total number of production model 1060 Macro Stereo camera outfits manufactured was only about 350. That includes the ones that later came back to haunt his office and face disassembly, so the actual number of outfits still around today is even smaller.

Clarence Henning felt that the camera's disappointing sales were perhaps partly the result of trying to sell such a specialized outfit through regular camera stores. "If I owned a camera store, that would be the last camera I'd try to sell, because if I sold someone a Macro Stereo camera, I could sell him film after that, and the processing and mounting, and that would be it. But if I sold him a regular camera, I could sell him enlargers and telephoto lenses, wide angle lenses, all the different filters, and you name it!" In fact, Realist Inc. may have come to a similar conclusion after the camera's disappointing first year. Apart from the two existing hand viewers, there really were no additional accessories available while the camera was in production. Although no change was made in where the camera was sold, it seems likely that the company's gradual creation of the "complete Macro Stereo system" over the next several years was an attempt to move it out of the "single purchase" category by offering a range of accessories to go with it.

As a result of this challenge, Clarence designed and built another close-up apparatus which was referred to as the "Micro Stereo Shift Camera." The name was actually a bit misleading, because the setup consisted of a stationary single-lensed camera mounted over a precision-crafted sliding stage where the subject to be photographed was placed. Sequential left and right exposures were made using the precise, preset movement of the stage, which was calibrated in fractions of millimeters. Obviously this rig could only be used for photographing stationary subjects, but with powerful lenses, Clarence obtained some amazing results at magnifications far greater than those possible with his hand-made macro stereo camera or the model 1060 Macro Stereo camera. However, this system was never commercially manufactured.

Clarence Henning retired from Realist Inc. in 1977. Although his name and photographic accomplishments are not well known among 3-D enthusiasts today, that obscurity didn't prevent him from being contacted by salespeople when the Nishika camera first hit the market. "They were advertising for distributors for the camera, and they called me up on it. They said that with my experience in stereo, I should make a good living selling the Nishika. But I knew better than that. I wouldn't invest a penny in that one!"
Clarence G. Henning
The Man Behind the Macro
by Gordon Simons

While on the way to my first meeting with Clarence Henning on July 9, 1991, I remembered when I first heard of the macro stereo camera. At the time, I had been involved with stereo cameras for about 20 years and as my enthusiasm grew, I pursued involvements with others of like interest. It was through this pursuit that I started attending the monthly stereo club meetings at the home of Ed and Dawn Miller in Brookfield, a small community west of Milwaukee, Wisconsin. Ed has been involved in stereo work since the late 1940s, and he and his wife are the cohesive element of a small group of stereo enthusiasts from the surrounding area. It was here that I first heard of Clarence Henning.

Ed Miller's stereo work is equal to the best of anyone in the Midwest, and his macro work stands above that of anyone working in the medium. His is without equal in this realm and his shows are an inspiration. Naturally, I wanted to know more about the macro equipment he was using, and so he introduced me to his workhorse—a macro stereo camera hand-made from a radically altered David

Clarence's desire to combine his love of nature photography and his love of stereoscopic photography resulted in the creation of a macro stereo camera built out of a modified Stereo Realist body. This July 1991 photo shows him holding the third such camera he made, which he originally sold to A.O. Smith.

Clarence G. Henning, the inventor of what would eventually be produced as the Realist Macro Stereo camera, in an August 1992 portrait. He is shown with two of the macro stereo cameras that he hand-built. (photos by the author unless noted.)
stereo camera hadn't already been snapped up. I bought it immediately.

Over the next year and a half I occasionally thought of searching for the person whose name was on the camera but put it off for various reasons. When I finally did decide to pursue an interview, finding him was as easy as looking in the local Milwaukee phone book.

A Diverse Background

Clarence Henning had moved to his home in Milwaukee in 1950. He had been hired by David White in late 1949, and until he was able to move into his Milwaukee home, he commuted to work from Kohler, Wisconsin. He'd had his own studio (Midwest Studio) in Sheboygan, Wisconsin, which was primarily a commercial studio with accounts such as H. C. Prange, a regional five and dime chain store, Richardson Boats and Furniture, and the nationally known Toni Home Permanent from whom he got some notoriety by introducing the Hershey Twins, who were the models in Toni's national ad campaigns.

