3-D Imaging Past & Present

STEREO WORLD
Volume 29, Number 6

3-D Bugs!
Boer War
Part 2
ISU in Besançon
World 3-D Film Expo
Relaxing Around the House

These two ladies in our first view (who I'm guessing are perhaps mother and daughter) appear to be having a nice visit, but I'm not so sure that they are wearing their everyday around-the-house clothes! Could they maybe have been on their way to church or to a wedding?

Unfortunately, the slide mount offers no information other than a handwritten “May 1956”. The style of their clothes and hair is a lot of fun though. This is a Kodachrome slide, in an older style (gray with red edges) Kodak cardboard mount. The photographer is unknown.

Our second view shows a woman catching up on the comics from the Sunday newspaper in a house that was apparently built well before the ’50s, judging by the radiator, windows, and a ceiling light fixture that strongly resembles a large bat spreading its wings.

However, the chairs and floor lamp have quite a bit of that mid-century charm. I like the giant floral pattern on the nearest chair, and the pattern on the shade of the floor lamp is also nice. You don’t see red lamp shades every day, but this one goes well with the red chair! (Although it would seem that the room would be bathed in a sea of red when that lamp is used!)

The woman’s dress, while not so crisp and formal-looking as those in the previous view, is also a colorful example of the style of the times.

This slide was mounted in a “Kwik Mount” slip-in mount made by the Armme Company, Chicago, USA. It is unlabeled, but other slides from this same photographer show dates from 1952 into the later ’50s. Most of his slides were apparently shot near where he lived and worked, in a suburb of Milwaukee, Wisconsin.
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Front Cover:
   Filming through special 3-D mirror snorkel lenses, the crew of the Large Format 3-D film Bugs! was able to capture close-ups like this of active insects in Borneo and England. On IMAX size screens, some creatures end up being magnified 250,000 times their normal size. Like Into the Deep (1994) and Galapagos (1999) Bugs! seems destined to become a classic of live action Large Format 3-D film. More images and details of the production are found in Lawrence Kaufman’s review “Watch Out for 3-D Bugs!” on page 6.

Back Cover:
   “Dr. A. Conan Doyle, in his tent at Bloemfontein, South Africa” (No. 11832 by Keystone). Conan Doyle, the creator of Sherlock Holmes and The Lost World, served as a doctor in the Army medical corps in South Africa, was subsequently knighted for his efforts, and wrote a popular history of the war. One of 21 historic views in part 2 of Richard C. Ryder’s two-part feature “Kimberley, Ladysmith, & Mafeking: A Tale of Three Sieges” on page 14.
Sometimes it's possible to truly have too much of a good thing, especially when it comes to sharing the space between the covers of a magazine. Our recent 48-page issues have managed to encompass a lot of the backlog of material waiting and needing to be published, but coverage of the 2003 ISU Congress had to wait for space in this issue and the more extensive coverage of the 2003 NSA Convention in Charleston will (finally) appear in our next issue.

While there are several fascinating articles in various stages of preparation, please don't get 'the idea that more aren't needed! There is always a shortage of articles, especially on vintage views or equipment, in the two to four page size and on practical tips for the care and use of stereo cameras from the Realist era. Reviews of recent software for the digital manipulation of various 3-D formats are a constant need, and we could really use someone to regularly surf the web for new (or old!) 3-D related sites of special interest that offer useful information or feature an unusually good selection of easily browsed stereo images, vintage or modern.

Many members whose "issues remaining" number hit "02" on last issue's address label will have received renewal letters (somewhat delayed by the need to print new forms with the revised dues structure), by the time this issue arrives. If you didn't immediately send in your renewal, this would be a good time to go through your desk, find the form, and get it in the mail before the paper detritus of the holiday season's aftermath buries it hopelessly. The material already lined up for the first few issues of our 30th volume is not to be missed, and includes information and images that will excite both collectors and shooters.

That Directory form...

If you haven't returned that yellow questionnaire insert from Vol. 29 No. 5, there's still time to let us know your collecting or shooting interests. In order to make the NSA 2004 Membership Directory as up to date as possible, we need everyone to respond with all the current information they want to share. The more responses we get, the more useful the Directory will be for all. If you do not wish to be listed in the Directory, check the box that will be found at the bottom of the next renewal card you receive.

Upcoming Stereo Conventions

**NSA** (National Stereoscopic Association)  
[www.stereoview.org/convention.html](http://www.stereoview.org/convention.html)

- **30th NSA Convention**: July 7-12, 2004 at the Doubletree Jantzen Beach in Portland, Oregon.  
  Contact Diane Rulien: NSA2004@cascade3d.org  

- **31st NSA Convention**: July 15-17, 2005, Dallas/Ft. Worth area (Irving, Texas)  

- **32nd NSA Convention**: July 2006, Miami, Florida.

- **33rd NSA Convention**: July 10-15, 2007 (Possible additional days on the 16th and 17th for field trips), Boise, Idaho; Joint ISU/NSA meeting.  
  Contact David W. Kesner: drdave@dddphotography.com

**ISU** (International Stereoscopic Union)  
[http://stereoscopy.com/isu](http://stereoscopy.com/isu)

- **15th Congress**: September 14-19, 2005 in Eastbourne, UK.
- **16th Congress**: July 10-15, 2007 in Boise, Idaho, USA (ISU/NSA - see above).

**PSA** (Photographic Society of America)  
[www.psa-photo.org](http://www.psa-photo.org)

- **PSA International Conference of Photography**: September 6-11, 2004, Thunderbird Hotel and Conference Center, Bloomington, Minnesota.

