After a slow start, entries have started arriving for our "Children" assignment. Selecting stereographs from among those sent in has been tricky. It's just hard to reject any of the appealing kids in these views. As you can tell from these first selections, people don't seem to stray too far from the usual settings and poses when doing stereos of their kids. So far we've seen several examples of good stereographic technique and timing, but nothing involving a lot of imagination or creative visualization. Keep those slides and prints coming!

The Assignment:

We hope to see some interesting stereos of kids from age 30 seconds to 12 years that have both good stereo impact and that very subjective quality of "human interest." Any number of kids can be included, but one or two generally get more attention than many. Relatively close shots taken from the level of a child's world are often the most effective. Send anything from action views to portraits, but do get parents' permission for publication if the subjects are other than your own children. Deadline for the "Children" assignment is October 25, 1993.

The Rules:

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

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

Any stereographer, amateur or professional, is eligible. Stereos which have won Stereoscopic Society or PSA competitions are equally eligible, but please try to send views made within the past eight years. All views will be returned within 6 to 12 weeks, but Stereo World and the NSA assume no responsibility for the safety of photographs. Please include return postage with entries. Submission of an image constitutes permission for its one-use reproduction in Stereo World. All other rights are retained by the photographer.

Send all entries directly to ASSIGNMENT 3-D, 5610 SE 71st, Portland, OR 97206.
Volume 20, Number 3 • July/August 1993

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ON THE COVER

Simply described as "A Beggar Family" on the back of the view, this image is from Paul Wing's presentation "A 3-D Visit to Old China" at the 1993 NSA Convention's Stereo Theater. One of the most popular shows in the three days of stereo projection, the views were taken in several locations in China around 1900 by an unknown amateur stereographer. More examples from the show appear in the article following our coverage of the convention.
A Wider Stereo Base

The impressive (1000+) crowd at this year's NSA convention was dramatic proof of the organization's continued growth. But as important as widely publicized things like conventions are, contact with individual potential members remains essential to the expansion of interest and participation in all aspects of stereo imaging. Personal contact is of course the best, as when encountering someone else with a stereo camera while climbing barnacle-covered rocks in search of the perfect view of crashing waves - OR when you notice another pair of hands flipping through some dusty boxes of views in the corner of a musty antique shop on a back road you thought nobody else knew about. When in either situation you're able to introduce the other person to the NSA, and perhaps acquire a new friend in the bargain, it can leave you feeling good about the whole experience, even if you didn't shoot any good stereos or find any interesting views.

As delightful as such personal encounters can be, individual contact can also happen through an NSA membership folder that someone finds near some likely exhibit or on a counter where equipment, images, or anything even vaguely related to stereography could be found or discussed. Among the estimated 1/4 million stereo items seen at the NSA Trade Fair were some of the latest generation of random dot stereogram posters. If there is currently a mall in the country without a shop or stand selling these colorful images, we haven't heard about it. Some are independent retailers, while others are part of larger operations with outlets at a number of malls.

Many of these people are doing brisk sales, even with the steep prices involved at high-rent malls. The effect is that more people can now free-view stereo that at any time in history. Unfortunately, many of them don't know it. They are only aware that they have mastered some clever optical illusion/ (Continued on page 15)

Robert M. Waldsmith (1913-1993)

The NSA lost a good friend and fellow member with the passing of Bob Waldsmith on July 15. Bob served for a number of years as the Subscription Manager. He was responsible for processing new members, the annual renewals, and the sale of back issues, View-Master souvenir packets and other items offered by the NSA. Bob, along with his wife Lois, handled the large amount of mail, directed correspondence to the proper officers, recorded changes of address and made the bank deposits.

The first issues of Stereo World magazine were put together in Bob and Lois Waldsmith's family room in Columbus, Ohio. They assisted their son John in proof-reading and, following printing, the stuffing of envelopes and affixing of mailing labels. Bob always enjoyed the annual convention where he could be found selling back issues and signing up new members.

Bob was an avid collector of items related to George Washington, most especially to Washington's home at Mount Vernon, Virginia. Visitors to his home were treated to a "tour" of his large collection, which included an extensive presentation of stereo views of Mount Vernon from the 1850s to the present. He delighted in showing his collection and sharing his knowledge.

Shortly after his death, the NSA Awards Committee designated the annual service award in his honor. Past Secretary, John Weiler, received the Robert M. Waldsmith Meritorious Service Award at the San Diego Convention in August. Ironically, Bob himself had encouraged John Weiler to become the NSA Secretary fourteen years ago.

Lois Waldsmith has agreed to carry on as the new NSA Subscription Manager.
Light Bending correction

On page 34 of Volume 20, Number 1 of Stereo World, there is an error in the box titled "Chromostereopsis." When light is refracted, shorter wavelengths (blue) are bent more than longer wavelengths (red). Light is refracted as it passes through a lens. Light is diffracted as it passes an edge (or a small aperture) which has the opposite correlation with wavelength.

Gary J. Williams, O.D.
Owego, NY

In the effort to simplify our explanation we bent the laws of physics by lumping lenses and prisms in with diffraction filters and pinholes (the latter two being the subjects of the article) and then mentioning only the light bending effects of diffraction filters and pinholes. While basic to optics, the difference between refraction and diffraction matters less in applied chromostereopsis. The lateral shifting of either the blue or red end of the spectrum can be used to create a 3-D effect whose depth planes can be reversed depending on which filters, which pinhole edges, or which prism arrangements are placed in front of the left and right eyes.

- Ed.

UFO View

The mysterious lights in the stereograph on page 29 (Vol.20 No.1) are most likely strobe lights from a passing aircraft. These lights are required by the FAA on all aircraft for safety reasons. You can barely make out the light on the other side of the wing in the last flash (on the right end of the string).

Jay Fenton
San Jose, CA

Quite likely, but to avoid disappointing those with more exotic imaginations, we should point out that anybody who could find Fort Benning from halfway across the galaxy could probably imitate the strobe lights of a Cessna!

- Ed.

Storm Warning

I admit that I spend too much money on weird 3-D stuff. Which is why I went out on a limb and spent $49.00 on the 9-reel set from 3-D Book Productions, GYLDEN STORM. This Dutch company has produced some beautiful 3-reel sets, so I was looking forward to this unusual "adult" epic.

It turns out that 3-D Book Productions did not produce the set, but is only distributing it. Too bad, because whoever did produce it knew very little about 3-D! I could stand the very repetitive images and even the very hyper spacing, but I could not tolerate the incredibly poor camera sync! Many images had phenomenal anomalies, almost as if the live action shots were done with a camera shift!

Although many images were quite interesting and different, the technical problems led me to return the set. I explained my disappointment and requested not a refund, but a trade. However, unless there is a manufacturing error, 3-D Book Productions will not accept returns. I got the set back.

My feeling is that I paid for quality, but got much less.
Ron Labbe
Boston, MA

Lorgnette Pleases Space Alien

I would like to express my appreciation to Jim Curtin of the Added Dimension and to the staff of the NSA/Stereo World magazine for the complementary plastic viewing lorgnette.

Of interest too, is the Stereo World assertion that NSA members may have fewer viewing aids than may be assumed; even though I'm a stereo enthusiast-holographer, Nimilo user, et al., I've never owned a pair of these general purpose plastic glasses.

Rather, I've learned to freeview, or use a matched pair of 90mm Russian camera lenses that I've mounted in a head band arrangement. While the home-made stereo viewer gives excellent results, it is rather heavy, and makes one resemble an outer space alien, which attracts a lot of attention.

Again, thank you for the complimentary viewer.
Ron Paul Smith
Sharon, MA

Auctions, Again

As a disinterested party, I would like to answer Mr. Komar's letter in your March/April '93 issue, as I have found the auctions to be most valuable and quite satisfactory.

I have bid in almost all the auctions announced in the past year. The telephone bill is moderate, even though I am calling from the West Coast, because all the calls are in the evening. I make a bidding plan for each auction, and keep calling until either I have the item or the bid goes beyond my preset maximum. With the exceptions noted below, I am quite certain I pay no higher than any dealer price I know of, and usually much less (and where are the retailers with the Tim O'Sullivans and '76 Exhibitions in mint condition?).

Having said all this, the dark side is that some well known auctioneers consistently over-grade items by at least one full grade. Examples from my personal experience include: an 1870 Appleton viewer listed as "VG" had a piece of the brass slider spring broken off and had been re-varnished; a "VG+" '73 Wheeler Expedition had unsightly library stamps on the back; a "VG" Anthony had a large stain on one image. However, all the auctioneers I know will either refund your money of make an adjustment if you are dissatisfied, so you have only lost time and trouble.

I agree with Mr. Komar that mail bids are not a good way to go, but keep phoning until the close — surely it is worth staying up to 1am for something good?

Peter H. Fowler
North Bend, OR

(Continued on page 31)
I would like to personally thank each one of you who made a special contribution to the NSA. It is because of your generous donations that we are able to hold the dues in line for one more year. Your contributions are used to help in the historic and current 3-D research that some of our members are doing. We had over 380 donors whose contributions totaled more than $8,000.00 this past year. Some of the money is being used to purchase much needed, updated computer equipment that will help our managing editor and secretary in their jobs.

We have also received a very generous grant for our research library. Our editor of Stereo World, John Dennis, is always looking for articles on 3-D. More are always needed so we can maintain the fine quality of information we have had.

Many of you have in the past been good enough to write to the officers suggesting changes and improvements, and I hope you will continue to feel free to write to me. Only if we know what you want from your association can we make it more useful and interesting. Thanks again for your support.

Gordon D. Hoffman, President NSA 918 E. 4th St. Rd. #206 Fond du Lac, WI 54935

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Fine Early Photographs
Everything about the 19th annual NSA Convention this August in San Diego was BIG – from the maze-like hotel complex, to the record breaking attendance, the three full days of stereo projection, the huge Trade Fair, the Spotlight Auction, the wide variety of exhibits, and the observance of the 100th anniversary of the Stereoscopic Society.

This year’s attendance was well over one thousand people. Added to the 540 preregistered stereo enthusiasts were hundreds who came for one or two days of the Trade Fair and the Stereo Theater, actually running the registration table out of one-day tickets and leaving final attendance totals yet to be calculated.

The convention site was easily the biggest and most complete facility of its type ever to host an NSA Convention. Isolated from San Diego’s core area on a rather sterile, quick-freeway-access road aptly named Hotel Circle, the Town and Country Hotel is a huge complex of hotel towers, shops, meeting and exhibit halls, restaurants, swimming pools and parking struc-

George Polakoff at his table in the busy Trade Fair, where an estimated ¼ of a million stereo related items were available – even after the intensive room-hopping of the previous two evenings.
The first NSA Convention program with a 3-D cover greeted registrants as they opened their packets, which included glasses to view the anaglyphic drawing. The original art is by David Garcia (creator of the comic book character Panda Khan) and 3-D conversion is by Ray Zone.

Stereophiles. A map printed in the NSA program helped, but some people were still getting lost after being there two days! A variety of convenient sources for off-site food and shopping was available directly behind the hotel complex at a place called (assuring visitors an authentic upscale California experience) the Fashion Valley Mall. The convention slogan of “Sun, Surf, and 3-D” was easily validated by the clear, sunny days gently air-conditioned by ocean breezes. But little of the “surf” was experienced by NSA members while the Stereo Theater and Trade Fair were in progress.

Stereo Theater Shows
This year’s Stereo Theater was one of the most ambitious ever attempted, with three full days of projection programs, a platform crammed with ten carousel projectors coupled to synchronizers and tape decks, and even more projectors positioned down in front of the main platform. Negotiations with the hotel had failed to make any more than 7 hours of set-up time available in the Stereo Theater room, leaving no opportunity for adequately previewing the multi-projector synchronized slide shows in their variety of formats. As a consequence, Director Bob Mannle

Looking diagonally across the center of the busy Trade Fair on Saturday, where 106 tables of stereo related items awaited convention goers. One dealer who had hesitated coming to San Diego later reported doing twice the business of any previous convention.
In the line of fire, Bob Bloomberg helps make some quick adjustments to the upper array of projectors in the Stereo Theater. On lower platforms in front of these were Brackett Dissolver and RBT projectors for Realist format slides.

Stereo Theater Director Bob Mannle at work behind the bank of projectors. Multiple projector 2x2 format shows dominated this year's program, requiring complex cable connections for synchronization and sound.

had his hands full making quick changes in the Stereo Theater schedule whenever problems arose with a show. By rescheduling some shows and using alternative synchronizing systems with others, he was able to present every show on the program (including scheduled repeat showings) during the three days of the theater.

The quality and variety of this year's shows quickly overshadowed frustrations over occasional false starts and delays as soon as the amazing images and sounds filled the room. Of the 21 shows and 7 movies presented, some may be repeated or updated for future conventions, so the following brief descriptions may be of help to those who were unable to attend.

“A 3-D VISIT TO OLD CHINA” by Paul Wing presented the stereos of an unknown but skilled amateur, revealing some of the faces and everyday lives of the people of China in the early 1900s. (See the illustrated article on page 16 of this issue.)

“THE STEREOSCOPIC SOCIETY CENTENNIAL” by Jay Hollomon and the Stereoscopic Society of America provided a look at some of the best work of both past and present print and slide members. Views from the print folios were copied for projection, which showed the full range of fine color and black & white work circulating in the Society folios in this 100th anniversary year of the parent organization's founding in England. An introduction by

Judy Profitt covered the history and functioning of the group and the American branch, now affiliated with the NSA under the name Stereoscopic Society of America.

“WINDOWS IN TIME” by Susan Pinsky and David Starkman treated the audience to 80 classic stereoviews expertly copied to a 2x2 slide format and grouped into five sequences covering fairs, photographers, children, London streets, and romance. Few slide shows have so well captured the varied charm and humor lurking within vintage stereographs as does this one. Subjects range from a boy on a chamberpot (1897) to the Goodyear blimp at the 1933 Chicago fair, London's Fleet Street, and a woman with cows in New Zealand. The show included a printed souvenir program identifying the views by number, naming the music used with each sequence and crediting the sources of the images – an all too rare service that with luck will be imitated by more presenters in the future.

“KONICA VISION” by Dale Sloat demonstrated what is being done commercially with fast paced 8 projector presentations for firms like the Konica Medical Corporation. While many of the images...
An attention-getting look at the organs most intimately involved with 3-D from the Stereo Theater show "The Eyes Have it" by Ron Labbe.