He also did weddings in 3-D in the late 1940s, using a Realist f3.5 and usually shooting about two rolls of Kodachrome. He included a red button stereo hand viewer as part of the package. It was this experience that raised his interest in seeking employment at David White in Milwaukee, and so he visited them, cold, looking for a job. He got a glowing recommendation from James Calder (their advertising manager) and started out in his first position as the company's...
As the word began to spread about Clarence’s macro stereo camera, he began receiving requests for more information from many interested companies and individuals. He did gradually build and sell a small number of additional cameras, but did not have facilities for any large scale manufacturing. Clarence received this carbon-copy of A.O. Smith’s response to an inquiry originally received by the American Society of Metals from a machine company in England.

Although it is not known who originally purchased this camera from Clarence, the answer can be narrowed down to four possibilities. It was built sometime after camera number three, the one purchased by A.O. Smith, since its lens and shutter assembly is on the left side of the camera’s body. Cameras eight, nine and ten are already accounted for, so this unit must therefore be number four, five, six or seven. This means that the original purchaser could have been the Milwaukee Public Museum, Beech Aircraft, Marquette University, or the West Allis Camera Store. Clarence continued to experiment with different sources of shutters for his cameras, in this case using a Vario shutter. (Photo by Mark Wilke)

Stereo photographer testing and experimenting with their equipment.

Clarence recalled meeting Harold Lloyd, who visited the plant on Court Street several times and was photographed by Clarence with some of the company executives for promotional purposes. He was shocked at their first handshake to find Lloyd missing a finger, and said it completely unnerved him.

Delving even further back into Clarence’s work history, I learned that right out of high school in Kohler, he had become an apprentice pattern maker at the Kohler Plumbing Facility. His father was a supervisor in the brass foundry. Clarence then had a series of jobs that included pouring metal in the foundry room, working in the core room, and lastly as the plant tour guide. These were the depression years of the 1930s, and by March 1938 he took employment at the Eastman Kodak Laboratories on the southwest corner of Milwaukee and Mason Streets in Milwaukee.

By the beginning of World War II, Clarence was employed by the Reynolds Photographic Studio in Sturgeon Bay, Wisconsin. The U.S. Government had contracted them to photograph for the Defense Department’s developmental program of Sub-Chasers in the north-eastern Great Lakes area of Wisconsin.

In about 1942 he was hired at Kearney and Trecker Corp., a major manufacturer
late the exposure of a fixed aperture setting, and the shutter speed to regulate background influence. (A high shutter speed would keep the background black, whereas slowing down the shutter speed would allow more ambient light influence.) Exposure for various film speeds would be matched by flash output and the existing aperture disk. Varying film speeds could be used by employing diffusion or neutral density filters over the flash to regulate output for higher speed films.

Clarence started experimenting on his first prototype around 1958 in the basement of his home. He mounted two fixed-aperture lenses side-by-side on a thin aluminum disk, and installed this assembly onto a large between-the-lens shutter which he had attached to the front of a Stereo Realist camera body. He altered the camera body at the film plane by closing off one chamber and enlarging the remaining chamber so as to place the two images side-by-side. He removed the focusing wheel and related inside parts. Then he said "the nightmare began"—locating the subject at the film plane for the sharpest focus and matching this focus to a given point on the probes. The image size of each lens was matched by permanently cementing accurately machined rods beneath the film plane aperture which was no longer movable. Then, using a depth gauge and inside calipers, measurements were made for the image divider plate, which kept the two images from overlapping each other.

Successful Results

Clarence's newly completed hand-made camera worked well for him, greatly simplifying and improving his close-up photography capabilities. In the early 1960s, his dentist, Dr. Ed Leone,
saw some of his macro studies and asked Clarence to make him a similar camera so he could document his dental work. Clarence did so, creating his second hand-made macro stereo camera. Dr. Leone eventually sold the camera and today its whereabouts is unknown.