**SPIE** (International Society for Optical Engineering)  
[www.stereoscopic.org](http://www.stereoscopic.org)

- **Stereoscopic Displays and Applications Conference and Demo Session**: January 19-21, 2004 at the Santa Clara Convention Center, Santa Clara, California.

**Stereoscopic Society (UK)**  


**Corrections**

Dates of two very important stereo events were incorrect in our previous issue. The 2004 NSA Convention in Portland begins on Wednesday, July 7, not the 8th, as printed in "Upcoming Stereo Conventions" on page 3. As convention events start early Wednesday morning, you should plan on arriving Tuesday. Dates for the 2005 ISU Congress in Eastbourne, England are September 14-19, not 7-11.
Lost Village Found!

What may at first sound like a story from the jungles of Borneo actually comes to us from the wilds of the English countryside thanks to a dedicated stereoview collector and researcher. The small village stereographed in the early 1850s by noted photographer T.R. Williams for his very collectible series “Scenes From Our Village” had eluded identification for over 145 years until three decades of true “history detective” work paid off. Our not-to-be missed feature “New light on T.R. Williams: ‘Our Village’ found at last!” by Brian May explains how the mystery was solved and includes examples of Williams’ fine views as well as views of the largely intact village in 2003.

3-Digital

The ins, outs, ups and downs of digital stereo photography—both still and video—are covered in “3-Digital Digital Digital” by Ron Labbe. This isn’t a tip sheet on the hottest new digital cameras or printers, but an in-depth look at the projection side of digital 3-D by someone with considerable experience in the field. Digital projection is a growing aspect of the NSA Stereo Theater at conventions, and Ron covers its practical and impressive potential in detail.

Saving A Special Viewer

The restoration of a mid 19th century stereoscope wouldn’t ordinarily be news, but the viewer covered in our upcoming article may possibly have been used by Abraham Lincoln’s son, daughter-in-law and grandchildren. “...To View Once More” by Paul C. Juhl describes the discovery of a Becker style viewer (designed to hold 72 stereographs for viewing through two sets of lenses) in the Harlan-Lincoln House Museum in Mt. Pleasant, Iowa. Robert Todd Lincoln, his wife and three children stayed at the house, owned by his father-in-law James Harlan, frequently through the 1870s and 80s. The author arranged to have the viewer restored for use by museum visitors, photographed the project, and tied in the history of the house and its assorted occupants.

Did Abraham Lincoln’s grandchildren use this 72 card stereoscope on visits to their maternal grandparents’ house in Iowa?
In my final year as President of the National Stereoscopic Association, I would like to take this opportunity to thank the numerous donors who have contributed to our ever-growing organization. The generosity of our members continues to be our most significant resource for extra revenue enabling us to complete many worthwhile projects. Our excellent magazine Stereo World and our annual convention continue to be funded through our general membership fees and your donations help with so much more!

It is a pleasure for me to see that interest and support of our association remains so high each and every year and to honor those members who have provided extra financial assistance to our organization. [A total of $9,578 from the 392 donors listed here.]

For your information, a new membership directory is being prepared and will be sent out in 2004. Recently, I conducted a general membership survey to gather opinions from our diverse membership. These surveys will be tallied and the results presented in Stereo World. Your input will be utilized to better serve the many faces within our 3-D community.

With newer computer equipment our publication now presents full picture covers and better images within the magazine. We are trying to provide our membership with more color images and will continue to present color in as many issues as possible.

More events have been added to our growing annual convention and we are adding an additional day to the 2004 event for even more 3-D fun and camaraderie. In 2007 we will host a joint convention with the International Stereoscopic Union in Boise, Idaho.

A great deal of appreciation goes out to our unpaid volunteers who have been working so hard to produce such wonderful conventions each and every year. The Stereo Club of Southern California with Lawrence Kaufman as Chairman and Mike Aversa as Co-Chairman in 2002, the recent 2003 Charleston, SC convention with Bill Moll as chairman and the upcoming Portland, OR convention in 2004 with Diane Rulien as chair are examples of outstanding work done by local stereo clubs and individuals dedicated to promoting NSA. It seems that each convention provides more opportunities for projection, display and buying/selling of stereo images.

Contributions included with the annual renewal (an additional $10, $20 or more) help in promoting NSA and assisting regional directors in hosting local meetings. Also, it assists the work done by the Holmes Library. The NSA website is constantly changing and we are now providing more information regarding area 3-D events. Please check it out: www.stereoview.org.

We are always looking for articles for Stereo World. A regular shooters column is something we desperately need and has been done by local stereo clubs and individuals dedicated to promoting NSA. We try to continue to maintain an equal balance of articles reflecting the interests of all members from the photography and collecting communities. Please feel free to contact John Dennis about submitting an article and sharing your stereo interests.

The Officers and Board of Directors of the National Stereoscopic Association continue their efforts to insure that you receive the highest quality publication and services for your generous donations. Of course, we serve the association without compensation and do so based on our mutual love of all things 3-D!

If you have comments or ideas you would like to contribute please feel free to write and let us know. We are here to serve you—our members.

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Watch Out for 3-D Bugs!

review by Lawrence Kaufman

Bugs! (2003) is an amazing large format (LF) stereoscopic film. It has an entertaining story, great cinematography and it is a joy to watch. Like Space Station 3-D (2002), it will likely continue to open and play in LF 3-D theaters for years to come. Bugs! will startle and enthral audiences of all ages as it uncovers surprising sophistication at the foundation of the food chain.