"Variations on a Screen" by Steven Anderson and Bob Bloomberg skillfully combined stereo photography with computer graphics and a sense of humor and whimsy.

"Southern California" by Bob Mannie traced the stereo-graphic history of the area through views provided by the California Museum of Photography. Some were framed like this for full frame projection, while others were masked in with modern stereos of the scenes depicted. Here cannery workers sort lemons in the early days of California's huge agricultural industry.

"The Eyes Have It" by Ron Labbe covered both the history and visual physiology of stereo imaging using four projectors and some of Ron's outrageous stereography and timing. Also included were images by Steve Aubrey, Allan Griffin, Susan Pinsky, David Burder and Paul Wing. Needless to say, this is not a show in which anyone fell asleep!

"Conversions" by Ray Zone illustrated the history and techniques of converting flat drawings to 3-D for everything from comic books to cereal boxes, trade publications, T-shirts, posters, buttons and toys. While the projected images were in polarized 3-D, the audience needed only to glance at the cover of the Convention Program to see an anaglyphic example of Ray Zone's conversion skills - on the first NSA Convention program to be printed in 3-D.

"Stereographic Metamorphoses" by Jonathan Golden was a three dimensional, dissolving evolution of images, with each image chosen to interact with its adjacent counterparts. "Recruited" to 3-D by Ron Labbe, this was Boston native Golden's first show for the NSA. A profes-
sional music and sound producer, his recorded sound track for the Brackett Dissolver projected show was one of the most impressive to be heard over the three day event. With any luck, we can expect to see and hear more from Jon Golden.

"SOUTHERN CALIFORNIA" by Bob Mannle combined images from the area's past with current stereos - often in the same frame, through the skilled use of masking techniques that are a part of Bob's professorship at his New Vision Technology in Vista, California. The Spanish Missions, the coming of the railroads, the oil boom and the rise of the big cities were all followed through historic stereo images generously supplied by the California Museum of Photography from the Keystone-Mast Archives. Bob also designed and produced the convention logo which appeared as an introductory image for several of the shows in its full color, 3-D version.

"3-D X-RAYS OF FLOWERS" by Albert Richards presented more of his unique images than the samples reproduced in his Jan./Feb. '92 feature article in Stereo World. First projected at last year's convention in Fort Wayne, the views looking through and inside flowers had more impact and more of an ethereal, glowing vibrancy than on the printed page. This year's version of the show was set to music and re-programmed to run on four projectors, allowing titles to appear on screen after a short interval for the audience to try and identify the flower they were looking through.

"VARIATIONS ON A SCREEN; A DUET OF CAMERA & COMPUTER" by Steven Anderson and Bob Bloomberg combined traditional stereo photography with computer graphics to create a whole new stereo reality through which people, animals and inanimate objects walk, float or ride. For some details on the techniques involved, see the article on Bob Bloomberg in the Sept. '93 issue of Stereoscopy from the International Stereoscopic Union. (USA representative, Paul Milligan, 508 La Cima Circle, Gallup, NM 87301.)

"AN ODYSSEY IN EDEN" by Marshall Rubin brought the fairyland "escapism" of Hawaii into the room via full frame 2x2 stereo. For those beginning to wonder if anyone was still shooting scenic stereo, this show answered through frames overflowing with the romance of the islands.

"ROUND THE WORLD WITH HUBERT C. DELL" by Stan White presented the 1950s Verascope slides of world traveler Hubert Dell. This program of the work of the prolific Toronto stereographer was produced for the Photographic Historical of Canada, and this was its premier showing.

"HIGH SPEED STEREO" by Franklin Flocks was a dramatic selection of his high speed flash stereo freezing water balloons, air balloons, and light bulbs in every stage of exploding. He also included some of his latest milk drop studies and gave a live demonstration of his sound-acti-
vated flash system in the darkened auditorium. (See Stereo World Vol.19 No.3, page 36.)

"ELGAR'S ENGLAND" by the late Pat Whitehouse worked its usual magic on those seeing it for the first time – or the fifth time – or the second time in as many days. Her musically synchronized close-ups of flowers, insects, animals, and birds demonstrate with every showing how patience and dedication can enrich stereography, and how imagination added to that can reveal its full potential. She designed and constructed her own macro stereo camera when nothing else was available, and hand synchronized the projection of her slides with the music.

"ABSTRACT VISIONS IN TIME/SPACE" by John Baird filled the air with the colors and tracks of light sources from fluorescent tubes to strobes and fireworks. John brought along a few brightly colored lights and demonstrated some of his time exposure movement techniques.

"SUSAN'S 3-D POTPOURRI" by Susan Pinsky & David Starkman included, as the title indicates, a bit of nearly everything, organized into 14 short sequences with individual musical themes and titles like Images of the Past, Dramatic Depth, Just for Fun, News at Eleven, and Hooray for Hollywood. Some of the best work of 52 of the world's leading stereographers is featured in this informal 3-D sampler and celebration of stereographic skill and imagination. This show also came with a printed souvenir program listing the slide titles and stereographers.

"THE CRYSTAL & THE WATER DROP" by Guy Ventouillac took the audience on an amazing journey through some of the deepest and most protected caves of France. Even a 3-D flash-on-camera snapshot of an unusual cave formation can be interesting, so you can perhaps imagine how stunning these images were, created by a master at stereographic lighting, exposure and composition.

"KISSING WHALES & OTHER TALES" by Bob Bloomberg was a short preview of a work in progress documenting some Baja California islands and the gray whales in a particular lagoon. The whales in this protected breeding area have for some years, without chasing or prompting, approached whale-watching boats and allowed the humans aboard to touch them. Bob is a frequent passenger on these expeditions, and he invited everyone to see the show – with more islands and more close-up whale stereos – when it is completed. This tantalizing five minute preview was easily one of the most popular presentations of the day.

"COMPUTER GENERATED 3-D IMAGES" presented some of the latest and most dramatic work in the field from three sources: NSA member Kenneth Snelson (see Vol.15 No.1) using a Silicon Graphics workstation and Wavefront Technologies software; Angel Studios and their images of the city of tomorrow in the 70mm 3-D film "Enertopia"; and SIGGRAPH 1991 with a selection of images from various computer artists.

"THE NSA SHOW & TELL HOUR" featured the outstanding underwater stereography of Mark Blum and a demonstration of the potential of the new 21 foot wide NSA screen by Guy Ventouillac, who projected two full 35mm stereo images side-by-side on it, showing some fine cave stereos not included in his previous show and some flat vs. stereo comparisons.

In addition, seven amateur 3-D movies from the Stereo Club of Southern California were shown:

"3-D ZOMBIES FROM OUTER SPACE" by Alan Williams.
"III-D OLYMPIAD" by the SCSC 3-D Movie Division.
"NATURE TRAIL TO HELL IN 3-D" by Bill Shepard.
"MANDLEBROT FRACTELS" by Jody Kravitz & Wes Western.
"WEEKEND PANORAMA" by Wes Western.
"A DAY AT THE DEL MAR FAIR" by Wes Western.
"ANTIQUE GAS & STEAM ENGINE SHOW" by Wes Western.

Awards

NSA President Gordon D. Hoffman announced the annual awards for NSA volunteers at the Saturday evening banquet.

The 1993 FELLOW OF THE NSA for Distinguished Scholarship and Extraordinary Knowledge of Stereoscopy went to John Waldsmith. Newly named in recognition of his years of service to the NSA, the ROBERT M. WALDSMITH MEMORIAL AWARD FOR MERITORIOUS SERVICE went to John Weiler for his 14 years of dedicated work as NSA Secretary.

The EDWARD B. BERKOWITZ AWARD for the Outstanding Historical Article in a Recent Issue of Stereo World went to Linda McShane for "The Littleton View..."
NSA President Gordon Hoffman hands Vice President for Activities John Waldsmith an invisible plaque naming him 1993 Fellow of the NSA at the Awards Banquet. The actual awards hadn’t been delivered in time for the convention, but members found this bit of pantomime more entertaining than the usual ceremony.

Stereo equipment was in plentiful supply at both the Trade Fair and during room-hopping hours, as these loaded tables in the room of Andrew and Dalia Miller show. More cameras and viewers covered surfaces beside and behind the area visible here.

The Cyberscope™ from Simsalabim Systems presented the brightest stereo images most people had ever seen on computer screens. Image pairs are arranged on the screen on their sides, and the mirrors in the black box rotate and fuse them for filter-free, flicker-free viewing by one person at a time. The most popular of the two demonstration models featured a 3-D computer game.

Company” which appeared in Vol.19 No.6 and was excerpted from her book When I Wanted the Sun to Shine – Kilburn and Other Littleton, New Hampshire Stereographers.


Exhibits

The variety and number of both static and active exhibits also broke records this year. VRex Inc. brought their new micropolarized overhead projection panel and ran some video and animated computer shows on a large screen via an ordinary overhead projector. Most of the time, people were crowded around the exhibit waiting to view this new technology through ordinary polarizing glasses. (See Vol.20 No.1 page 22.)

VRex, Inc., 8 Skyline Dr., Hawthorne, NY 10532.

A large lenticular stereograph from the new Kodak Depth Imaging Department hung with other prints in the exhibit area near a huge anaglyph by NSA member Horst Hoyer adapted from NASA photos. Live 3-D video of people watching themselves wearing LCD glasses made a hit at the table of STEREOMED, who also showed their surgical microscope 3-D technology via 3-D tapes. (STEREOMED, 2307 W. Olive Ave., Burbank, CA 91506.)

A new system for solitary viewing of stereoscopic images on a computer screen was exhibited by Simsalabim Systems. Their Cyberscope viewer hood attaches to a computer screen and its mirrors rotate the two images (which the software positions on their sides on the screen to allow a horizontal format) and fuse them for bright, flicker-free stereo. A number of software companies have produced 3-D products like games and CAD programs to run with the Cyberscope since its introduction. (Simsalabim Systems, Box 4446, Berkeley, CA 94704.)

A large section of the exhibit helped celebrate the centennial of the Stereoscopic Society. “Natural Arches & Bridges of the West” by Quentin Burke was a featured exhibit of stereo prints by this active member of the Society print
folios. Also exhibited were a num-
ber of views by the late Wayne Davis, a Society member from San
Diego. Bill C. Walton assembled a
collection of Society members' stereo Christmas cards as well as
several group views of members
gathered at earlier NSA conven-
tions.
This year's competitive exhibits
were divided into three salons with
a number of subject categories
within each salon. Salon A was for
entries of between six and twelve
vintage and/or modern views, salon B was for between six and
twelve modern views, and salon C
was for single modern views. Three
“Best of Salon” selections replaced
the usual single “Best of Show”
winner.
BEST OF SALON A:
“The Elephant Kraal” - vintage views
entered by Russell Norton (Open Cate-
gory)
BEST OF SALON B:
“Great Oregon Trees” - modern prints by
Jonne Goeller (This Land of Ours Cate-
gory)
BEST OF SALON C:
“Yaquina Head Lighthouse” - single mod-
ern view by Dennis Ellingsen (Man &
His Machines Category)
BEST OF CATEGORY WINNERS -
SALON A:
“Lighthouses of the Pacific Northwest” by
Nancy Sobottka (Views of a City, State or
Region in the U.S. or Canada)
“Personalities” by Bill Walton (Views of
Famous People)
“Modes of Transportation” by Bill Walton
(Transportation Views)
“The Old Woman Who Lived in the Shoe”
by Janet Waldsmith (Quality of Life)
BEST OF CATEGORY WINNERS -
SALON B:
“The making of Veneer” by Dennis
Ellingsen (This World We Share)
“Lenses of the Lighthouses” by Dennis
Ellingsen (Man & His Machines)
“Getting to the Top” by Dennis Ellingsen
(People)
“Sandscapes” by Dennis Ellingsen (Pat-
terns/Textures/Abstract)
BEST OF CATEGORY WINNERS -
SALON C:
“Darlingtonia” by Nancy Sobottka (This
Land of Ours)
“Totality, July 11, 1991” by T. Gillam (This
World We Share)
“Captain Clyde” by Dennis Ellingsen (Peo-
ple)
“Agave” by David Lee
(Patterns/Textures/Abstract)
Prolific photo-history writer and frequent Stereo World contributor Peter Palmquist was the Guest Speaker at the Saturday Awards Banquet.

Keynote Address – Stereoscopic Immortality

Photographic Historian Peter Palmquist, Guest Speaker at the 1993 Banquet, has written 33 books and over 300 articles (including some for Stereo World) on various photographers and matters related to the study and preservation of photo history. Describing his topic as "Stereoscopic Immortality", he urged NSA members who shoot stereo to follow their passions and to share them by also writing about their stereo projects, including their own goals and thoughts as well as information about the images themselves. He suggested thinking in terms of exhibits, projection shows or articles that include documentation that will make the images more interesting and informative to those who see them long after we are gone. Through that kind of sharing would come his definition of immortality.

He urged collectors to organize their views in some logical and labeled order in a way that people could appreciate the significance of a particular selection of images, and to write and share whatever they learn about the images or photographers. He urged both photographers and collectors to make and communicate some plan for the eventual care of their work or collections by family, friends, other collectors, or institutions. He warned those thinking of giving material to museums or schools that properly maintained and accessible photographic collections have become the exception rather than the rule, and that people should visit several museums and be sure curators understand the nature and needs of any collections likely to end up in their care. Immortality, in other words, can only happen through the sharing of our images and our knowledge – and it can only last if the images and knowledge remain intact, in order, and accessible.

President's Breakfast

As usual, the annual President's Breakfast was devoted to the "roast" of a prominent NSA member. This year it was the turn of Susan Pinsky and David Starkman to listen while several friends related amusing anecdotes about the two who are without doubt the most well known and highly regarded stereo pair in the world. Following the stories, Susan stepped up and told a few of her own, making the morning a truly delightful and REEL pleasure.

Tour

Monday's bus tour took members to the Mission San Diego de Alcala, Balboa Park, and the Hotel Del Coronado. Mission San Diego de Alcala was founded in 1769 as the first of the chain of missions in California, and provided several opportunities for stereo photography in a setting far more tranquil than that of the previous few days. Balboa Park's pools, gardens and ornate buildings were equally ripe for recording in 3-D, the problem there being to avoid running out of film before the end of the tour. Lunch was at the dock near San Diego's Maritime Museum, followed by a ferry trip across the bay to the island and the Hotel Del Coronado, where photographing other photographers was almost as much fun as shooting the historic building itself. Most of the structure's street level exterior and interior are devoted to small shops, making it one of the most ornate malls anywhere. A museum filled with fascinating photos of the hotel's history snakes through a hallway at one end of the lower level. With the weather and scenery ideal for stereography, the general wish was that the tour had been longer – many people being ready to keep shooting into the night, if they could.