In 1967, A. O. Smith, a large local manufacturer, acquired the third Henning macro stereo camera for their metallurgical research laboratory. The metallurgist's name was Merrill Sheil. This was the camera that I ultimately acquired at the Chicago Photo Collector's Show in 1989.

Shortly after purchasing their Henning macro stereo camera, A. O. Smith asked Clarence for help with a need for extremely close-up stereo photography. Clarence explained, "A. O. Smith was applying for a patent on a cold metal pressure processing system and in order to get the patent approved, they had to have photographs showing the difference between the material they used and what was already on the market. A 2-D photograph didn't show it because it was like a metal dust, very, very, very fine. They asked me if I could photograph that in 3-D at very high magnification so it would show the individual particles. I did it. An experience I'll never forget."

Clarence had created a photomicrography stereo shift camera set-up using microscope objectives for high-power magnification. He made only one of these setups, which became known as the Henning Micro Stereo Shift Camera.

"The fourth macro stereo camera was ordered, at the urging of Dr. McArthur, by the Milwaukee Public Museum," recalled Clarence. Dr. McArthur was head of the Department of Entomology & Invertebrate Zoology at the time. In researching this article, no one at the museum knew anything about the existence of this camera.

The fifth camera was sold to Beech Aircraft, a now defunct company.

The sixth camera was ordered at the request of Father Lazerous Macior, a Jesuit priest, at Marquette University. While searching for information about this camera, I talked to the head of their photo department, who, ironically, is a stereo camera collector and shooter, and had no knowledge of the existence of any macro stereo camera on campus. He did say the dental school and old medical school were somewhat autonomous. He assured me he would pursue the matter but at this time it appears this camera is also lost. Clarence's wife, Evelyn recalled that the priest was interested in photographing bees. It could very well be that this was a personal purchase.

Clarence recalled that one of the more peculiar jobs he had in his early days at David White took place at Marquette University. Donald Tate, who was head of optical engineering and research at David White, John Willis, and Clarence photographed cadavers and ear surgery procedures at the university for a Dr. Strauss. The camera used

The stereo photos Clarence created with his Micro Stereo Shift Camera were even more dramatic than those made with his macro stereo camera. This eye of a needle was photographed using a microscope objective, with a miniscule shift of the subject between left and right exposures. In order to illustrate the extreme magnification used in this setup, the needle itself is also shown here at actual size. (Stereo by Clarence Henning)

Clarence built camera number nine as a personal camera for himself. This camera and the final one he made each had a Copal No. 1 shutter, which, from my point of view as a working photographer, is among the best shutters ever developed.

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Realist paid Clarence Henning a royalty of $5.00 per unit sold for his invention of the macro stereo camera when it was put into production. His wife, Evelyn, recalled one check for more than $100.00 as the largest of several payments received by Clarence. The other quarterly payments were all for lesser amounts, and she said he only had to report tax obligations for one year. This would mean that production figures were very low—possibly only several hundred units.

Evelyn said that Clarence was a Speed Graphic with stereo mount lenses by Tate and Willis. Clarence sold his seventh camera to the owner of the West Allis Camera Store who was an ardent hunter and fisherman. While on a camping trip to northern Wisconsin, his camera was stolen out of his tent and never recovered.

The eighth camera was ordered by Ed Miller, previously mentioned. He said he had to wait for almost a year because Clarence didn't take him seriously.

The ninth camera was Clarence's personal camera. He subsequently made one last camera, with a black Copal shutter, for his son as a keepsake of his life's work. This camera is the most cosmetically attractive of any he made. He finished it shortly before losing his sight in the early 1990s.

Clarence had difficulty in finding suitable between-the-lens shutters because usually they were made for a specific camera or a specific company, so he used whatever he could find. Each shutter he selected had to allow the installation of the thin aluminum disk on which the two lenses were mounted, without any interference to the operation of the shutter itself.