Earth is dominated not by humans but by insects and has been for the last 400 million years. We share our planet with an insect population so numerous that its combined weight is twelve times greater than that of all humans. And Bugs!, a live-action nature drama filmed in awe-inspiring, totally immersive 3-D, highlights the extraordinary world of insects, focusing on the life cycles of a praying mantis and a butterfly from their birth to their inevitable encounter in the tropical rain forests of Southeast Asia where predator meets prey.

More than 40 tropical insects are featured. We view hundreds of worm-like baby praying mantids burst from an egg case, captured in minute detail for the first time in LF 3-D; we see a caterpillar hatch from a single tiny egg (an eleven hour pupation) to metamorphose into a butterfly (after 10 days in its cocoon). The emergence of the beautiful butterfly from its chrysalis is in a single 1.5-minute continuous take. We watch as a praying mantis snaps up a fly for its dinner (the sound effects are all too believable). An ant drinks from a raindrop. One virtually translucent “critter” took extra time and tests to find the correct lighting so he could stand out. A variety of other tropical insects make their way across the gigantic screen, (some magnified 250,000 times their normal size) as well as tarantulas, scorpions, vipers and jungle nymphs. A million bats flit through the jungle in search of insects, which they consume nightly by the ton. It’s survival of the fittest. Bizarre, alien and beautiful, insects are an endless source of fascination. Yet theirs is a secret world of which most people have little knowledge. Bugs! brings their minuscule world into our laps to explore the miracle of its success. From metamorphosis to mastery, community to concealment.

Proving that it is a breakthrough LF film, Bugs! “broke through” the entire slate (fourteen entries) at the 2003 Large Format Cinema Association’s (LFCA) Film Festival (www.lfca.org) to win the award for best of show at the festival. Bugs! is narrated by the distinguished English actress and Oscar winner Dame Judi Dench. The film was Shot on location in Borneo and in a purpose-built studio in Oxford, England. Producers Phil Streather and Alexandra Ferguson (from England-based Principal Large Format), Executive Producer Jonathan Barker (from SK Films, Canada), who had also served as Executive producer on three previous 3-D LF films: Into The Deep (1994), LS: First City in Space (1996) and The Hidden Dimension (1997); along with cinematographer Sean MacLeod Phillips (one of the world’s leading stereographers and 3-D cinematographers) were on hand to accept the award.

Phil Streather had been announcing the film for at least the previous four LFCA conferences. But the film itself had gone through its own metamorphosis. It was originally conceived as a short 3-D LF film. The story idea was rewritten after Streather met with The Film Consortium, the Film Council and other groups of LF theater operators. With the concept and story idea, Streather with Jonathan Barker searched for backers. After they had unsuccessfully courted another major pest company with offers and counter-offers.

© Giant Screen Bugs Limited 2003.
Title Sponsor Terminix seemingly just happened upon the scene. But with backers and theaters lined up, it was still necessary to produce the film.

Technical Academy Award winners Peter D. Parks and Image Quest 3-D used state of the art 3-D snorkel lenses to focus on hatching eggs, insect nests and transforming larvae. Spectacularly versatile, the lens can move within an inch of one of fourteen scientific and technical achievements selected for review and consideration for the 76th Academy Awards (www.oscars.org). The Scientific and Technical Awards will be presented February 14, 2004.

After many months of research and false starts, shooting began in and around Borneo during the hot and humid summer of 2002. After six weeks of fighting the rains (in a rain forest—who knew?), the crew packed up, including the shack set that had been built in Borneo and moved to the studio near Oxford, England for up to ten more weeks of shooting. Warwick Vardy—the bug wrangler, Gillian Burke—the specialist researcher and the tiny insect zoo joined rigorously accurate lifelike sets that were assembled in the studio to enable tracking moves through the desert, rain forest and a pond. Green-screen digital visual effects were applied to create a richer depth of field, truly enhancing the remarkable close-ups. Time-lapse photography helped show the unique process and illustrate every transitional stage of metamorphosis. Predatory stalking is dramatically highlighted in slow motion.

The film was budgeted at a modest (for a 3-D LF film) $9 million; costs were kept down by shooting entirely with 8 perf, 70mm cameras. The final release prints were blown up to 15/70. The Post Production Supervisor Rick Gordon (RPG Productions Inc.) was quick to point out that the post-production cost was easily twice a regular LF film. But every penny was well spent, because we are treated to a film that is completely free of any eyestrain.

Rick Gordon and Sean Phillips discussed many of the hurdles that they had to overcome during the LFCA 2003 Technical Session. They showed before and after footage and also showed some humorous clips of different slates that were used during filming. A highly inventive one that Phillips came up with for a hyper shot had a

(Continued on page 34)
The Stereo Club Francais hosted the 14th ISU Congress in Besançon from 28th May to 2nd June 2003.

Following the format of previous ISU Congresses there were a number of display areas and other side-features alongside the main core of projected stereoscopic shows. These varied from interesting but amateur offerings to shows that were truly professional in every sense. There were some comments regarding technical aspects of the projected images, and that will be covered later. Amongst the “side-shows” were stereo films and stereo video, holograms, lenticular prints, artists’ works incorporating stereoscopic vision, etc etc on display, and a range of suppliers were on hand to exhibit their wares.

The 3-D Theater

The range of subjects covered by the projected slide shows was vast, and there really isn’t any point in trying to describe them to those that didn’t see them. If you did see them, a glance at the program will surely remind you!