Thanks To

KEN WRIGHT, NSA '93 San Diego General Chairman, who could be found selling memberships, buttons, and T-shirts at the NSA Trade Fair table, helping set up and dismantle the Stereo Theater equipment, and nearly everywhere between, helping coordinate the complex series of events.

BOB MANNLE, Stereo Theater Director, who contacted the presenters, scheduled the shows, and kept them going for all three days, seldom leaving the projection platform. He also designed and produced the 3-D convention logo and arranged with several corporations for stereo related exhibits.

QUENTIN BURKE, who handled the exhibits and the competition
entries and displays, as well as the layout and printing of the convention program.

JOHN WALDSMITH, Trade Fair Manager, who as NSA Vice President for Activities, also helped select the site of the convention, negotiate rates with the hotel, and advise the local committee.

OWEN (WES) WESTERN, Publicity Director, was able to make good use of his professional connections in the local media to get far better advance publicity and on-site coverage than usual, contributing to the record attendance.

ROBERT DUNCAN, ROBIN & DAVE WHEELER, for assembling and presenting yet another successful Spotlight Auction.

ELLEN RURKE, Registrar.

DONNA MANNLE, Treasurer.

BILL WALTON, Stereoscopic Society exhibit manager.

LILLIAN HARRIS, Bus Tour Coordinator.

GARY SCHACKER, Workshop Director.

RAY ZONE, for the 3-D conversion work on the first-ever anaglyphic NSA Convention Program and souvenir T-shirts.

BILL DUGGAN, for design, transport, and set-up of the new NSA screen.

The colorful random dot 3-D posters seen this summer in nearly every mall in the country could also be found at some tables in the NSA Trade Fair, with less customer training required but also a more critical audience.

DAVID GARCIA, for the Convention Program original art.

DAVID BURDER, for the registration packet anaglyph insert.

JONATHAN GOLDEN, for projection help.

THE CALIFORNIA MUSEUM OF PHOTOGRAPHY, for early Southern California images from the Keystone-Mast Collection.

AMERICAN PAPER OPTICS, for the donated assortments of 3-D glasses in the registration packets.

REEL 3-D ENTERPRISES, for publicity help.

The Roy McJunkin Student Internship Program acknowledges Roy's intense commitment to both students and the museum. His expertise and enthusiasm enabled many to make use of the huge Keystone-Mast stereo image collection, including Stereo World contributors and other interested NSA members. For current information on programs and publications offered by the museum, contact the California Museum of Photography, University of California, Riverside, CA 92521.

LOCAL AREA MEMBERS OF THE NSA AND THE STEREO CLUB OF SOUTHERN CALIFORNIA.

Next Year

Make your plans now for the 20th anniversary NSA Convention, June 17-19, 1994, in Milwaukee, Wisconsin.

If you have a show or an idea for the 1994 Stereo Theater, contact Larry Hess, 15358 Kerlin Dr., Granger, IN 46530. (See the insert in this issue.)

Watch this space for more details in future issues.

Editor's View

(Continued from page 2)

ey trick while standing in front of some posters in a mall. The possibility of extending that same ability to fuse separate images in stereo pair drawings or stereo photos hasn't even occurred to them.

The obvious ideal would be to include an NSA brochure with every poster, but efforts so far to interest any retailers in the idea of even having a few folders available at the counter have failed. If you have seen or spoken with someone selling random dot posters in a mall or poster shop near you, show them an NSA membership folder and a copy of Stereo World, and ask if they'd be willing to help spread a deeper interest in stereo imaging. NSA folders are available in quantities from NSA, Box 398, Sycamore, OH 44482.

On any folders you distribute, in person or indirectly, DO put your name on the "referred by" line at the bottom. Each one sent in by someone for a new membership will earn you a credit on anything the NSA offers, from membership fees to books to convention registrations. The value of helping spread the word about the NSA can quickly add up - both for you and for the whole effort to widen the base of interest in stereo imaging.

Roy McJunkin

The first student internship program in the history of the California Museum of Photography has been funded and named in honor of the late Roy McJunkin, the museum's Curator of Collections, who died of melanoma in May of this year at the age of 45. The Roy McJunkin Student Internship Program acknowledges Roy's intense commitment to both students and the museum. His expertise and enthusiasm enabled many to make use of the huge Keystone-Mast stereo image collection, including Stereo World contributors and other interested NSA members. For current information on programs and publications offered by the museum, contact the California Museum of Photography, University of California, Riverside, CA 92521.

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STereo World July/August 1993
Among those attending the NSA Convention in San Diego, there was near universal agreement that one of the best shows in this year's Stereo Theater was also the first one presented - Paul Wing's "A 3-D Visit to Old China." Of the 100 views Paul copied for slide projection from this set, only a few samples can be included here. Also missing is the Chinese music accompanying the show, and the occasional zoom-effect enlargement of sections from some of the most interesting views.

Paul Wing's introduction to the show provides as much background information on the images as is known: "These slides are amateur slides, it's important to realize that. They're not professional. Around 1900, rich Americans used to buy stereo cameras and travel around the world, and some of them did wonderful work. These pictures are from a set of 138, printed on double-weight paper, that I've had for so many years that I don't know who gave them to me! They were down in a box in the basement, and I dug them out a while back. Ron Labbe saw then and said, 'For goodness sake, those

"The Old Fashioned Gramophone."  While looking up old stereoscopes in an 1896 Sears Catalog, Paul Wing found this same model of Edison phonograph with multiple headsets. By the 1900s, this one in China may have been one of the few of its type still in use.

"The Vendor of Water Chestnuts."
are great pictures, people ought to see them! So I put a few up for you to see – China around 1900."

The captions were written in pencil on a sheet of paper folded in with the views, but no hint of identification of the stereographer is included. The original prints could be slight enlargements from 6x13cm or 8x16cm glass plates, or contact prints from a 9x18cm camera. These cameras, mainly French, were sold in large U.S. cities like New York and Chicago, and developing and mounting services were offered.

Whoever took these views (in a variety of locations in China) had photographic skills equal to many of the professional stereographers of the day. Our mystery traveler also had an evident interest in the daily lives of the people that went far beyond the obsessions of some large view publishers with the exotic and bizarre. Some of the ordinary faces and lives of early 20th century China have been preserved in depth thanks to that amateur and to Paul Wing.

"A Beggar Family."

"The Open Air Restaurant." A number of street scenes like this are included in the set, as well as detailed views of people doing agricultural work or busy with more urban crafts.
"Itinerant Priest Collecting Money."

"Camels in Peking Street."

The slide show's narration identified this as a "Camelot."

"A Wheelbarrow."
Sometimes it’s nice to rest on one’s laurels and try to improve the status quo. But we seldom get such a luxury in practice. The Stereoscopic Society of America has undergone a steady growth in its numbers since the affiliation with the NSA over fifteen years ago. Since a postal circuit becomes unwieldy with more than about 25 members, we periodically are faced with either restricting membership or creating new circuits. Currently each of the regular print and transparency circuits has more than twenty members (and this is written prior to the San Diego convention.) The print circuits (“C” and “O”) are at capacity. Membership Secretary E. Jack Swarthout has already begun to explore our options in creating new folio groups, and in particular the immediate squeeze in the print area is being dealt with. There seems to be little choice but to start some new circuits in the coming year to ease pressure. The SSA is larger now than ever envisioned and it is no longer clear what size it should be.

Society History
Memorabilia Sought

Historical material related to The Stereoscopic Society and in particular to the American Branch is currently being assembled. More often than not, records and collections of former officers and members were dispersed with little regard for preserving the information they contained. Much was destroyed but we are hopeful that a significant amount entered the collector market and was preserved. Usually copies are as valuable as the originals for record purposes. The 1993 observation of the centennial of the Stereoscopic Society has spurred an interest in the origins of the American Branch (founded 1918-1919 by Walter Cotton) and this seems a good time to assemble its history as best we can.

I would like to call upon Stereo World readers to aid us in this venture. Stereoscopic Society items dating prior to 1970 are especially desirable. These include route lists, old newsletters, correspondence, folio notebooks, or related material. Folio entries (stereo views) are desirable, especially when the folio envelope has survived with member’s comments on it. I repeat that although original material is welcomed, photo copies are usually more than adequate. It is also valuable for us to know of collections of former members’ stereo work that have survived, and their present locations. Please help us improve our archives if you have such material. Write to me at 2922 Woodlawn Ave., Westerville, PA 16510.

“Meisterfolio” Results:

When the Print Division of SSA split into two circuits in 1990, many members wanted some sort of ongoing contact between the two “daughter” circuits. One suggestion was to have a “Masters’ Folio” that would present the year’s top vote-getters from each of the two circuits for the enjoyment of all (and for a good-natured run-off competition). This was done for views completing circulation in 1991; a Meisterfolio of 47 views – roughly the top 10% – which circulated in 1992.

The highest scoring view from the “O” circuit and the highest scoring view from the “C” circuit ran neck-and-neck throughout the Masters’ circuit, changing leads several times. When the final tally was in, Mike Pierazzi’s “Aliens on the Forest Floor” took first place (by the proverbial nose) over Donna Reuter’s “Last Flight Before Sunset”. Mike also took fourth place with his “Portrait of my Dad as a Country Singer” and sixth place with “Above as Below”, to take the individual viewer’s point total lead by a wide margin. Rounding out the leaders, Mary Carpenter took third place (“Northern Oregon Coastline”) and seventh place (“Autumn in the Smokies”); Thom Gillam took fifth place with “Somewhere Between Heaven and Earth”. I am indebted to Dr. Dale Hammerschmidt for this report on the Master Folio and join him in congratulating Mike Pierazzi and the other master viewmakers. We will try to show some of these high-scoring views in future columns.

Stereo Print Competitions

In reporting the results of voting on the Master Folio entries it is worth noting that each voter examined every stereo view hands-on with a proper print viewer. They were free to vote on any views except their own work. Such a procedure would seem quite valid. I do not believe a stereo print competition that does not involve the judges seeing the pictures in a proper viewer can be considered to meet minimum standards. Free-viewing is not satisfactory unless the picture was made specifically to be freeviewed. The alternative is just not fair to the contestant. I do not believe that such a fair and valid competition, open to all stereo printmakers, currently exists. I hope I am wrong, but I have not seen it. Stereo prints do not receive anything even close to a level chance in mixed format exhibits for much the same reasons. If people who make viewcards want meaningful competitions they will have to create their own, along

(Continued on page 31)
The earliest photographs of a Polar region were taken by Dr. I. I. Hayes in 1861. Having spent a good bit of time in the areas he explored, I became interested in the circumstances surrounding his work. Isaac Israel Hayes was born in Chester County, Pennsylvania in 1832 and graduated in medicine from the University of Pennsylvania in 1852. The reasons for his life-long love for the Arctic are not obvious. He may simply have been swept up by the general interest in the area, which had been intense for several decades. In the first half of the 19th century a number of expeditions explored the Canadian Archipelago and Greenland, searching for a Northwest passage between the Atlantic and Pacific. One of the largest was led by England's Sir John Franklin; the group sailed in 1845 and disappeared. Some forty expeditions were dispatched to determine its fate. It was finally found that they'd perished in the central Canadian Archipelago. A century later in 1955 that area was still so unexplored that I recovered many relics of the expedition on King William Land.

One of the search groups was led by the U. S. Navy doctor and surveyor, Elisha Kent Kane. He made two trips in the 1850s to the area between Ellesmere Land and northwestern Greenland. Dr. Hayes was associated with the second one in 1853 as Surgeon. He was a last minute addition; he'd applied earlier while still a student, but was only accepted the day before the ship sailed. Why he was chosen is unclear; he had little medical and no Arctic experience.

Their ship was badly damaged and frozen in for almost two years. The group suffered terribly from hunger and disease and barely escaped by boat and dog-sled to Greenland. In spite of his inexperience Hayes was one of the key expedition members and reached the northeastern section of Ellesmere Land by boat. No photographs were taken during the expedition, but at one time the Smithsonian had on exhibit wax figures of Dr. Kane and a couple of Eskimos.

Hayes became convinced that the Arctic Ocean was never frozen, but only had a narrow strip of pack ice around its borders. He decided to mount an expedition of his own to test his theory, going northward between Greenland and the Canadian Archipelago into open water to reach the pole. His open ocean concept was, of course, later found to be incorrect; the Arctic Basin is continually covered with heavy ice.

The expedition sailed in the summer of 1860. It was underfunded and, as a generality, unsuccessful. Their ship was second-rate. It had no engines and was at the mercy of the winds and currents. The hull was poorly protected from the ice and was far too small. The Eskimos and dogs had to live on deck. Not enough provisions or fuel could be carried, so they were largely dependent on hunting for their food and the temperature on board was only maintained at about forty degrees. To exacerbate an already perilous situation, the winter of 1860-61 was the worst on

*Part of Godhavn... huts and storehouses, and the schooner UNITED STATES at anchor...*, Greenland, 1861, Hayes expedition, by I.I. Hayes. All views from the Hayes expedition are courtesy of the Division of Photographic History, National Museum of American History, The Smithsonian Institution. Others are from the author's collection.
record for storms, cold and severe ice conditions.

They sailed directly from Boston to Upernaviq, about mid-way up the west Greenland coast. About the 15th of August he made his first attempt at photography near the village of Augpilaqtoq.

We had hard work, and made little progress. I found consolation, however, in my sketchbook, and one fine day I got out my photographic apparatus. Landing on a neighboring island, with the aid of my two young assistants, Radcliffe and Knorr, I made my first trial at this new business. It was altogether unsatisfactory, except to convince me that, with perseverance, we might succeed in obtaining at least fair pictures.

Practically, I knew nothing whatever of the art. It was a great disappointment to me that I could not secure for the expedition the services of a professional photographer; but this deficiency did not, I am happy to say, prevent me, in the end, from obtaining some views characteristic of the rugged beauties of the Arctic landscape. We had, however, only books to guide us. With our want of knowledge and an uncomfortable temperature to contend with, we labored under serious disadvantages.