He mounted the fixed aperture disks on some cameras in front of the lenses, but on most cameras behind the lenses or, as he put it, "at the exit pupils." He said his preference was locating the aperture disk between the lens assemblies at the nodal point, but this could only be done, he recalled, with the lens assemblies...
from the Kindar which was also made in Milwaukee. The Kindar employed two metal slides which came in from the sides of each lens at the nodal point and formed a diamond-shaped aperture. The positioning arrangement was a concern in regards to focus shift, but because Clarence was creating a fixed-focus instrument, he would make adjustments at the time of final assembly, so ultimately the concern became moot.

**Production Begins without Clarence's Input**

Clarence approached the president of David White, Mr. William Balch, in the late 1960s with the idea of manufacturing his macro stereo camera. By this time Clarence was head of the company's processing lab, doing all film processing and chemistry, including dye transfer prints. The lab also did a large volume of slide duplication and custom mounting. The company literally had all the research and development of the macro stereo camera dumped in its lap. The project was turned over to the company's Research and Development department, and Clarence was denied any further input on it.

He expressed disappointment with the production model Realist Macro Stereo camera. He thought the probes were inadequately designed, and also didn't like the self-cocking shutter used or the long throw of the shutter release. He did feel that the camera had very good, well matched lenses, and he approved of the concept of using Portra lenses to accommodate the need for various working distances and degrees of magnification.

Clarence received royalties in the amount of $5.00 per camera sold. Paid quarterly, these royalties never involved impressive amounts of money because of the small number of cameras produced. Clarence felt there were only several hundred cameras made judging from the royalties paid him. These cameras were sold after Realist ceased production of the regular stereo camera that had enjoyed such widespread popularity.

Clarence retired from Realist on March 16, 1977, after more than 27 years of employment there. His retirement years were spent operating a stereo slide mounting service, photographing, working on and with his equipment, and being a grandpa and father to a devoted family of three daughters and a son. Clarence lost his eyesight over a period of time, starting about 1993, due to macular degeneration. He passed away on November 7, 1995. His 84th birthday would have been on December 5, 1995.

Clarence Henning was a man who throughout his life displayed a mental acuity for technical involvements. He enjoyed a challenge and always displayed a generous nature with his knowledge. Although he didn't think in these terms, he carved out a significantly unique niche in the history of photography with his contributions. His name may be ultimately lost in the shadows of time, but his camera was a glaring success. Ask anyone who's used one.

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**Walt Mendoza 1924-1996**

Walt Mendoza, well-known stereo collector, California camera dealer and all-around nice guy died on Easter Sunday after a long bout with cancer. For many years Walt had suffered with diabetes and later underwent open heart surgery, all of which contributed to his early demise.

Walt was a true "collector's collector". He collected clocks for many years and then went on to collect tools. He amassed a large collection of memorabilia pertaining to the California Judicial System and dabbled with many other items as well. Walt was an active photographer and camera collector for many years before taking the plunge into seriously collecting 3-D items.

After finding a number of stereo cameras and viewers in the course of buying and selling camera equipment, he began coming across an ever-growing number of stereo images. Because stereo photography is such a very special medium, these items intrigued Walt to the point where he decided that this had to be a full-time hobby. He collected in many different fields including stereo cards, anaglyph and lenticular images, but his favorites were the more "modern" formats—namely View-Master and Tru-Vue.

Knowing that any one collector will NEVER have one of every View-Master reel, he concentrated on finding one of each Tru-Vue strip ever made. He had near his goal at the time of his death—he was missing only four known numbered Tru-Vue strips!

For 37 years Walt worked for the State of California and served as the law enforcement officer for the State Attorney General's office. He retired from that position 13 years ago and took up camera collecting as a hobby and camera collecting as a "side line".

He is survived by his wife, Shirley, as well as his two sisters. Walt's friendly manner and winning personality will be missed throughout the 3-D community.