With regards to the technical issues, there is a total lack of compatibility amongst the synchronization systems currently in use. Stumpfl cables are only for Stumpfl. Bassgen Apex cables won’t even work with the Bassgen UX-Plus and so on, and which meant that the team led by Daniel Chailloux had had to assemble an awesome array of equipment. On a 4 meter long projection stand they had installed a pair of 400 watt RBT projectors for slides in the 41x101 sized mount and at least 12 carousel type projectors for various styles of 2x50x50 projection.

The “Tonneauscope” rotary slide viewer built into a wine cask provided the ultimate French 3-D experience. The wheel to the right of the lenses changes the image while the headphones provide stereo sound.

A Papua New Guinea Mantis Shrimp from John Rall’s First Place winning show “In the Sea”. taken with the Pennings MacroMIRA camera (a macro stereo camera made from a Mamiya 645 camera) which itself won the ISU award for “Best Commercial Product.” The Mantis Shrimp is deceptively powerful, with a punch as powerful as a .22 caliber bullet. It can easily punch a hole in the port of an underwater housing, or take your finger off!
On the lower deck of the stand there was equipment to play audio on CD, cassette, compact flash etc. all connected to a single mixer and instantly available. Two radio microphones catered for announcements from the stage or the projection booth.

A table behind the projectors was labeled with positions for each of the shows in a session, where the slides and soundtrack could instantly be located when needed. Members of the audience, waiting whilst a show is set up, are frequently unaware of this complexity of equipment in use, and it is to the credit of the ISU audience that there were no signs of impatience!

Something that was commented on was image sharpness. It turns out that the powerful 400 watt Simda projectors have the polarizers in the projector after the slide which means that there is a little extra heat at the slide, and the film physically distorts unless a glass mount is used. The RBT projectors, on the other hand, have the polarizers before the slide, so there is less distortion of the film. The RBT projectors also have a superb autofocus mechanism. These features mean that glass mounts are unnecessary. In fact, a number of slides showed evidence of moisture having been absorbed by the emulsion—but this was visible only on the semi-glassed mounts. It should be noted that Daniel Chailloux had recommended that all shows using the 2x50x50 system be mounted in glass, and authors who followed this advice were rewarded by sharp images on the screen.

If it were required to make a criticism of the projection sessions, it would not be leveled at the projection staff, but rather at the authors of the shows. Virtually every show could have been reduced by 20% or more, and the removal of some images would have resulted in tighter, better shows. Less, in this case, is very much more!

But so much for my thoughts! What did other people think?

**ISU Awards and News**

**Shows**

Awards for the top five 3-D presentations were announced at the closing banquet, held in the same ornate theater where the shows had been projected. First and second place went to John Roll (USA) for “In the Sea” and “Yellowstone”. Third place went to Al Sieg (USA) for “Provenance”. Fourth place went to Takashi Sekitani for “Fireworks”. Fifth place went to Charles Couland (France) for “My Favorite Butterflies”.

**Equipment**

The hurriedly organized first-ever competition for the best new 3-D equipment innovations had four categories: Robert Leonard’s camera sync box and Wolfgang Kuhri’s multi format viewer shared the award for “Best Product made by an Amateur for Personal Use.”

Daniel Gelezeau’s kite rigged with two cameras for aerial stereos got the “Most Ingenious Product” award.

**Monte Ramstad’s Pokescope viewer was named “Best Product Available for Purchase and Most Useful for ISU Members.”**

Tom Pennings’ elegant MACroMlYA multi-magnification camera (used by John Roll for “In the Sea”) won for “Best Commercial Product.”

**New Officers**

Approximately 250 people attended the 14th Congress, about 22 of them from the U.S. Elected at the Union Counsel Meeting were Bob Aldridge (UK) President; Mary Ann Sell (USA) Vice President; Klaus Kemper (Germany) Secretary; and Stephen O’Neil (Switzerland) Treasurer.

**Next Congresses**


The 2007 ISU Congress will be combined with the NSA Convention in Boise, Idaho, July 10-15. Contact drdave@dddphotography.com.
cult, demanding and very tiring jobs! And the highlights I’ll always remember—of course the shows. But even more the opportunity to meet so many 3-D enthusiasts and exchange experiences with them—roll on Eastbourne 2005!

Karel Wolf from the Czech Republic

I found stereophotography in January this year when my father showed me some old reel-viewers from Meopta and an old Belplasca. And because I make flat sideshows of my trips to exotic countries (Mexico, Guatemala, Indonesia, Bolivia) we realized it could be interesting to make 3-D slide shows like our very new IMAX cinema has just started showing...but everything changed when I realized that almost nobody does 3-D photography in my country, Czech Republic. Many people are involved in 3-D imaging on computers, but nobody offers shows for the public. So I started to be very interested in 3-D. I have subscribed to the photo-3d mailing list and some other lists and realized that, if the ISU Congress was in Australia last time, I am very lucky that it is in France this year! I really should not miss the opportunity to go to Besançon and meet many professionals.

It was a pity, that the club doesn’t have more younger people! Also there were very few sideshows on travel to South America and Asia. From Asia only Robert Bloomberg did a high quality show. And also nobody tried to compose a show with alternating emotional music and live speech. In such a shows there could be humor and a few jokes for the audience. That would be my choice, if I do a slideshow for the congress.

I also enjoyed the equipment competition, where I saw many interesting ideas implemented in reality. For me, the best item shown was the Pokescope because I always have problems freeviewing stereo pairs on my computer.

With the Pokescope, I can see the space immediately. Thank you Monte.

Thank you Olivier and your team!