His assistants were Henry G. Radcliffe, carried on the manifest as Assistant Astronomer, and George F. Knorr, Commander's Secretary. They worked their way slightly further north to the village of Tessusi-aq, where they were penned in by ice. There he made another try at photography: “I did everything I could to while away the tedium of this detention. I tried the photographic apparatus, and with less satisfactory results than before.”

Eventually they broke free and continued northward, but heavy ice and storms severely damaged the ship. He was lucky to get it into a harbor in mid-September near Etah, the most northerly inhabited spot in Greenland. It was frozen in for the winter, but they traveled on foot and by sled along the Greenland Ellesmere Land coasts to 81.6 degree latitude. While this was the farthest north recorded on land at that time, it was disappointing in that it was only about a hundred miles further north than he'd gotten six years earlier.

Severe ice conditions kept the ship penned in well into the following summer. The winter darkness had precluded any further attempts at photography, but in early June of 1861 he tried again. “In all of these labors I found an intelligent and painstaking assistant in Mr. Radcliffe. This gentleman also labored assiduously with the photographic apparatus; and through his patient cooperation, I was finally able to secure a large number of reasonably good pictures.”

On June 21st he traveled to a nearby glacier and made more views: “My journey to the glacier occupied me a week. We pitched our tent near Alida Lake [at the outfall from the glacier] and went systematically to work to measure and photograph our old acquaintance…”

A sudden violent storm led to near-disaster for the photography: “…soon afterwards, we heard a great noise – the photographic tent had given way, the instruments and plates were scattering over the stones, the glasses were being all crushed up into little bits…”

Not until July 14th were they able to get clear of the ice. As they left the area, he made another set of photographs: “…the current carried us down into the lower bay, where we moored to a berg, and I went ashore and got some good photographs of Little Julia's Glen and Fall, Sonntag's Monument, Crystal Palace Glacier, and Cape Alexander.”

They headed southward, hoping only to get out of the area without losing the vessel. In Whale Sound, he found clear water and good weather, and once again made views: “I pulled up into Barden Bay, taking with me the magnetic and surveying instruments and facilities for completing my botanical and other collections, and for photographing the fine scenery of the bay.”

Continuing southward they arrived at Godhaven, on the south coast of Disco Island, on August 20th and there he took his final set of views: “From the Chief Trader, Mr. Anderson, as well as from the Inspector, I had much kindly assistance in perfecting my collections and in completing my series of photographic views…”

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"The Port Foulke observatory from the deck of the schooner UNITED STATES...", Greenland, 1861, Hayes expedition, by I.I. Hayes.
They finally got back to Boston on the 23d of October. Dr. Hayes turned his surveying results over to the Coast Survey. His scientific notes and collections went to the Smithsonian Institution, which not only took many years to publish them, but refused him access to them. He was given command of an Army hospital and remained there throughout the war.

Although his book about the expedition was not issued until after the war, he had his stereo views published by T. C. Roche as a series entitled, *Photographic Views taken in the Arctic Regions during the Expedition of Dr. Hayes*. They were copyrighted in 1862 and presumably issued that year. I don't know how many were in the series, but have seen numbers as high as 72. I'd suspect that Roche used the facilities of the Anthony company for his production, since he'd been associated with them.

Interestingly, only one of the six full-page engraved illustrations in his book was based on a photograph; the others were either based on sketches, or "drawn from description". There are thirty small *tail-pieces*, illustrations placed at the ends of chapters; these are not identified individually, but as a group are said to have been taken from either sketches or photographs.

These views are extremely rare; I'd guess that this stems from two causes. First, they were issued at a time when most customers were interested primarily in war views. Second, in spite of their novel subject matter, many of them were only mediocre in technical quality. This is entirely understandable since Hayes was a rank amateur and working under conditions which challenge even a good modern photographer.

Conflicting statements have been made about his photographic equipment, staff and personal expertise. Darrah wrote that Hayes had "a photographer sent by the American Photographic Society," and he told me that he thought it was T. C. Roche. Hayes' report of the expedition refutes this; he had no photographic experience, relied solely on manuals and did the photography himself with assistance from two expedition members.

Hayes later accompanied another voyage up the west coast of Greenland, serving as an expert on the area. In his book about the trip he stated:


"...[The voyage] was made in the summer of 1869, with a small party of friends, in the steam yacht of Mr. William Bradford, whose widely-celebrated pictures of Arctic scenery have received such deserved commendation...[Mr. Bradford] was desirous only of obtaining materials for his easel...[so] the voyage was a leisurely one...halts were from time to time made at such places as presented special attractions to the painter."

There are several references in his book to photography, but he wasn't involved. Two Massachusetts photographers were on board: George P. Critcherson and John C. Dunmore. The latter was the son-in-law of noted Boston photographer James W. Black. Both men were in the employ of Black during the voyage and the images they made were copyrighted by him and exhibited at the Centennial Exhibition. Bradford also published in 1870 a small selection of them in a book of photos and sketches.

From Haye's narrative it was clear that the hazards hadn't lessened. In one instance they imprudently anchored near the face of a glacier which was calving large bergs:

"The photographers hastened ashore, hoping to catch an instantaneous view of some tumbling fragments [of ice] which if they could have done would have exceeded in interest any other view which they secured."

They not only got no pictures, but an exceptionally large berg fell, generating a huge wave which damaged both the ship and the photographic equipment:

"The swell swept [the ship] toward the rocks...I was flat upon the deck, borne down and almost over the side by the stroke of the falling water...[the photographers ashore] flung themselves flat on the ground, [but] were hurled with much force against a rock... their implements - bottles, plates, everything - were either gone, or were a perfect wreck. Fortunately their cameras were upon the hillside, and beyond the reach of the wave..."

Hayes died in 1881 at the young age of 49, doubtless weakened by his early years of severe hardship. He was awarded gold medals by the geographic societies of France and England but, incredibly, nothing from the United States. It is regrettable that his views are so uncommon and that he has received very little recognition for his pioneering work, which was done with no training and under such adverse conditions.

Charles F. Hall

Charles Francis Hall was another who searched for the Franklin expedition. For an explorer, he was uncommonly level-headed. The bulk of the problems experienced by earlier expeditions stemmed from poor ships and worse navigation. Hall proposed to be dropped off in the Arctic by a whale ship and make his explorations on foot.
overland, living off the country with the Eskimos. Since whaler captains were thoroughly competent in Arctic work, this would avoid the troubles inherent in poor ships operated by seamen inexperienced in the area.

His highly successful trips in 1860 and 1864 to the eastern Canadian Arctic came up with the most detailed information yet found about the Franklin expedition. A third one, however, in 1870 to the west coast of Greenland, was a disaster. Dissension arose; the personnel split into two groups and Hall died in Greenland in 1871 under rather mysterious circumstances. The survivors were finally rescued in 1872 and 1873, after severe hardships, and brought to the United States.

Hall took no photographs, but the Eskimos associated with him have come down to us in stereo. In 1873, I.A. Coombs of Wiscasset, Maine published two studio views identified as "Dr. Hall's Esquimaux." They are historically important since they memorialize a people who probably contributed more to the success of Arctic expeditions than the leaders did. Unfortunately, I've not been able to find out what they were doing in Maine, or whether they ever got back to their homelands.

**Count Von Wilczek**

The next reference I can find to Arctic photography is that of the Austro-Hungarian expedition to Spitzbergen and Nova Zemlya in 1872. Count von Wilczek, Dr. J.
Horatio N. Robinson

In 1875, Horatio N. Robinson, who practiced photography in Maine and Massachusetts in the 70s and 80s, issued a group of 46 stereo images of Labrador. They are extremely rare and I have so far been unable to find any details on Robinson’s travels.

All the early images taken in either the Arctic or sub-Arctic regions are rare and few are of good technical quality. However, the accounts of suffering and mortality by the explorers make it astonishing that we have any record whatsoever of their work. This shortage of good photographs is particularly unfortunate, since immediately after the explorations of the mid-19th century the lifestyles of the indigenous peoples changed dramatically. A generation later at the turn of the century their old way of life was gone forever.

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All the early images taken in either the Arctic or sub-Arctic regions are rare and few are of good technical quality. However, the accounts of suffering and mortality by the explorers make it astonishing that we have any record whatsoever of their work. This shortage of good photographs is particularly unfortunate, since immediately after the explorations of the mid-19th century the lifestyles of the indigenous peoples changed dramatically. A generation later at the turn of the century their old way of life was gone forever.

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A new type of television technology was released this summer that will likely alter the television viewing habits of America. The Virtual Vision Sport uses heads-up display technology to project a color LCD image into the user's eye.

While not a stereoscopic product, the Virtual Vision Sport is a product that may very well evolve into a viable stereoscopic display. As such, it deserves a closer look. At least two similar items, the Sony Visotron and the British Goggle Vox have been announced, but both simply place a small television in front of the eye. The Sport projects a virtual image into the user's eye, which the user can look through.

A company spokesperson stated that a stereoscopic version could easily and inexpensively be produced. It would project images to both left and right eyes simultaneously. The only problem is a lack of available stereoscopic programming.

These "TV Sunglasses" are manufactured by Virtual Vision, Inc., a startup company based in Redmond, Washington. Virtual Vision is in fact now the largest television manufacturer in America. Thanks to the generosity and support of one of the major patent holders of the Sport, I was able to get an in-depth preview of the technology, using the Sport for two weeks. While they are currently out of my price range, I found that they are an interesting product with a few flaws that will be worked out as the product line matures.

Virtual Vision, Inc. is a spin-off corporation from the Human Interface Technology Laboratory at the University of Washington, directed by Dr. Tom Furness. The Sport is essentially a heads up display (HUD) very similar to the technology used by fighter pilots. The image is projected from a small LCD television mounted in the upper rim of the glasses onto a specially designed, small concave mirror which projects the image into one of the user's eyes.

The result is a television image that appears to be floating in space, in whatever direction you look. The image is translucent, and you can look through it when you change your attention to the background. Mathematically, the image projected on the retina is the same size one would get when viewing a large (50 inch) screen at a distance of ten feet. While this is empirically true, I doubt if users will have that subjective perception. The LCD projector displays 96,000 pixels in NTSC format, and a higher resolution version may be released in 1994. While the ad copy suggests using the Sport outside, bright sunlight will make the image hard to see, just as with any television.

The Sport is also made to watch VCR tapes using the input jacks. [Here some potential may exist for a stereoscopic version, used with existing 3-D video tapes.] It can also be used as a camcorder viewfinder accessory by plugging it into the camcorder output jacks. This allows the user to tape events without having to squint through an eyepiece.

One alternate application of the Sport technology would be for see-through virtual reality displays. There are times when one may want to overlay information on top of the real world, such as mechanical repair or medical imagery. Virtual Vision technology, while not yet high in resolution, but lighter in weight, may be better suited in some situations than the half-silvered mirrors currently used. In addition, there are people who are not comfortable with completely immersive headsets. They may be willing to trade resolution for comfort. Work in this area is already being conducted in the Human Interface Technology Lab.

While offering only adequate resolution and costing nearly $900, the Virtual Vision Sport is a unique product that will likely be a hit of the 1993 holiday season. Provided enough programming becomes available, a stereoscopic version could easily be produced.

For information, contact Virtual Vision Inc., 7659 178th Place NE, Redmond, WA 98052.
**Vertical Twin Camera Mount**

Jasper Engineering has done it again with its new precision machined, twin camera, vertical mount which allows two 35mm cameras to be mounted base-to-base. A unique feature of the mount is that allows precision toe-in of the cameras for close-ups.

The mount, which was displayed on the Jasper table at the NSA San Diego Trade Fair, comes in two models. The standard model is for cameras which have the tripod screw hole in line with the center of the lens. The price is $79.00 including U.S. shipping. (Add $10 for international air.)

The adjustable model is for cameras in which the tripod socket is NOT in line with the center of the lens. This is a much more complicated design, as reflected in the price of $135.00.

Both models are made of solid aluminum with a black anodized finish, and have the camera toe-in feature with lock screws and engraved reference lines. Due to the toe-in feature there is about a one inch distance between the bases of the cameras. Weight is about 1 pound. A standard 1/4" socket allows mounting the unit on a tripod.

For orders or information, contact Jasper Engineering, 1240 A Pear Ave., Mountain View, CA 94043, (415) 967-1578.

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**Mite Makes Right**

Following their success with anaglyphic post cards of animals, Baylow Productions' 3-D GREETS has produced a two card set for Caesar's Palace in Las Vegas with stereographs of the ornate fountains and statuary. This led to a "Where's Waldo" secret message card for Disney productions as well as a Superman promotional campaign. Next came a project for Universal Studios in California and Florida. Set against a stainless steel plate motif, this card was perfect for Universal's new "Back to the Future" ride.

GREETS' latest offering is a Scanning Electron Microscope stereo of a dust mite by David Burder. The caption on the back explains: "They're everywhere! Some of these micro-relatives of spiders deposit larvae on humans and animals...There are about a million species found almost everywhere! Pictured is the house-dust mite that infests your home and can cause house-dust allergies." Greets creator John Balogh included the address of the NSA in the credit line across the bottom of this new card for those wishing "To explore the world of 3-D..."

The company's future 3-D plans include adding to their nature series, more card sets for Las Vegas hotels, a thrill-seeking card set for Six Flags theme parks, a souvenir line, dinosaur images, and computer generated outer space imagery. For information on sales, distribution and ideas contact Baylow Productions, Box 4434, Long Beach, CA 90804, (213) 383-2628.

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**3-D "Box Conspiracy" On Stage**

George Coates Performance Works is about to open another production fusing a live stage cast, stereo slide projection, and computer animation that will expand the techniques introduced with the company's Invisible Site: A Virtual Sho in 1991. (See Stereo World Vol. 19 No. 3.)

The new production, which opens November 10, 1993, and includes a cast of seven and a live musical score, is titled Box Conspiracy: An Interactive Sho. Author/director George Coates, who attended the NSA Convention in San Diego, described the work as a comedic musical. It takes its title from the digital converter boxes that will be needed to connect home TV sets to the coming "data super highway" net which (with the switch from copper wire to fiber optic cables) will make two way interactive communications ubiquitous. "The dark side to this," according to Coates, "is that two-way television also means that without their knowledge, home users of the box will be monitored, their use of it recorded, and their service purchase records sold to marketers and insurance companies to learn everything about us."