- Mary Ann & Wolfgang Sell
The latest three-reel View-Master album from 3-D Book Productions of The Netherlands, *A World Adventure*, documents Scouts and their activities at the 18th World Jamboree in Dronten, Holland in August of 1985. (Due to copyright considerations, the words "World Jamboree" and "Scouts" couldn’t be used on the reels or in the album itself.) The 21 stereos by Hugo de Wijs convey much of the international flavor and general atmosphere of the event, which drew at least 28,000 male and female scouts from countries around the world.

As the album pages feature enlarged photos in place of text detailing the subject, the stereos alone must provide information about the Jamboree to those of us unfamiliar with such gatherings.

The impression they leave is that this must have been a truly memorable experience for all involved—a sort of cross between a very informal, laid-back military encampment and a very strictly organized rock concert. (The facilities included a huge outdoor stage complete with lights, speaker towers and a dancing platform.) Events covered on the reels range from survival-skill obstacle courses to a pillow fight to a wheelchair basketball game.

Even collectors with little or no interest in scouting may well want to order this album as it turns out to be one of the last sets of reels produced by the View-Master plant in Belgium, which Tyco Industries closed early this year. (See the item in this issue’s NewViews column.)

**A World Adventure Reel A Scene 4, “Subcamp Hungary” shows scouts from Hungary under the decorated arch in front of their camping area. Several other national groups are also pictured on the reels, each in their unique scouting uniforms.**

Stereo by Hugo de Wijs © 1996 3-D Book Productions.

**A World Adventure Reel B Scene 8, “Jumping Activities” is one of several scenes of survival training exercises in the album.**

Stereo by Hugo de Wijs © 1996 3-D Book Productions.
June 29 (CA)
San Diego Camera Show and Sale, Al Bahr Shrine Temple, 5440 Kearny Mesa Rd., San Diego, CA. Contact Anton at Bargain Camera Shows, PO Box 5352, Santa Monica, CA 90409, (310) 578-7446.

July 14 (CA)
Pasadena Camera Show and Sale, Pasadena Elks Lodge, 400 W. Colorado Blvd., Pasadena, CA. Contact Anton at Bargain Camera Shows, PO Box 5352, Santa Monica, CA 90409, (310) 578-7446.

July 14 (GA)
Atlanta Camera Show & Fair, Holiday Inn Northwest, I-75 & Delk Rd., Atlanta, GA. Contact Atlanta Camera Shows, PO Box 360033, Decatur, GA 30036, (770) 987-2773.

July 14 (NJ)

July 21 (NY)
New York City Camera Show, The Park Inn, 440 West 57th St., Manhattan, NY. (201) 478-1980.

July 21 (CA)

July 21 (CA)
San Diego Camera Show and Sale (see June 29).

July 27 (NY)
NSA ANNUAL CONVENTION, Genesee Plaza Holiday Inn and Riverside Convention Center, 120 E. Main St., Rochester, NY. FEATURING: Stereo Theater, Room-Hopping, Auction, Trade Fair, Exhibits, Awards Banquet, old and new friends, etc. For registration forms and information, contact Bill Davis, 942 Gaywood Lane, Webster, NY 14580, (716) 671-7707, fax 787-3049, E-mail: bd3d@ix.netcom.com

August 1-5 (NY)
NSA ANNUAL CONVENTION, Genesee Plaza Holiday Inn and Riverside Convention Center, 120 E. Main St., Rochester, NY. FEATURING: Stereo Theater, Room-Hopping, Auction, Trade Fair, Exhibits, Awards Banquet, old and new friends, etc. For registration forms and information, contact Bill Davis, 942 Gaywood Lane, Webster, NY 14580, (716) 671-7707, fax 787-3049, E-mail: bd3d@ix.netcom.com

August 24-25 (CA)
Summer Photo Fair, San Mateo Expo Center, 2495 So. Delaware St., San Mateo, CA. Contact Photo Fair, PO Box 29392, San Jose, CA 95152, (408) 251-9197.

September 2-7 (AZ)
Photographic Society of America national convention, Tucson, AZ. Always an enthusiastic contingent of active stereographers and a stereo projection program. Contact Richard Frieders, FPSA, Conventions VP, 1305 Foxglove Dr., Batavia, IL 60510.