Besançon Impressions from Brigitte Abt, Andrea Herbig and Angelika Schnehagen

This event could not be missed for the simple fact that all official traffic signs pointed to the event’s location. Even the mayor of Besançon insisted that the opening reception of the congress take place in the town hall.

Besançon—a good choice: parks, coffee shops and bistros near the Kursaal provided the unique opportunity for the convention’s participants to enjoy the “French flair”, while discussing the days events.

Stereo photographers from all around the world participated in the convention, many presenting their own slide shows. The audience judged all presentations and the selected favorites were announced at closing of the convention. With much interest an innovation was initiated: “The Technical Equipment Competition”. For more than one hour interested spectators squeezed through exhibition tables displaying partly eccentric inventions in the field of stereoscopy.

For example there was a flying kite, which was equipped with two cameras and wireless video transmission. A more precise schedule would have made this competition even more successful. Unfortunately, the time and place uncertainty also applied to other aspects of the program, for example, the film and video contributions were held in separate cinemas. The slide projection in the large hall, on the other hand, took place without considerable deviation to the printed program. The announcement of the slide shows was supported by speakers from Germany and Switzerland. After certain contributions people had to tighten again the spring between their eyes.

Congress organizers proved to be enormously improvisational. In particular, problems with the forthcoming strike in public transport was solved by organizing car sharing and chartering of coaches. The fine weather had also its reverse: the customers and the exhibitors at trade tables in the attic could be pitied for the tropical conditions up there, but this did not disturb the true enthusiasts. Nearly everything a stereoscopic heart desires was offered for sale. The organizers succeeded in arranging an interesting selection of exhibits. One highlight was a presentation of the first full colored hologram ever, “the clown”.

A large variety of different excur-
sions was offered to the participants. One of the excursions was a boat trip that led us through a tunnel and 3 locks around the entire center of Besançon. A trip to a cave, to an open air museum and a city tour by a small train were also offered.

The Monday full day excursion took us to the Royal Salt Works of Arc-Et-Senans (18th century) located in the historical environment of Besançon. The question why a salt work can be a world cultural heritage of Unesco was impressively answered by the representation of the life's work of the architect Claude-Nicolas Ledoux. He tried to express his idea of an “ideal” society by a new kind of architecture.

In the evening the traditional banquet took place in the Kursaal. During the dinner the prize winners of the competition were honored. The public voted the indisputable winner: John Roll with his fantastic underwater slides.

And from Janet Leigh Foster of The Stereoscopic Society (Great Britain)

The 14th congress of the International Stereoscopic Union was held in Besançon, birthplace of the brothers Lumière, and illusionists were given a warm welcome. In lieu of a red carpet, an anaglyphic map of France tiled the entrance to the Kursaal Theater, where most 3-D events took place. An elegant 19th century venue, the theater evoked an atmosphere of tissue stereocards, a perfect setting in which participants from a multitude of nations could converge for six days of revelry under the torch of stereophotography in all its forms.

75 hours of projection revealed stereoscopy as a visual Esperanto, an international language that communicated revelations of science, geometry, expeditions and obsessions. The tradition of presenting stereoscopic travelogues was upheld, and extended to include a sharing of journeys through the realm of imagination. One could almost feel the presence in the grand hall of artists known to have entertained a passion for illusion, of masters such as Salvador Dali, Rene Magritte and M.C. Escher.

The spirit of Maurice Bonnet, the foremost proponent of lenticular technology, was also present. He was manifest in a display of his lenticulars, stylishly presented in one of the halls of the Kursaal, which had been turned into a salon of 3-D. A Kaiser Panorama, which had been modernized by Charles Moner, provided a stereoscopic tour of Barcelona. Holography, now sadly in the throes of a dark time, was revitalized in a display that included a rendering of a microscope so real, wary spectators were inclined to duck when passing the apparition. Central to the 3-D menagerie was a curious machine by Jacques Robin. Entitled, Jeu de balle dans Paris, it featured a ball behind a semi-reflective mirror. A wheel underneath could be rotated to position the ball, superimposing it on a stereoscopic view of a Parisian street scene.

A variety of goods was proffered at the trade fair by merchants who had traveled from disparate corners of the world. Germans came bearing RBT cameras and projectors. Japanese traders exhibited a computerized visualization system, which functioned with mirrors. Americans vended an assortment of viewers, mounts and polarizing glasses. The Dutch offered stereoscopic greeting cards and books about illusions. A unique system for viewing pairs of stereoscopic drawings, whilst standing, was proffered by the French. Folding pince-nez, for viewing anaglyphs, were tendered by the Spanish, who thoughtfully provided a vat of complimentary red wine, decorated with a placard indicating the number of draughts required for free viewing.

The circumstance of a small French town having been overtaken by 3-D brought to mind the Surrealist Movement and the Theater of the Absurd combined. A cameraman, wearing a hat that made him look like an anthropomorphized mushroom, prowled Besançon’s cafes with a 3-D video rig. Like a flasher being flashed, (Continued on page 33)
Inside Wright's 3-D Space

review by John Dennis

Reel 307-1 explores this amazing structure inside and out, providing a truly in-depth look at its most exciting elements and making you wish a three-reel packet had been devoted to revealing yet more details inside the wings, the kitchen, the unique crow's nest, etc. From a distance, the building looks something like Noah's aircraft carrier, stranded on top of a hill. Inside, the huge living area beneath the central pagoda roof must (one hopes), have seen some amazing parties circulating around the core's multiple fireplaces on different levels and the open stairs to the crow's nest.