**Box Conspiracy** is about a "test family" selected by a market research firm eager to learn which of the 5,000 new channels of interactive TV people would use most if they didn't have to pay for any of the products or services offered. The family makes use of the 5,000 channels, including the home jury duty channel, the beer channel, the therapy channel, the weapons and ammunition channel, and all 12 of the recovery channels!

Ticket prices range from $17 to $34 Fridays and Saturdays, and from $14 to $31 Sundays. Tickets for low priced previews beginning October 22 are from $12 to $24. For information, contact the George Coates Performance Works Box Office, 110 McAllister Street, San Francisco, CA 94102. Tickets can be charged by phone at (415) 863-4130.

(Continued on page 29)
Stuart Butterfield and Rusty Norton wrote in to say that the frame building shown at the top of page 22 in the January/February, 1993 issue is the Summit House on Mt. Mansfield at Stowe, Vermont. Stuart has several views of the site by different photographers, but was unable to identify who took the Unknown.

We also heard from Breck Carrow, who says that his Unknown of a church, shown at the top of page 23 in the same issue, has been identified as the Congregational Church in Wauregan, Connecticut, which is an old cotton mill town.

Len Walle was able to identify the horse and cowboy shown on the eye testing view on page 11 in the May/June '93 issue. It is Key-
NewViews (Continued from page 27)

Lenticular Lithography

Lenticular 3-D images produced "on the press" as part of the 4-color offset printing process recently appeared as the entire front and back covers of at least three magazines. These were "Collector's Editions" of Teenage Mutant Ninja Turtles, Disney's Aladdin and Dinosaur magazines (the latter published by Starlog, Inc. with NSA board member David Hutchison as a contributing editor).

The process, announced in the Sept./Oct. '89 NewViews, has now been perfected by the Quadrographics Company to the point where lenticular images under thin plastic lens screens can roll off the press in much the same way any other 4-color image is printed. The depth effect is much more limited than that of Nimslo or Image Tech prints made from sets of stereo negatives, but the cover of the Turtles magazine works well from several viewing angles, with headlines and a helmeted turtle floating nicely in front of the background.

Some improvement in the overall depth effect and the cut-out look is expected, and the process is certainly cheaper than foil holograms for publishers and advertisers.

For inquiries, contact Teenage Mutant Ninja Turtles Magazine, Box 11678, Des Moines, IA 50340 or Starlog Telecommunications Inc., 475 Park Ave. South, New York, NY 10016.

This column depends on readers for information. (We don't know everything!) Please send information or questions to David Starkman, NewViews Editor, P.O. Box 2368, Culver City, CA 90231.
Importing the FED CTEPEO Camera

by Marty Hewes

It was a fairly logical progression, leading to the import of the FED. I had been getting frustrated with the limitations of classical stereo cameras. Too many of my subjects just didn't fit in the nearly square Realist format, and I lost far too many frames to light leaks, irregular shutters, film advance problems and limited top shutter speeds. I synchronized a couple of Ricoh 35mm cameras with considerable success, but the rig is limited to interocular distances greater than 5½ inches, and is far too heavy for some types of travel. Those nice wide slides however, mounted in the European format mounts, were a welcome change.

Well, as I like to say, “opportunities happen.” In this case, a whole string of opportunities, tied together with a little good luck and a bit of hard work. I read the article in Stereo World about the FED Stereo. I conferred and decided to go with it. It was reasonable, although the FED filling the order quickly enough, no problem there. The next problem was getting them here. The chosen route was from the Ukraine to Moscow, then on to Chicago. We had a little trouble getting them from the Ukraine to Moscow. A couple more weeks, another round of paperwork and the problem was alleviated. The cameras arrived at O'Hare. The guys at the freight terminal knew me on a first-name basis by then.

We went to pick them up and discovered that the air freight bill was a bit higher than expected. Forty bucks per camera higher, as a matter of fact. Ouch. Glad we didn't have the projector shipped. It weighs roughly the same as ten cameras.

We cleared Customs. This is the only part that went more easily than I expected, especially when we saw the packing crate. The cameras were packed in a military green wooden crate, with Cyrillic lettering all over it, and sealed with wire with lead seals.

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We cleared Customs. This is the only part that went more easily than I expected, especially when we saw the packing crate. The cameras were packed in a military green wooden crate, with Cyrillic lettering all over it, and sealed with wire with lead seals. To me, it screamed “Russian Military.” I was amazed I was not met at the dock by an armed escort. I guess I shouldn't have been surprised by the packaging, considering the fact that the FED plant is not primarily a commercial camera plant; it is a weapons plant.
Letters (Continued from page 3)

Well, I might as well add my two cents to the View-Master Auction fracas! I've been buying and selling VM reels since 1978. In days gone by, I'd price 100 reels, and sell only 5 or 10. I assume the other 90-95 reels were overpriced and no one wanted to pay that much. At the same time, lots of customers willing to pay more for the 5 or 10 I did sell, lost out when they got the list too late.

Now, when I list 100 reels in my mail-bid auction I sell every single reel. And, they sell for exactly what someone wants to pay. Often the prices realized on common reels are well below "book value"; rare items, even if I didn't recognize them, still go for a fair premium. A collector gets an item he might never have found on a dealer's list, and I can make a profit.

You can get a VM reel you want, at your price, no more, no less! It's simple: if you're willing to pay $18 for a certain reel, mail in an $18 bid. A week after the auction, you'll find out if you own this copy or not, at YOUR price. If you decide to bid $5 and call back 10 times, slowly approaching the fair price you established of $18, then the added costs are truly your own. Many of my bidders send in large lists, and never waiver. You can too.

By the same token, if you decide you aren't as interested in getting a reel as in getting a bargain, bid low and call back often. I truly believe some of my bidders enjoy the hunt as much as the capture! And, maybe a dealer at a show you attend someday will have your $18 reel, maybe.

Harry Poster
So. Hack, NJ

Vistapro

Thank you for including some of my pictures in the recent article about Vistapro. ["Fuser-Friendly Computer Stereo" Vol.20 No.1] There are a few errors that I would like to clear up. The selling price is probably around $70, not the high list price mentioned. Also it does not take me an hour to print a picture. The movement between programs and the creative process is what may take that long. The actual printing takes only minutes and the screen picture can be seen in under 5 minutes.

I did notice the high resolution of John Williamson's pictures compared to mine. With his setup, his probably will take longer to render, but most users will find it takes only minutes to achieve an acceptable hi-res picture. I think the article may have put off some readers. Vistapro is not as complicated as John relates. There is a coordinate system and other features for fine tuning, but all you really have to do is move the target dot and the camera dot with the mouse and you're done.

Also the article makes no mention of the fantasy landscapes to be explored. These are very exciting because you never know what they will look like next! This is the real thrill of Vistapro, not the actual earth vistas. Thank you for printing the article since many of us readers are more interested in computer 3-D than old stereographs. The old photos are sometimes interesting except you tend to print many that have no depth at all.

Richard Ross
St. Peters, MO

The Society (Continued from page 19)

with the rules that only they can validate. It is unreal to expect otherwise.

Back to Basics

Congratulations to Bill C. Walton on his book Back to Basics covering Infantry One Unit Training in 3-D. Bill participates in more circuits (and in all formats) than any other SSA member, and we have enjoyed his military views for many years now. It is good to see them receive a wider circulation.

Active stereo photographers who may be interested in Society membership should write to Membership Secretary E. Jack Swarthout, 12 Woodmere Dr., Paris, IL 61944.
Joshua Freilich, President of Western Optical Supply, Inc., NSA member and avid stereo photographer, has a very special item that should be of interest to all View-Master enthusiasts.

Twenty-one different commercial reels have been prepared for distribution to opticians across the country. Through a special arrangement with us through Stereo World, Joshua has agreed to offer these reels to View Master collectors. Each PREVIEW reel is uniquely designed to depict a particular type of sunglasses tint. Various lifestyle activities are illustrated with each tint. The purpose of the reel is to prompt the individual to purchase the type of sunglasses best suited to his/her activity, be it skiing, tennis, golf, driving, boating, etc.

The reels were photographed by Joshua using twin-mounted Canon Cameras. Each reel takes at least a year to photograph because all four seasons are featured on the disks. Luckily, he is able to work on several sets of photos simultaneously.

As most collectors are aware, commercial reels have unique scenes that are unavailable anywhere else. Each of these twenty-one reels show great three dimensional scenic and action shots. When looking at a reel you will see the view first as if you are looking with the naked eye, then as if you are wearing a pair of sunglasses. Each reel is dedicated to the tint indicated on the reel face.

The Lighted Viewer
In order to be able to view these reels in any optical shop, Joshua has manufactured a special illuminated viewer/reeel holder for the Model L. To simulate the outdoors and sunlight conditions, the viewer duplicates sunlight intensity using halogen bulbs for the light source. The housing is attached to a custom base which has room to hold the commercial reels. It can be plugged into any 110 volt outlet. This custom designed display is unique to “Previews” and is only available through Joshua.

The custom viewer is a great addition to anyone’s View-Master
collection. It enables the collector to see any reel (day or night, winter or summer) with the correct proportion of light needed for proper viewing. The attractive display makes it look “at home” in any setting. And, because the viewer is attached to the base, favorite reels can be kept near at hand for frequent viewing.

The twenty-one commercial reels available are titled as follows:

<table>
<thead>
<tr>
<th>Number</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>3100</td>
<td>Serengeti (R) Driver Disk</td>
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<tr>
<td>3110</td>
<td>PhotoGrey Extra(R) Disk</td>
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<tr>
<td>3115</td>
<td>PhotoBrown Extra(R) Disk</td>
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<tr>
<td>3120</td>
<td>Corning(R) CPF 527-Stm Disk</td>
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<tr>
<td>3125</td>
<td>Bolle(R) Inex(R) TRG Disk</td>
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<tr>
<td>3130</td>
<td>Bolle(R) Inex(R) 100 Disk</td>
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<tr>
<td>3135</td>
<td>PhotoBrown Gradient Disk</td>
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<tr>
<td>3140</td>
<td>Trucolor Disk</td>
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<tr>
<td>3145</td>
<td>B&amp;L(R) Ray-Ban(R) G-15(R) Disk</td>
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<tr>
<td>3150</td>
<td>Cosmetan(R) Disk</td>
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<tr>
<td>3155</td>
<td>Polarized Grey Disk</td>
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<tr>
<td>3160</td>
<td>Grey Tint Disk</td>
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<tr>
<td>3165</td>
<td>Brown Tint Disk</td>
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<tr>
<td>3170</td>
<td>Blue Blocker I Disk</td>
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<tr>
<td>3175</td>
<td>Blue Blocker II Disk</td>
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<tr>
<td>3180</td>
<td>Polarized Brown Disk</td>
</tr>
<tr>
<td>3185</td>
<td>Green Tint Disk</td>
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<tr>
<td>3190</td>
<td>Transitions Plus Disk</td>
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<tr>
<td>3195</td>
<td>Light Sensitivity Disk</td>
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<tr>
<td>3200</td>
<td>Anti-Reflection Coating Disk</td>
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</tbody>
</table>

Reels are available for $5.00 each. Additional reels may be added from time to time and if you wish to be put on a mailing list for these reels, please indicate this when you send in your request.

The custom-made “Previews” Counter Display is also being made available to View-Master collectors through Joshua. The cost for this unique item is $175.00. Included in the price are four “Previews” commercial reels of your choice. When ordering, send your request to Mr. Joshua Frelich, Tano Point Lane Box 204, Santa Fe, NM 87501, (505) 989-7803.

Indicate exactly which items you wish to purchase and include sufficient funds to cover postage for the items you order. (Shipping on the “Previews” viewer display is $10.00 for delivery in the continental United States.) Because this viewer is so special, we recommend you place your order early.

As testimonial to this custom designed system we must say that it is a valuable addition to our collection. Having it nearby has made viewing reels much easier and quicker (no need for batteries or daylight). We thank Joshua for making this offer available to collectors.

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**Space Between Time Series**

**Three example stereographs plus “how to” pamphlet for $6**

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Please enroll me as a member of the National Stereoscopic Association. I understand that my one-year subscription to Stereo World will begin with the March/April issue of the current year.

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**National Stereoscopic Association**

PO Box 14801, Columbus, OH 43214

The Only National Organization Devoted Exclusively To Stereo Photography, Stereoviews, and 3-D Imaging Techniques.
With the increasing popularity of twin 35mm camera rigs and even custom built twin 35mm SLR stereo cameras, mounting in separate 2"x2" (50mm x 50mm) slide mounts has also become common. A wide variety of professional quality mounts are available, with an even wider variety of aperture sizes. Such mounts provide the opportunity for superior stereo slide mounting, and this also allows for the possibility of automated 3-D slide projection with Kodak Ektagraphic carousel-type projectors.

Precision mounting is the key to comfortable 3-D viewing and projecting, and the techniques involved are no more difficult than those used for standard 1 3/4" x 4 1/4" (41mm x 101mm) stereo slide mounting. In fact, separate slides allow the use of some techniques which can make mounting even easier than with one-piece stereo slide mounts.

Before I get into mounting techniques I first want to mention what types of mounts to use. As already mentioned, the mounts should be precision made, allow for adjustable film positioning, have a variety of apertures, and include glass (although the glass can be optional if you are using autofocus projectors). Two brands which fit the description quite well are the Wess (glassless) and Jedam are also available, and are ideal for stereo use. While each brand of mount has its following, it is not my intent in this article to discuss the pros and cons of each one. They are all capable of providing good mounting results.

The mounts that I personally use are the GEPE brand. Unlike the others, these seem to be the most universally available both in the USA and Europe. I will use them as an example, but remind you that any precision mount is acceptable. One caution, however. Since each brand may vary just slightly in thickness or outer dimensions, it is best to choose one brand and stick with it. It is definitely a good idea not to mix brands within a single slide program.

The GEPE mounts consist of front (white) and back (gray) plastic frames, each with an ultra thin piece of glass held in place by a precision die-stamped stainless steel mask, which also forms the film aperture. The mask also has top and bottom cut-out channels to hold the film in place. Many apertures are available, with some of the most useful for stereo being (all in mm) 24x36, 24x32, 24x28, 21x28, 24x24, and 18x24.

The separate front and back halves snap together, and are completely symmetrical, allowing new aperture sizes to be created by crossing the fronts and backs of two different sizes. For example, crossing a 21x28 with a 24x24 will create a 21x24mm mask for the Stereo Realist format.