September 7-8 (MI)
Detroit Photorama USA, Dearborn Civic Center, Dearborn, MI. Contact Photorama USA 20219 Mack Ave., Grosse Point Woods, MI 48236, (313) 884-1955.

September 8 (IN)
Second Sunday Camera Show (see July 14).

September 8 (NJ)
Second Sunday Camera Show (see July 14).

September 8 (NY)
New York City Camera Show (see July 21).

September 18-23 (Germany)
Photokina '96 - World Fair for Imaging, Cologne, Germany. Contact Messe-und Ausstellungs, Ges.m.b.H Köln, Messeplatz 1, D-50679 Köln, Germany. Phone 0221-856-3863.

September 22 (CA)
Central Coast Camera Show, South County Center, 800 Branch St., Arroyo Grande, CA. Contact Bill McBride/Bill Hood, Box 1511, Pismo Beach, CA 93448, (805) 481-6860.

September 29 (VA)
Barone Camera Swap Meet, Holiday Inn Crystal City, 1489 Jeff Davis Hwy., Arlington, VA. Contact Camera Swap Meet c/o Barone & Co., Box 18043, Oxon Hill, MD 20745, (703) 768-2231.

September 29 (IN)
Camera & Computer Swap Meet, Century Center, South Bend, IN. Contact Roger Smith/Heirloom Images, 8863 E. Black Point Rd., Syracuse, NY 13217, (315) 865-3863.

September 29 (CA)
San Diego Camera Show and Sale (see June 29).

September 29 (MI)
Burbank Camera Show and Sale, Aeronautical District Lodge, 2600 W. Victory Blvd., Burbank, CA. Contact Anton at Bargain Camera Shows, PO Box 5352, Santa Monica, CA 90409, (310) 578-7446.

September 29 (VA)
Second Sunday Camera Show (see July 14).

September 29 (NJ)
Second Sunday Camera Show (see July 14).

September 29 (IN)
Second Sunday Camera Show (see July 14).

September 29 (NY)
New York City Camera Show (see July 21).

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ARTHUR GIRLING'S "Stereo Drawing - A Theory of 3-D Vision and Its Application to Stereo Drawing", 100 pages hardbound 8½ x 12. Stereo photographers are finding that the book applies equally to stereo photography 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 photographs. Written in English language and profusely illustrated with B&W drawings as well as 11 pages of superb photographs. Write for free sample. Waldsmith, 44256, (216) 239-1944.

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BUFFALO/SAN FRANCISCO stereo views wanted, especially ones by N.A. Forsyth. R.M. Rowell, 4510 Gregg Road, Madison, WI 53705.


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NEWBURYPORT, MASS. stereo views by Meinert, Moseley, Macintosh, Reed and others. Buy or trade. Scott Nason, 12 Marlboro St., Newburyport, MA 01950, (508) 462-2953.


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STEREO VIEWS by Edward L. Wilson from "Scenes in the Orient" series. Will purchase or trade your wants in stereo views. Arthur Farrell, 33 E. 5th St., Huntington Station, NY 11746.

STEREO VIEWS of American presidents from Andrew Johnson to Teddy Roosevelt. Send xeroxes with prices to PO Box 33, Waccabuc, NY 10597, or call (914) 666-8440 (w), (914) 703-3465 (h). Also wanted: Maine coastal views.

SUGAR! I am a sugarcane farmer and sugar producer, and collect stereoscope cards with anything related to sugar, sugarcane, sugar mills, etc. Please write A. Boynton, PO Box 1428, Loxahatchee, FL 33470-1438.

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STEREO WORLD March/April 1996
Author writing about

Collins' Beach, Delaware,

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DOUBLE EXPOSURE TWO
Stereographic Views of the Jersey Shore (1859 - 1910)
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by George H. Moss Jr.

Foreword by Dr. Lee Ellen Griffith, Director, Monmouth County Historical Association

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