The reels covering the other two houses seem able to encompass their subjects better within the seven views, and provide similarly intriguing looks at Wright's solutions to matching design with environment. The challenge is always to imagine actually living in one of these houses without fearing the wrath of Wright's ghost at the movement of any significant piece of furniture or the clattering of any corners or shelves with the inevitable mess of daily life. (And not that there's a lot of room for any, but I can't imagine any resident of one of these houses ever sticking a poster or a calendar on a wall.)

A little of the intimidating impression given by most pictures of Wright's residential masterpieces (whether on reels or in books) might be softened if images of more kitchens, bathrooms, garages, etc. were included. And basements. Do any of Wright's houses have basements? How can the pristine architectural purity of these creations be maintained without a basement in which to stash everything that would clutter them up?

In any case, the View* reels make imagining life (or just an afternoon) in a Wright house far easier than any flat images ever could, which is why Wright himself insisted that stereography was the only way to adequately document architecture. The obvious care and thought put into the scenes on the View* reels make their coverage even more effective.

“Spiral Stair to ‘Crow’s Nest’,” scene 7 on reel 1 of Frank Lloyd Wright: 3 Houses. The open stairs go up one side of the central core in the huge living area beneath the high pagoda roof. The circular base of the level from which the stairs begin is seen at the left of the picture on the packet cover. Stereo by Michael Kaplan ©2003 View* Productions.
Stephen Benton
1941–2003

Stephen A. Benton, inventor of the rainbow hologram and a pioneer in medical imaging and fine arts holography, died at 61 of brain cancer Nov. 9, 2003. Benton was director of the MIT Center for Advanced Visual Studies (CAVS) and the Rudge ('48) and Nancy Allen Professor of Media Arts and Sciences at the MIT Media Laboratory.

Benton was known for his enthusiasm for all things optical—an enthusiasm, he said, that was ignited the minute he put on a pair of plastic 3-D glasses to watch the film House of Wax, at age 11. “There was a realism and a sense of excitement like nothing I had ever felt before. Not only was I amazed; I determined then and there to figure out how it worked,” Benton once said.

At the 1990 NSA Convention in Manchester, NH, Benton presented a Stereo Theater show titled “Stereoscopic Holography”, which covered the basics of his work at MIT and his thoughts on the convergence of stereography and holography (SW Vol. 17 No. 3, page 22). In effect, Benton was to holography what Oliver Wendell Holmes was to stereography, in that it was his invention which made possible the mass production and distribution of what had before been an exotic and expensive technology.

His rainbow holograms are now seen everywhere from credit cards to magazines, cereal boxes, key chains, etc. thanks to their inexpensive embossed reproduction on reflective foil. At the time of his NSA presentation, he was in charge of the Spatial Imaging Group at the MIT Media Lab where the goal, as he put it, was to “bring three dimensionality to the visual interface” between humans, computers, and other modes of current visual technology.

Some of the results of that work were on display in the convention’s exhibits room in the form of three full-color holograms—one computer generated, one portrait combined with CG elements, and one holographic portrait of Dr. Harold “Doc” Edgerton (made shortly before his death in January of 1990), with whom Benton had worked at MIT.

Benton became founding head of the MIT Spatial Imaging Group in 1982. A founding faculty member of the Media Lab in 1984, Benton delighted in both the scientific and aesthetic applications of holography. He held 14 patents in optical physics, photography and holography, and his own works in holography have been displayed at the Museum of Holography in New York. He described holography as a true “intersection of art, science and technology.”

— John Dennis

New Views
(Continued from page 39)

vertical line of pixels on the front screen. As a result, the light passing through pixels displaying the right-side perspective is projected toward the viewer’s right eye, and the light hitting pixels displaying the left-side perspective is projected to the left eye. The best viewing zone is about 21 inches from the screen and directly in front of it, although Sharp claims that two people (presumably good friends) sitting side by side can view the same monitor.

Among the game, movie and professional applications listed by Sharp, no mention is made of using the RD3D for the display of stereographs in the form of stills or videos. Until more is known about exactly which imaging software will work with the unit, its price will probably limit purchases by even the most well off stereographers. Sharp expects to ship a stand-alone desktop monitor sometime in 2004. For more technical details, see www.sharp3d.com.
Photographers, stereo and otherwise, operated under numerous handicaps in South Africa during the Anglo-Boer War of 1899-1902. Military censorship was rigorous, although this was more of a problem for the print journalists whose war stories had to be cleared by the censors before being sent home for publication in Britain. Although restrictions were less severe for artists and photographers, their movements to and at the front were to some extent controlled by a system of required permits.

"The dying Bugler's last call - a battlefield incident, Gras Pan, South Africa" (U&U). Such sentimentalized and safely sanitized images of death lend an unreal quality to much of the stereographic coverage of the Boer War—in jarring contrast to the often brutally stark images familiar to collectors of Civil War stereographs.

Other difficulties were imposed by conditions in the field. In particular, in the dusty, semi-arid landscape of South Africa, water was usually clouded by mud and other particles in suspension and was not really suitable for the on-site processing of photographs; even after hours of settling, it often resulted in images with a gritty appearance. Fortunately, the age of the dry plate had arrived and many photographs were sent out for processing later. Even this was not always successful, since overly zealous censors sometimes opened and ruined packages of undeveloped plates. On another occasion, one photographer lost an
Three Sieges
The Stereographs

by Richard C. Ryder

entire collection of three hundred plates when the ship carrying it sank on its way to England. These were risks shared by all those photographers covering the conflict, but the difficulties were compounded for stereographers by the need for balancing left and right images and the aesthetic requirements of three-dimensional composition, not an easy task in the field, especially when someone may be shooting at you.