To facilitate easy and precision mounting, the minimum tools required are tweezers to handle the film chips, a light box, a stereo viewer for viewing mounted slides while on the light box, and tape or tabs to hold the film in place for final mounting. (Not all mounts require the use of tape.) Once you have done 2x2 stereo mounting, and have decided that you want to do this on a frequent basis, you may want to consider building a mounting jig. This jig should incorporate secure holders for the slide mounts so that the film chips can be manipulated while viewing them in stereo. This is facilitated by built-in illumination and a built-in viewer. A simple design for a build-it-yourself jig is included with this article.

**Good Mounting Requires Several Key Elements**

Leaving slides in their mounts just as they come from the lab may be tolerable to many for hand viewing or previewing, but it is definitely not good enough for stereo projection. For comfortable projection the film chips should be:

1) **VERTICALLY MATCHED:** That is, one film chip should not be higher than the other in the film aperture. The elements that you see across the top and bottom edges of the aperture should be exactly the same in both the right and left sides.

2) **WITHOUT ROTATION ERRORS:** Matching elements in the right and left film chips should not be higher or lower at one end, indicating that one film chip is rotated in relation to the other.

3) **HORIZONTALLY ADJUSTED FOR THE BEST "STEREO WINDOW" EFFECT:** This is by far the least obvious error in mounting, and the hardest one to explain, especially in writing, without the benefit of a "hands on" demonstration.

I think that 1) and 2) are basically self-explanatory, so I will concentrate on 3):

**Proper 3-D Slide Mounting and the Stereo Window**

When a 3-D slide is viewed, whether in a hand viewer or by projection, the dark edges that frame the image become, even more so than in flat photography, a window. This creates a spatial frame and reference by which the depth of the scene is both framed and measured.

In every sense, the frame of the 3-D slide is analogous to a real window. All of the visual cues which tell us we are looking at a three dimensional scene outside of a real window need to be correctly recreated in the equivalent three dimensional picture.

Since stereo cameras do not have the ability to continuously adjust and converge on the changing world of 3-D subject material, the lenses of stereo cameras (and twin camera rigs) are generally fixed parallel, or at very close to parallel.
configurations. Depending on the focal length of the taking lenses, a varying amount of the same scene, captured from two slightly different angles, is seen by each lens. The part of each scene that is common to both images will be seen in 3-D. The longer the focal length of the lenses, and/or the closer the camera is to the subject, there occurs an area at the outer edge of the right and left images that is totally different in each. With separately mounted slides one can simply superimpose the two film chips and match the main subjects. This reveals the amount of "extra" film sticking out past the right and left edges of the roughly superimposed scene and shows how much area is not common to both images.

For comfortable and esthetically pleasing projection, this non common area should be masked away - usually by mounting in a slightly narrower aperture mask such as going from 24x36mm to 24x32mm masks.

In addition, one has a choice to make in the horizontal adjustment of the film chips in the two masks. When the film chips are moved towards each other it brings the position of the scene closer to the stereo window. When the film chips are moved away from each other the scene is pushed back farther from the window. The key to good mounting is finding the best and most consistent method of aligning the film in this manner.

As with many aspects of 3-D photography, there are differing opinions as to the best ways to do anything. In this article I am advocating mounting to a consistent "near point" image separation. In 15 years of mounting I have found that this method makes for comfortable 3-D slide projection, with a minimal amount of projection ghosting.

In verbal terms, this means mounting so that the nearest object appears to be at the plane of the window created by the mask apertures, with the rest of the scene falling behind this point. (Of course there are always exceptions, such as when you have a subject (that does not touch the edge of the window) that you want to appear in front of the window frame.)

In measurable terms this is achieved when the measured distance from one edge of the mask to a near point in the left image is the same as the distance measured from the same edge to the same point in the right image. This would mean that if one were projecting with the two apertures superimposed on the screen, then this one near point would also be the one part of the entire 3-D scene which would also be superimposed. In terms of the visual 3-D effect, this would make the near point appear to be at exactly the same plane as the window frame.

Of course, in mounting, it may occur that meeting this requirement will mean that one or both of the images leaves a gap at the edge of the film aperture. This is not acceptable, and requires the use of narrower masks until both properly adjusted film chips will fit into the apertures without leaving any gap.

Two methods to achieve matching near point distances have already been mentioned. One would be by separately measuring the distances with a ruler or scale. Superimposition is a quicker and easier method, which is greatly facilitated by making a mounting "nest" that snugly holds the 2x2 slide mount and allows two mounts to be stacked in the nest, one on top of the other. Add a bright light source under the nest and a magnifier on top, and mounting by superimposition becomes much quicker and easier.

The Mounting Jig

Although I personally use superimposition regularly, especially as a final check for rotational errors, my favorite method is to use a mounting jig, like the one illustrated in figure 1. (This was originally designed by Arthur Girling and David Burder, and appeared in...
issue No. 112 of the Stereoscopic Society Bulletin.) This jig allows one to actually see the magnified image in 3-D while adjustments are being made. The edges of the apertures themselves become the reference gauges for both vertical and horizontal adjustments.

The jig illustrated is intended to be made almost entirely of plywood (or any material you choose of a suitable thickness). The lens panel is of the same wood, with holes cut out to hold whatever diameter suitable lenses you may find. To allow enough room to work under them, lenses of approximately 3" (75mm) focal length are suggested. The slot in the lens support panel allows for focusing adjustment. A single light bulb could be used as the light source, although the design could be adapted to use compact fluorescent tubes. A white plastic panel is inset in the area behind the slide holder, and the holding frame (strips A, B, C, and D) could be made either of wood or plastic strips. The main requirement is that the two slide mounts be held snugly in place. Making strips C and D adjustable by the use of slotted holes and wing nuts is quite desirable.

Although the film aperture edges may be used for mounting references, they may also be useful to add mounting, such a device is invaluable. It will increase your speed and accuracy in mounting, which in turn makes for accurate and enjoyable projection without the need for adjustments after the initial projector alignment.

Once you have mounted your slide pair by the near point method and checked for both vertical and rotational errors, there is one last thing that should be checked – the infinity point separation. Referring to figure 2, this distance of the infinity point "A" should be no more than 1.5mm farther from the edge of the right image than it is from the edge of the left image. (The figure shows 1.43mm, but that's a bit difficult to measure.) The theory here is that with a superimposed near point during projection, the infinity points, if actually measured on a typical 50x50 inch screen, would be about 2.5 inches apart – the same as the average human eye distance. If the infinity points were to get much farther apart, the eyes would have to "toe-out" to view the image and this is not easily possible or comfortable, and can be another source of eye strain.

At this point, whether the infinity points are too far apart has mainly to do with how the image was taken, and cannot really be corrected in mounting. In reality, the eyes do seem to be able to toe-out a little bit in viewing 3-D slide projection, but how much and to what degree has not been easily quantified. You will have to be the final judge, and the best method is by a final projection test for yourself and perhaps some friends who are willing to provide some honest feedback. See for yourself if there is any eyestrain, and ask your test audience for their opinion also. If a slide ends up having too much parallax for comfortable projection, then it really shouldn't be part of a slide program and should be rejected. In some cases a slide can be salvaged by creative masking, but if this is not possible save that slide for hand viewing only.

**Projecting 2x2x2 Slides With Two Projectors**

Although this is not the main topic of this article, once you have mounted separate 2x2 slides you will want to project them. It is actually quite easy. Here are a few basics.

Get a matched pair of projectors, such as Kodak Carousel® or Ekta-graphic® projectors. The Ekta-graphic series is preferable, as it has a positive slide gate registration which keeps slide alignment consistent from slide to slide. The projectors can be placed side-by-side or stacked one above the other. There is a bit less keystone distortion if they are stacked. Get or make an identical pair of "target" slides to use for superimposing the images from both projectors. If zoom lenses are used, target slides are essential for matching the image sizes. The film apertures from both images should superimpose, and focus should match. Polarizers should be mounted in front of the projector lenses. Taping them to the lenses is the easiest method. While projecting onto a silver screen (not white!) and wearing your polarized 3-D glasses, separately project with the right projector so that you can see the image on screen with your right eye while it is dark to the left eye. Then reverse the process and do the same for the left projector and the left eye. Now you are ready to project your properly mounted 2x2 stereo pairs!
Anaglyphs via Digital Photography
by Robert Dell & Theresa Sokolowski

Digital Photography has come of age! Imaging technology has evolved to where it is being increasingly utilized by both professional and amateur photographers. In this article we will describe a technique which utilizes digital photographic techniques to quickly and easily produce composite stereo anaglyphs. These composite images can be recorded on transparency film for single projector stereo projection or they can be recorded on photographic paper. The method can be easily applied to existing black and white or color stereo pairs. Resulting 3-D images, when viewed will appear in black and white.

After much fanfare and pre-publicity, Eastman Kodak company released its Photo CD technology to the general consumer during the fall of 1992. Now everyone can have their images recorded onto a photo CD, which provides a convenient and compact storage medium. Photo CD images can be viewed on a standard color television with the aid of a special CD player. Such CD players are marketed by Kodak and can be used to play both audio and photo CDs. The images on the Photo CD can also be viewed and manipulated with the aid of a computer.

Anaglyphs are stereo pairs that have been color-coded using two mutually exclusive colors. After color encoding, the views are additively superimposed and viewed using a pair of colored glasses. Lenses in these glasses are color-coded to ensure that each eye will see its appropriate view. Our technique utilizes a computer for additively mixing the two colored views. The procedure is as follows: both the left and right views are digitized (converted to a numeric form that can be understood by a computer), and then loaded into a computer. Once in the computer, a digital photography program is used to color encode the two images and then additively mix them to form a composite image. One must be careful to choose the encoding colors to match the colored lenses of the viewing glasses, otherwise one or both eyes could see both views and thus diminish the stereo effect. After the correct color match is achieved, the stereo view can be seen on the computer screen (by using colored glasses) and the accurate positioning of the left and right views to pace the stereo window can be easily accomplished. Once a satisfactory placement has been achieved, the resulting composite image can be saved on a computer disk and/or presented in a variety of hardcopy forms.

Our technique for the computer based production of anaglyphic stereo pairs has been developed and tested using an Apple Mac II fx computer and Adobe Photoshop software. Black and White stereo views were scanned using a Microtek Scanmaker flatbed scanner. The resulting composite anaglyphic images were saved on magnetic media and then transferred to a service agency where they were recorded on color photographic transparency film. It should be noted that even though we used Apple equipment and Adobe Photoshop software, our technique is generally transferable to other computer platforms and/or imaging software. For those wishing detailed step by step instructions for producing composite anaglyphs using the software described above, please write us and we will be glad to send you a copy.

The advantages of this technique are numerous. It provides a quick and easy means of producing composite stereo anaglyphs. Stereo text and drawings can be added to the images if desired. When recorded on 35 mm transparency film they can be projected with a single 35 mm projector. The composite image could also be recorded on color photographic paper, providing the capability of a 3-D photo album. From the digital form one may easily obtain registered color separations for those who wish to have their anaglyphs published. The method provides an easy way to back up and/or archive historical stereo views. Once in anaglyphic digital form, they can be placed on a photo CD and a self-narrating slide show can be developed and shown on a standard TV.

Important historical stereo pairs that have been damaged can be converted to digital form, retouched, and presented in anaglyphic form or recorded on black and white film and presented as new prints prepared. Stereo views, when in digital form, can be easily shared with friends and associates through a community data base.

One disadvantage of this method is the cost. The equipment necessary to perform this type of image manipulation is relatively expensive. Although, as the technology evolves and permeates downward, the cost factor will gradually disappear. Just look at the price of calculators. Once prohibitively expensive, they are now economical and generally available. The same will be true of imaging technology. Kodak, with its current Photo CD technology, has already reduced the cost of digitization and display to a level obtainable to the general consumer. Also, if one delegates the digitization and hardcopy functions to a third party, then the only necessity is a computer with 24 bit color capabilities and digital photography software. Another disadvantage of this technique is that it can only produce black and white stereo images. Currently a variety of techniques exist that will allow the display of colored stereo images on a computer screen.

What we have attempted to show in this article is that digital photography can be a useful tool for the stereographer. As the technology evolves, the applications available to the photographer will increase in power and versatility. Soon, 3-D viewing of color images, so closely allied with artificial reality systems, will be available to the general public at a fraction of the cost of current, very limited, imaging systems.

For more information, contact Robert Dell, Physical Science Department, Mohawk Valley Community College, 1101 Sherman Drive, Utica, NY 13501.
Image enthusiasts have long viewed the annual Montage exposition in Rochester, New York as the vanguard of photographic technique and imagination. And if Montage 93 is any indication, 3-D imaging is definitely the wave of the future. Technical breakthroughs and artistic imaginations demonstrated exciting prospects for a new dimension in imaging. But technology poses hurdles as well, and the struggle of artists to master new techniques was much in evidence.

Kodak was one of many exhibitors at the trade show taking a new look at that third dimension. America's greatest photographic institution, which has ignored 3-D since Stereo Realist days, debuted a new lenticular technology that works as an extension of Photo CD. The "Depth Imaging" process provides very crisp images as large as 11 x 14 inches with a virtual push and pull of around six inches. The sharpness comes from computers which digitally split the images, leaving blank the spaces between lenticles where mudding and ghosting usually occurs. Once nine or more images are digitized, anything is possible. The team has even converted old stereo pairs into stunning lenticular portraits. The secret to the superb image quality and the current bottleneck on size is Kodak's LTV (light valve technology) printer. Larger dimensions are reportedly in the works.

Among a number of more familiar 3-D imaging firms, Dimension Technologies of Rochester demonstrated an LCD-based 3-D display that works without glasses or lenticular screens. The monitors measure less than nine inches and image quality is not the best, but they offer a good viewing angle. While the device looks like it was hauled off the deck of the Millennium Falcon, it is easy to imagine that a 3-D technology such as this, free at last from the tyranny of the
This floating structure was among several computer generated images by NSA member Roger Mulkey exhibited at the Strong Museum for Montage 93. © 1993, Roger Mulkey

"Antenna Farm, Sandia Peak, NM" by Robert Shlaer. This 1990 stereo daguerreotype gave Montage 93 visitors the opportunity to compare the sharp, mirror-like quality of stereography's oldest process with the latest digital and holographic works. © Robert Shlaer, 1990.

len, could be the means to bring that extra dimension home to boob-tubes everywhere.

Three-Dimensional workers were also on hand to demonstrate new techniques. Roger Mulkey of San Francisco showed slide pairs of computer generated images and live photographs that have been electronically enhanced. Using a Mac equipped with Photoshop and Ray Dream Designer, Mulkey showed how computer graphics can extend the stereo effect. "It is another set of tools for 3-D. You can build stuff that wouldn't otherwise exist." His work featured computer modeled forms, often wrapped with scanned textures from real photographs.

Video and computer artist Vibeke Sorenson demonstrated stereoscopic computer graphics software where the audience was invited to draw and paint directly in stereo using a computer mouse and digital tablet. Free-viewing on screen or with glasses, would-be artists from the audience could actually sculpt layers of information in the computer. PICT format images and text can be scanned in and placed at various depths.

Sorenson's software, called "Draw-stereo", even allows users to play back the actual creation of the image, stroke by stroke. The software supports a number of stereo formats and can be utilized on any application that accepts PICT 2 files. For more information, write Vibeke Sorenson at 2322-D La Costa Avenue, Carlsbad, CA 92009.

A major Montage exhibition, PERSPECTIVES PROXIMITIES PERCEPTIONS at Rochester's Strong Museum highlighted 3-D imaging. "What we are trying to do is depict the state of the art at this stage." says exhibit co-curator Lance Speer, who believes 3-D art is under-appreciated. "Three dimensional technology existed more than one hundred years ago and today's artists are appropriating this technology." The show featured a fascinating range of artistic expression in all dimensions. Objects from Speer's amazing collection of stereographica were also on view, introducing the history of 3-D photography. Good thing it was behind glass, or hot-fingered collectors would simply have been unable to resist.

The New Images Show at the George Eastman House emphasized new technologies. An assemblage of 3-D and 2-D computer images, computer animation, remote sensing, holograms, 3-D stereo (Continued on page 42)
The Hyper3D project, which has just completed its ALPHA proof of concept on an IBM PC compatible, is an attempt to combine the beauty and historical significance of the antique stereograph with the ease of use and organizational power of hypertext and the added dimension of stereoscopic 3-D computer displays. This project represents a new and exciting direction in the rapidly evolving hypermedia and hypertext fields.

Recently, interest in stereoscopic 3-D graphics has had another resurgence, due in large part to computer generated images. All of the major personal and entertainment computer architectures (Sega, Nintendo, IBM, UNIX, Macintosh, and Amiga) have stereoscopic 3-D games and graphics applications available. In addition, no fewer than six companies currently sell high-end, professional stereoscopic 3-D computer displays for architects, chemists and vision researchers. The growing popularity of Virtual Reality, which also uses stereoscopic displays, will further drive this renewed interest in stereoscopic 3-D displays and applications.

The majority of the public have not been able to see truly good stereoscopic 3-D images, however. Nor are they aware of the long and varied history of stereography and, more importantly, the wealth of images represented in that format. Consequently, they have not been exposed to an important part of history in its original format. These images can be used to illustrate the history of photography, the development of the photograph as an art form, and the historical events recorded with this medium that still affect society today.

The Need for Hyper3D
This project is an inexpensive way to expose a large number of people to the beauty of stereography as it was meant to be seen. Rather than simply presenting a collection of stereoscopic images in a limited interaction, slide-show format, the addition of hypertext as an interface and search tool allows for a more enjoyable and educational experience. Hypertext gives users the freedom to explore their own interests, yet still be aware of a basic framework of instructional and entertainment materials.

The use of hypertext links allows this project to serve as a serious research tool for a wide variety of disciplines which until now have traditionally been restricted to text-based materials due to the problems inherent in searching and accessing photographic materials. Furthermore, this project is designed to serve as test bed and feasibility study for a wide range of high-traffic, stereoscopic computer applications that would require hypertext interface. These applications include medical imagery, satellite images, CAD, chemistry and scientific visualization.

How Hyper3D Works
The original, ALPHA version of Hyper3D was based around the Tektronix liquid crystal stereoscopic display system, a shareware hypertext program (BlackMagic) and IBM PC compatible with a VGA monitor. This system displayed the text and traditional 2-D graphics on the VGA monitor through the hypertext engine. The test is based around the history of stereography, human perception, general history and personalities. The 2-D illustrations include primarily wood cuts and line drawings to illustrate various points in the development of
stereography and the principles behind stereoscopic vision.

The 14" Tektronix monitor was used to display the images of the stereo cards with 8-bit (256) color. This graphics mode was selected primarily as a compromise between storage restrictions and image quality. The monitor can display 24-bit (16.7 million) color and can be modified to work on a wide variety of computer architectures. The images were digitized with a Logitech Scanman 256 gray scale hand-held scanner and are stored in a modified GIF format designed by the author.

In front of the Tektronix monitor are two large sheets of liquid crystal that act as polarizers. The left-eye image is flashed on the screen and one sheet of liquid crystal is turned on. Instead of turning black, as does the liquid crystal in a calculator display, this liquid crystal aligns so as to polarize the light coming from the screen. Unlike most light sources, which are composed of a variety of wavelengths aligned at different angles, the polarizers serve to restrict all but the wavelengths traveling in one direction. An identical process is used for the right-eye image, only the light is polarized at a 90 degree angle from the left-eye polarization.

The viewer must wear a pair of lightweight, high-quality glasses to decode the polarized images and see the images in stereoscopic 3-D. Because the images are flashing on and off at 60 times per second, no flicker is seen. Variations of this liquid crystal technology can be modified to include large screen projectors for larger audiences as well as movies and computer animation.

The Tektronix system was chosen over its main competitor, Stereographics, at the insistence of the initial granting agency. Stereographics' Crystal Eyes systems are now the industry standard and they have recently generously supported the Hyper3D project by donating one of their Crystal Eyes stereoscopic computer display systems. All subsequent versions of Hyper3D will be built around the Stereographics Stereoscopic computer display system. The Crystal Eyes system places the liquid crystal shutters on the lightweight glasses the wearer uses rather than in front of the screen as in the Tektronix system.

The advantages of this liquid crystal system over other less expensive systems such as anaglyph, side by side or lenticular are that the image has higher quality than these techniques and no training is required for the user.

**Uses for Hyper3D**

The overriding goal of this hypermedia project is primarily to create and test the cost and feasibility of combining hypertext and stereoscopic images. Because two images are required for each stereoscopic 3-D illustration, and the project is designed to be interactive, image retrieval time and storage space are also important issues. Because of the current high cost for low volume pressings, CD-ROM is not a viable alternative. Furthermore, the retrieval time is, currently, too slow with this format. However, for mass produced or large volumes of images, CD-ROM would be the medium of choice.

While this project has on occasion been discussed by others as a form of archival storage, it should be pointed out that to date very little conclusive data has been collected on the life-span of magnetic/computer disks or CD-ROM materials. Some evidence suggests that their archival life spans may be less than 50 years, possibly even as little as 15 years. For comparison, the original photographs used for this project have retained their original grain and color (some are painstakingly hand painted) for over 150 years with no signs of deterioration, even after being stored and handled in the worst possible circumstances. Conservative estimates have placed the archival life span of black and white photographs at over 300 years.

However, there are distinct aesthetic and retrieval advantages to using electronic images. These electronic images can be manipulated rather easily even on the low-end system used in the ALPHA version of this project. Portions of damaged images can be retouched. Views that were incorrectly mounted can be corrected. The subtle shades and surprises of tissue views, the dramatic effects in early animation, and the warm glow of limelight can be simulated.

Because of the immense popularity of stereography in the years 1870-1930, virtually every aspect of life was recorded. Consequently, images exist on topics as diverse as humor, crime, popular icons (such as Santa Claus and Uncle Sam), medicine, technology (the airplane, bicycle, automobile and telephone) and political and religious figures. Photographs over this 60-year period would allow the user of Hyper3D to study the evolution of the airplane or Yellowstone National Park through the use of hypertext links. This makes Hyper3D a project of interest to sociologists and educators as well as the general public, rather than one of interest only to historians and photographers.

An estimated eight million different stereo card titles were produced, according to Darrah, during this 60-year period. A substantial number of stereographs were also taken by amateur stereographers, giving a rare look into everyday life. Two prolific, amateur stereographers during the 1950s were President Eisenhower and silent film star Harold Lloyd (recently published).

It may also be desirable to examine perceptual and cognitive issues in this hypermedia environment. It is feasible to have the actual hypertext and links themselves presented in stereoscopic 3-D as well as the images. While this presentation medium would no doubt decrease reading speed and possibly comprehension, the added organizational structure might outweigh these drawbacks. This platform could become a useful tool in examining these and related psychological issues in stereoscopic computer displays and interactive immersive environments.

**Strategy**

The current version of Hyper3D is intended primarily for use by museum and library visitors and was constructed as a feasibility test of available stereoscopic displays in a hypermedia environment. It runs on an IBM 80486 clone, Notecards from Venue and a Crystal Eyes system from Stereographics. The hyper-navigation tools are rather limited and designed for ease of
use rather than sophistication. Users may:
- page forward and backward
- exit to the table of contents at any time
- move between links
- search the database on a variety of topics or simply page through the text and illustrations in a linear fashion
- expand on highlighted words
- print their own copy of stereoscopic pairs
- draw their own stereoscopic pictures

There is no process for the user to create their own links or to modify existing links. Nor is a notepad function designed. The ALPHA version contained nearly 100 scanned stereoscopic 3-D images as well as approximately the equivalent of nearly 50 pages of text and 2-D illustrations.

The main “chapter” headings for the BETA version are:
- An Introduction to Visual Perception (monocular, binocular vision)
- The Evolution of Photography (from 1832 to 1950)
- How to Make Your Own Stereo photographs (includes a stereoscopic drawing pad)
- Locations (natural and man-made points of interest selected from a map of the world)
- Famous Personalities (Presidents, Popes, film stars, etc.)
- Victorian Humor
- Victorian Fashion (clothes as well as architecture)
- Sports (chronicles the changes in golf, bowling, football and bicycles)

Each of the images in these “chapters” can be searched on these key phrases as well as by the image title, photographer and publisher.

Hyper3D represents a new and innovative concept in hypermedia that can be accomplished fairly easily with existing technology. Aside from its ability to educate the public about a medium of which they are relatively unaware (as well as expose a new population to the uses of hypertext), the project could also be used by a wide variety of educators and professionals for research. Furthermore, a large body of human factors, design and feasibility information could be obtained from such a high profile project.

This project quickly reached the limits of its original hypertext software. The resulting impasse was quickly overcome through the Initiative Grant awarded by Venue for their professional hypertext package, Notecards. Stereographics has donated a new state-of-the-art Crystal Eyes stereoscopic computer display system. The last remaining obstacle is a more powerful CPU that is able to rapidly display and process the large number of images required for Hyper3D to be a success. Negotiations are currently underway to obtain a grant for a UNIX workstation.

The second, BETA, version of Hyper3D is expected to be ready for demonstrations by December, 1993. A fully functional system, complete with over 5,000 views and 1,000 “pages” of text is to be ready for museum use by 1995.

This system will include a touch screen and large screen stereoscopic projection system, enabling dozens of visitors to see the images in stereoscopic 3-D, all running on a UNIX workstation.

For additional information contact John Williamson, 3510 Leon St. Apt #A, Bryan, TX 77801-2913, (409) 823-8926 or, Stereographics Corporation, 2171-H E. Francisco Blvd., San Rafael, CA 94901, (415) 459-4500.

John Williamson is currently completing his Ph.D. in experimental psychology at Texas A&M University. His work focuses on the perceptual/cognitive issues related to stereoscopic computer graphics and immersive virtual reality. When he is not behind a computer screen, he can be found either on the racquetball court or in the woods with one of his stereoscopic cameras.

3-D Techno-Pop at Montage 93 (Continued from page 39)

images and other images created from new technologies were included. The range of exciting new technologies offer startling possibilities. Some of the artists appeared a bit overwhelmed by the process. Ginette Major, curator of the show and a main figure in efforts to bring new technology to the art world, is optimistic about future artistic progress in 3-D. “I think that the artist will focus more on content in the future. Holography has been used by artists for no more than 15 years. There has been a big improvement in the last few years; artists are making more sophisticated images and are better able to use the medium.”

Some of the most successful attempts drew on tried and true methods.

Robert Shlaer became interested in the earliest photographic processes when he learned that Ansel Adam's goal when printing was to approximate the tonal qualities of daguerreotypes. Even a single daguerreotype induces a lively sense of modeling, depth and solidity since each eye, regarding the plate from a slightly different angle, records a slightly different pattern. The Santa Fe based artist and NSA member has attempted to extend that effect through stereography.

The Depthography team, based in New York has also taken an old technology to new levels of excellence. Using the old Veriview technology as a starting point they have developed new techniques and equipment to bring the lenticular process to new heights and depths. “Lincoln Futura” jumps right off the frame, offering the maximum in 3-D pop.

Montage 93 had the kind of techno-pop that makes 3-D imaging such an exciting medium; all the promise and possibilities of the new, backed by the careful craftsmanship that brings out the best in the tried and true. A combination for the fourth dimension in photography.
November 6 (WI)
Super Madison Show & Sale, Holiday Inn-South East, Madison, WI. Contact Mark Orenstein, 3950 W. Addison, Chicago, IL 60618. Call 312-588-4420.

November 6-7 (CA)
Western Photographic Collectors Association Fall Photographic Collectibles Exhibit & Trade Show, Pasadena Center, 300 E. Green St., Pasadena, CA. Contact WPCA, Box 4294, Whittier, CA 90607. Call 818-792-7077 or 310-693-8421.

November 6-7 (AZ)

November 6-7 (FL)
The feature "Seven Billion Windows on the World - View-Master Then and Now" appeared in the out-of-print Mar./Apr. '84 issue of Stereo World. This 18 page illustrated history of the View-Master company has been reprinted in a separate, updated version and is available for $3.00 including postage from the NSA Back Issue Service, Box 398, Sycamore, OH 44882.

View-Master Story Still Available

Stereo Photographica '93, Hillcrest Exhibition Center, 220 Bear Hill Road, Wallingford, MA. Contact PHSNE c/o Ed Shaw, Box 189, West Newton, MA 02165. Call 617-965-0807 before 9 p.m. EST.

October 24 (CA)

October 24 (IN)
South Bend Camera/Computer Swap Meet, Century Center, South Bend, IN. Contact Roger L. Smith, Box 1551, Mishawaka, IN 46544. Call 219-256-6573.