Photographically, the Boer War came at an interesting time. The invention of the first Kodak camera a decade before had begun to place what was once a highly skilled art within the grasp of even the most unskilled amateur. The system was awkward and cumbersome; you mailed in the camera for processing (George Eastman's vaunted "You push the button, we do the rest") and got back your pictures and the camera loaded with another roll of film. It is doubtful if Eastman's process had much impact on the South African conflict but the growing number of more skilled amateurs did. One professional photographer in the

"Highlanders Capturing Boer Guns" - (No. 2827 by Griffith & Griffith / Wm. H. Rau). Perhaps no other views alleging to depict the Boer War are more blatantly fraudulent than the group apparently taken in the United States by Griffith and published on a Rau imprint. The terrain is totally alien to what one would expect to find on a genuine battlefield, missing are the omnipresent trench lines, and the uniforms look like something out of a Gilbert & Sullivan operetta!
field even found himself forced to share a portable darkroom with a British general who was also a devotee of the craft. More significant perhaps was the experimentation on the battlefield with a Dallmeyer telephoto lens by Reinhold Thiele, a German photographer who accompanied Methuen’s forces in the central Cape, while the cinematograph or motion picture camera also made its debut—a team headed by the London Biograph Company’s W. K. L. Dickson traveled to South Africa in October of 1899 on the very same steamer, Dunottar Castle, that carried both the ill-fated Gen. Buller and the Morning Post’s Winston Churchill.

The most telling innovation of all however was the appearance of photographic images in print media as a challenge to the more traditional battlefield sketches of the graphic artists—a tradition that went back to such brilliant practitioners as the Civil War’s Alfred Waud. War photographs had been redrawn as engravings for publication as early as Roger Fenton’s work in the Crimean back in the 1850s but now it was possible to reproduce the photographs themselves, in periodicals like the Graphic and Illustrated London News. The results left much to be desired, however; with poor contrast and heavily retouched, they were regarded by most observers as inferior to the hand-drawn illustrations of the war artists. Many such artists doubled as photographers as well, as did numerous print journalists such as James Bames of The Outlook; one enterprising journalist even managed to combine the triple duties of correspondent, sketch artist, and photographer! A notable exception to the typically disappointing illustrated magazine photography of the war was the British publication Black and White, which made a point of publishing only the highest quality images in a state-of-the-art way.

There were also of course the postcards and tobacco cards, two other new photographic formats that were among the turn-of-the-century innovations that over the next decade would increasingly cut into the market for stereographs. The photographic postcard literally exploded on the scene at this time and the Boer War was the first major event of international significance to be portrayed extensively in the new format. Significantly, although the postcard had been pioneered in Austria as early as 1869, the British postal service did not allow the use of small privately printed cards with an adhesive stamp until 1898 and the use of the full-sized or “continental” card was only okayed on November 1, 1899, some three weeks after the war had begun. Perhaps the crowning change was the adoption in 1902, just as the war was ending, of postcards with divided backs; by allowing both message and address to be placed on a single side, the entire front could now be occupied by the image.

The convenience of sending photographic images directly by mail would rapidly usurp much of the “wish you were here” function of stereographs for vacationing tourists, allowing them to share their holiday immediately with friends and family at home. For soldiers serving in South Africa, it was anything but a holiday, but, for them too, postcards provided a fast convenient method of maintaining personal contact. For the folks at home, postcards with colorful, often bitingly comic images and caricatures (essentially political cartoons) allowed them to express their feelings of patriotism or sympathy with those on the fighting fronts. Nevertheless, most Boer War postcards reproduce dramatic and colorful paintings, along with vivid patriotic or derisive (of the other side) artwork, frequently done by the new chromolithographic process, and actual photo-
graphic postcards remain somewhat scarce at least until the latter stages of the conflict.

Tobacco cards were another new innovation that seized on the popularity of the images of the generals, heroes, stage personalities, and other public figures of the day. As such, they were more an outgrowth of the carte-de-visite format than of the stereograph. Essentially a miniature carte and printed directly on heavy photographic paper, they were enclosed in packages of tobacco products as free premiums, which of course greatly enhanced their popularity with the poorer classes. The subsequent inclusion of lithoprint stereographs in cereal products as well as the immensely popular and enduring bubble gum cards are an outgrowth of this practice. Tobacco cards (also called cigarette cards) varied greatly in quality, with the Ogden’s “Guinea Gold” brand being among the best.

With all the new photographic formats emerging on the scene, it’s no wonder that makers of stereographs were beginning to feel the stress of competition. But, that being said, why do stereographs so often suffer in comparison with the other images of the war? Part of the answer is access. There is no doubt that many of the finest and most memorable images of the conflict were taken by local photographers, skilled professionals who were on the scene earlier and with more detailed knowledge of local conditions. Perhaps the most notable among these was Johannesburg photographer Horace W. Nicholls, who captured a series of poignant images of the initial British retreat to Ladysmith, long before Underwood and the other stereographers even reached the scene. Other excellent non-stereo images were produced by David Bamett, another Johannesburg photographer, of Puller’s campaign along the Tugela.

Another reason why stereo coverage of the war suffers by comparison may be that there were simply more non-stereo photographers, producing far more images—of which only the best are usually seen or reproduced today. If we were to look at only the most striking 20% or 30% of Boer War stereographs, undoubtedly our opinion of them would be considerably elevated. So perhaps the stereography of the Boer War is not as uninspiring as we think; it only seems so.