October 24 (MI)

October 30 (MD)

October 30 (GA)
Atlanta Camera Show & Sale, Holiday Inn downtown Decatur. Contact Atlanta Camera Show, Box 360033, Decatur, GA 30036. Call 404-987-2773.

October 30 (TN)

October 31 (CA)
Mid-Atlantic View-Master Collector's Show, Holiday Inn, 3998 Street Road, Bensalem, PA. Contact Roger Nazeley, 4921 Castor Ave., Philadelphia, PA 19124. Call 215-535-9021 days, 743-8999 eves.

November 14 (FL)
Kendall Camera Club of Miami, 12th Annual Flea Market, North Miami Armorey, 13250 NE 8th Ave., No. Miami, FL. Contact KCC, Box 560042, Miami, FL 33256. Call 305-491-2328.

November 21 (MA)
NSA NEW ENGLAND REGION FALL MEETING, Memorial Library, Oak St. at Edgell Rd., Framingham, MA. Mini trade fair, meeting, auction, featured stereo presentation and workshop - starting at 12:30 p.m. On the program: Holographic Chocolates from Dimensional Foods! Contact David Berenson, 32 Coitwell Ave., Brighton, MA 02135. Call 617-254-1565 eves.
3-DIMENSIONAL VIRTUAL REALITY (IBM-C); 18 animations, 5 pictures; only $8 including Red/Blue glasses and shipping; specify 5.25HD or 3.5HD. Micro-Mart, P.O. Box 7571, North Brunswick, NJ 08902-7571. Tel. (908) 821-6164, FAX: (908) 297-7399; Micro-Mart's CD-ROM: Top-2000 Shareware (681MB), Reader's Library (344MB), All Beauties (For Adult Only), (689MB), only $30 each; $3.5/H (CD-ROMs 30-day MBD). 1890'S VINTAGE STEREO VIEWER in excellent condition. Nearly 100 views (Tinted, B/W, local, scenic US/Abroad, humor, '93 Chicago World's Fair). Send SASE for detailed list. R. Kramme, 2001 Ashworth, West Des Moines, IA 50265. 1930'S SAWYER VIEW-MASTER, original box, 17 reels, S.F. Fair/Western National Parks. Best Offer. M. Adam, 527 NE 21st, Portland, OR 97232. ANTIQUE IMAGES OF PHOTOGRAPHERS, equipment, studies and/or related materials. Daguerreotypes, ambrotypes, tintypes, CDV, cabinet, stereo views, Send for approval or Xerox/price to Brad Townsend, 10609 IH 10 West #106, San Antonio, TX 78230-1672, (210) 660-3465. 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 anaglyphs, this book is a must for the serious stereo photographer. Nearly 100 views (Tinted, B/W, including 3-D images not to be confused with stereo-3-D images). REALIST/VIEWMASTER: 3.5/2.8, $150/$400. TDC 116 3000. Personal VM $150. Stereomatic 500 VM proj. $250. VM chip $125. All xint. Ferguson, P.OB 1475, Snoonaulmie, WA 98056. (206) 888-3956 (eve.). RHEEM SCREENETTE (Those T-Scope Folks.) identical to Sawyer's, Mint, never opened. Send Money Order for $13.50, includes shipping. Sandy Reh, 1744 Wessel Court, St. Charles, IL 60174. RUBBER STAMPS: Stereoscopic stamps for free-viewing & stamps of 3-D subjects, including Realist and Viewmaster cameras (stereoscopic or single image) for $8.25 each. Send SASE: Stereo Stamp Co., PO Box 555, Ansonia Station, New York, NY 10023. STEREO CAMERAS, Viewers, projectors, accessories, View-Master, Rare Collectibles. Send LASE for Auction List #2. Steven Perrand, 1601 Mallard Lane, Virginia Beach, VA 23455. (804) 464-2842. STEREO FED instruction book (Xerox) with English translation. Learn how to use this modern, currently available, Russian stereo camera that has electronic auto exposure. Please send $9, postpaid to: Bruce Hansen, Box 89437, Honolulu, HI 96830-9437. STEREO REALIST with 2.8 German Steinheil lenses, Kodak Rheostat viewer, Bush Verascope F-40 camera, Realist filter holders, like new Realist 45, with case. Gil Van Horn, PO Box 207, Lino, CA 93445, Phone (905) 261-9207. STEREO VIEWER LENSES- Two wedge-shaped lenses, each molded and embodied in 1½ square frame. Precision optical quality, build, experiment. $7.95 postpaid (USA). Taylor-Merchant Corporation, 212 West 35th St., New York, NY 10001. USED BRUMBERGER metal storage boxes. 17 single tray (holds 150 cardboard slides) - $10 each. 2 double tray (holds 300 slides) - $15 each. 4 double tray with space for viewer - $15 each. $240 for entire lot. Joseph Cohen, 130 Westfield Dr., Holliston, MA 01746. NIMSLO CAMERA STRAPS are back in stock! As new in original illustrated sleeve, $2 plus 50¢ postage, Realist 45 stereo camera, Exc. in original box, $150; Sawyer's View-Master Album for storing 30 reels, as new in original box, $20 each, or all 4 for $75; Compco 500 stereo projector, Exc.+ in scuffed case with original instructions, $300. Please add shipping. Mark Wilke, 200 SW 89th Ave., Portland, OR 97225. (503) 297-7655. PANORAMIC WORLD PHOTOBOOK - A Global Adventure in 80 astounding 360 degree images. $19. PPD USA. Foreign postage add $16. Brown, Box 296, S.D.C. UT 84110. (Panoramic images not to be confused with stereo-3-D images). STEREO/CAMERAS, Viewers, cabinets, stereo views, Send for approval or Xerox/price to Brad Townsend, 10609 IH 10 West #106, San Antonio, TX 78230-1672, (210) 660-3465. 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 anaglyphs, this book is a must for the serious stereoscopist. Now available from NSA Book Service, 4201 Nagle Rd., Bryan, TX 77801. Price (including postage) $19.00 USA, Canada. Overseas add $2.00 surface, $4.00 air. JOHN WALDSMITH'S "Stereoviews, An Illustrated History and Price Guide" available signed from the author, $22.95 softbound, add $2.95 postage and handling. Please note: the hardbound edition is sold out. MasterCard and VISA accepted. John Waldsmith, PO Box 191, Sycamore, OH 44482. AS a part of their membership, NSA members are offered free use of classified advertising. Members may use 100 words per year, divided into three ads with a maximum of 35 words per ad. Additional words and additional ads may be inserted at the rate of 20¢ per word. Please include payments with ads. We cannot provide billings. Deadline is the first day of the month preceding publication date. Send ads to the National Stereoscopic Association, P.O. Box 14801, Columbus, OH 43214, or call (619) 927-2930. A rate sheet for display ads is available upon request. (Please send SASE.)
Wanted
CORT-E-SCOPE SETS, single views, no viewers unless with views. John Waldsmith, PO Box 191, Sycamore, OH 44482.

DAKOTA TERRITORY, South Dakota - North Dakota & Upper Midwest photographs, stereoviews, postcards & other related material. Robert Kolbe, 1301 So. Duluth, Sioux Falls, SD 57105. (605) 332-9662 (aft.)

DELWARE PHOTOS, all formats, esp. stereo views, CDVs, real photo postcards. Marvin Ballick, 5900 Kennett Pike, Wilmington, DE 19807, (302) 655-3055.

FLORIDA STEREOS of historical value, especially Tallahassee, Tampa and Gainesville. Price and describe or send on approval, highest prices paid for pre-1890 views. No St. Augustine. Hendriksen, PO Box 21153, Kennedy Space Center, FL 32915.

GREAT BARRINGTON, Massachusetts stereo views, RP postcards, all photos wanted. Also, views of Egremont, Housatonic, Sheffield, Stockbridge and Van Deusen Valley, MA wanted. Gary Levellie, PO Box 582, Great Barrington, MA 01230.

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

GREEN-WOOD CEMETERY (Brooklyn), photos in any format. Also New York City stereos. Top prices paid. Please send photocopies to Jeff Richman, 52 Harriet Lane, Huntington, NY 11743, or call (516) 549-4891.


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

I WANT TO SEE the 1939 New York World's Fair in 3-D! If you have the View-Master reels I speak of, please contact mc: Dean Jacobowitz, 440 Route 163, Montville, CT 06353.

ILLINOIS AND MISSOURI stereo views wanted. Can use most Missouri and Illinois (non-Chicago) views of street scenes and Public Buildings. Philip Germann, Box 195, Quincy, IL 62260.

ILOCA STEREO VIEWER, also interest in Sterling 800, Bush "Special". Cash or trade some items. Wallace Ford, RD2 Box 16, Millibrook, NY 12545. (914) 677-3003.

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

LONG ISLAND, NY collector seeking stereo views and real photograph postcards of Long Island. I answer all letters and pay postage. Good material seldom refused. Joe Trapani, 611 Haig Street, Baldwin, NY 11510

LOUISIANA AND NEW YORK CITY stereo wanted and daguerreotypes of children with toys or just nicely tinted. Also interesting cameras, other images. TDC Vivid proj. for sale with Selectron changer, case. Larry Berke, 28 Markman Lane, Levittown, NY 11756-5110. (516) 796-7280.

MASSACHUSETTS: Stereo views and photos of Salem and Lynn wanted. Send Xerox (or description) with price. Also buying books, postcards and ephemera. D. Michel Michaud, 14 Hamilton Avenue, Lynn, MA 01902-3704.

MR. POSTER BUYS 3-Ds! We missed San Diego but we're still buying: Macro Realist outfit, mint $2000. F2.8 Realist, exc w/c $225. F5.5 better cameras, working w/cs $70. Buying custom Realists, mint $450; red button viewers and similar quality units $50 each. Realist or Kodslide II with AC/DC $75. Buying View-Master cameras working, w/case $30; VM cutters and close-ups $150 each! VM reels and Tru-Vue rolls, 3-D books, accessories, lenses, misc. wanted. We'll buy 1 piece or a $10,000 collection. Harold Foster, Box 1883, So. Hack., NJ 07606. Phone days (201) 794-9806; FAX days (201) 794-9533. Call 24 hours, 7 days a week (201) 410-7525.

MUYBRIDGE VIEWS - Top prices paid. Also Michigan and Mining - the 3 Ms. Many views available for trade. Leonard Walle. 47550 Edinborough Lane, Novi, MI 48374.


PETALUMA, CALIFORNIA stereo views or other early format. Also views of Arizona or New Mexico (no burros, please). Gary Landi, 521 W. Encanto Blvd., Phoenix, AZ 85003. (602) 253-5232.


REALIST CUSTOM: Zeiss 6cm Slide Viewer. I have Steinhil wide angles for Realist and about 100 Verascope F40 mounts to trade. Farson, Box 88 CMU, Ghang Mai 50002, Thailand; FAX 66-53-213945 Attn. 4001.

REALIST-FORMAT photographers to share correspondence, ideas and anecdotes with a stereo fan in Connecticut. C'mon, let me hear from you! Dean Jacobowitz, 440 Route 163, Montville, CT 06353.

STEREO CARDS (Views) from Wisconsin; cities of Milwaukee, Waukesha, Templeton, Pewaukee, Oconomowoc, Watertown, Hartland, Sussex, send Xeroxes to Rick Tyler, 115 W. Newhall Ave., Waukesha, WI 53186 or phone (414) 549-0478.

STEREO DAGUERREOTYPES: All kinds, all nations & subjects. Any condition. Ken Appollo, PO Box 241, Rhinecliff, NY 12574, (914) 876-5222.

STEREO POLARIZING attachment for Sitz System, Video 2 camera, Linex Stereo Viewer, Tower camera, iloca 3A camera. Sandy Reh, 1744 Wessell Court, St. Charles, IL 60174.


STEREO VIEWS of the North American series by the London Stereoscopic Co. Also seeking views of West Virginia and Southwest Ohio. Jeff Little, 1212 Washington Ave., Parkersburg, WV 26101.

TO BUY OR TRADE. Boer War stereo cards. Write: Nic Van Oudshoorn, PO Box 529, Kiama, NSW 2533, Australia. FAX +61-47-515545.

TWINS Stereoscopic LIGHTED VIEWER, Airugto Stereo Theater, Stereo Macro Camera, and "3-D Art Parade" Arcade Viewer. Desperate! Dexter Richards, 1632 Scott Blvd., Santa Clara, CA 95050.

VERMONT, famous people, musicians, composers, opera singers, fine quality street scenes and storefronts any US town. Also buying photographic collections, all formats, US and foreign. Stuart Butterfield, 205 W. 95 St., New York, NY 10025.

WANTED: Single views and/or complete set of six, numbered 140-145 of Longfellows Wades Inn by D. C. Osborn, At Aetel, Mass., as well as my usual maritime "wants." Lawrence M. Rochette, 169 Woodland Drive, Marlborough, MA 01752. (508) 481-3204.

WEST VIRGINIA stereo views by Kirch, Chase, Prickett, Bishop Bros., and others. Also WV real photo postcards, CDVs and cabinet cards. Tom Prall, PO Box 155, Weston, WV 26452.

WOLFEBORO AND LAKE WINNIPESAUKEE, New Hampshire, stereo views. In addition desire views of early movie theatre fronts, pre-1915, from anywhere in the US. Dave Bowers, Box 1224, Wolfeboro, NH 03894.

WORLD'S FAIR, 50's Fashion, Celebrity stereo slides to buy or dupe. L. Smart, 1809 Brickhouse Ln., Fallston, MD 21047. (410) 877-3592.

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<thead>
<tr>
<th>Item Description</th>
<th>Price per 100</th>
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<tr>
<td>CV (3 3/4&quot; x 4 3/4&quot;)</td>
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<td>CV POLYESTER (2-mil)</td>
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<td>16&quot; x 20&quot; (unsealed flap)</td>
<td>$20</td>
<td>$100</td>
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Ice Delivery Wagon, Real Photo Postcard: $325.00

Black U.S.Sergeant, Fort Sill, Indian Territory, by W.Soule, Circa 1874 Carte D'Visite: $605.00

First Passenger Train at Central City, Colorado, 1878 Stereograph by Weitfle: $650.00
It was only about a five minute show, but Bob Bloomberg's "Kissing Whales and Other Tales" was generally regarded as one of the high points of the Stereo Theater at the 1993 NSA Convention in San Diego. Here a Gray Whale has approached a tour boat in a protected Baja California lagoon.