Disappointing and Deceptive Images

Stereographs of the Boer War have never been as popular with collectors as those of the American Civil War or even the Spanish-American War of 1898. This is due in part, of course, to the fact that so many collectors today are Americans. Then too, Boer War stereographs do not exhibit the wide diversity of subject matter that one finds with those other wars—for example, fully half the Spanish-American stereographs deal with naval subjects, a field almost totally lacking for the South African conflict. Also missing is the special poignancy and immediacy one finds in the work of a genius like Alexander Gardner or Matthew Brady. The British government did not encourage photographers to accompany the troops, and the earliest and most spectacular battles were over so quickly that, by the time stereo photographers arrived on the scene from England or America, they were too late to capture much of the action. Hence, most of the stereographs of

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“Royal Munster Fusiliers fighting from behind redoubt at Honey Nest Kloof (Feb. 16, 1900), S. Africa” (U&U). This remarkable view, one of several taken during or immediately after a minor and long-forgotten skirmish, appears to be one of only a few genuine images of actual combat produced during the war. In the several variants of this view, the soldiers exhibit a naturally flowing sequence of movement that is unlikely to have been staged.
places like Spion Kop or Colenso are taken well after the fact and show almost nothing beside the rather unremarkable topography of the place. All too often such views show little more than barren, relatively featureless terrain and are not even interesting in terms of stereoscopic composition. To put it bluntly, such views are, unavoidably, somewhat boring even to Boer War aficionados. Stereo photographers did accompany Lord Roberts' main advance from Paardeburg to Pretoria, but little attention seems to have been paid to the battlefields of the Natal front until well after the campaign there was over.

Deprived of a share in the action, many stereographers seemed content to work minor garrisons like Honey Nest Kloof and even resorted to considerable fakery. Again and again, Underwood views show British troops, often with dramatically fixed bayonets, in the act of "storming" Boer positions on hilltops. The troops are posed for maximum effect, often with "wounded" comrades who are obviously enjoying the role. All of which is hardly surprising. Given the deadly long-range accuracy and firepower of the German-made Mauser rifle in the hands of an entrenched Boer, any photographer who stood up to take a picture during an actual assault would be unlikely to survive long enough to repeat the gesture.

Some photographers were even more enterprising than this, however. Of particular note are a group of views by Philadelphia stereographer William H. Rau that evidently were not even taken in South Africa. Purporting to show British troops storming a hilltop and engaged in close combat with sturdy Boer "burghers", the views were seemingly faked right in Pennsylvania, as the lush green hillsides, background forest, lack of trenches, and uniforms reminiscent of a Gilbert & Sullivan operetta (complete with tartan kilts, sporrans, and glengarry caps) suggest!

The British soldiers are right out of central casting and the "Boers" look more American than Afrikaner. The cannon too are painfully fraudulent.

Most revealing of course is the conspicuous regalia, for the British had learned a hard, painful lesson about shawy uniforms in earlier colonial wars, as the following excerpt from a view by Underwood indicates.

...it is next to impossible, at any long distance, to tell a man from a rock here in this unearthly land where everything is of one color, an endless expanse of yellowish-brown. The British are learning the lesson of the landscape, and purposely subduing their own color and glitter in order to be less conspicuous. Light-colored things are intentionally rubbed over with mud to keep them from furnishing a mark for Mauser bullets.

Nevertheless, if Rau's fakery is incredibly transparent, it is not unique. Although the London Biograph team managed to shoot some background footage in South Africa and even came under Boer shelling at Colenso, their only surviving "combat" footage of the war was apparently faked right on Hampstead Heath in London. The reason for this rather transparent fabrication is unclear; perhaps they simply found that the hazards of filming under fire were not justified by the results. In any event, no one should demean their courage, for after they were driven from their camera by the shelling at Colenso, the Biograph personnel all performed gallantly as volunteers, helping to extricate British soldiers from the action.

1 The practice of identifying British regiments with a particular geographic region dates from as early as the American Revolution although the actual system of localized recruiting was not formally mandated until 1881.

2 One source indicates Underwood production of 100, 200, and even 300 card Boer War sets—although actual collecting experience suggests rather a 36, 72, 144 card sequence of sets.
wounded from the battlefield while under fire.

A more intriguing deception may have been a rather slick trick by Underwood to appeal to the market for Boer War boxed sets in England. One sometimes encounters the same Underwood view with different captions. This doesn’t seem accidental since in each case I have seen the view in question portrays a body of troops that can’t be readily identified while the captions specify distinct and different units. Since British regiments were recruited on a geographic basis and there was considerable local pride, this may have been intended to enable Underwood salesmen to offer a set that contained a view of the local regiment in action—however spurious that view might be! For example, one such caption reads “Worcesters skirmishing with the Boers near Colesberg on Feb. 12th—the Boers drove them back”, while another, identical view is labeled “The Warwicks skirmishing with Boers near Weppener, East of Bloemfontein, South Africa.”

In another example, two apparently dissimilar cards, “Gras Pan Stables—the Australians just arrived are welcomed by London Volunteers, South Africa” and “Arrival of Gen. Cronje at Modder River, a prisoner of war, escorted by C.I.V. Mounted Infantry, South Africa,” are in fact identical. At first glance, this seems to confirm our earlier suspicions. But this is in fact even more ambiguous. For “C.I.V.” stands for City of London Imperial Volunteers, so there is no discrepancy here—or is there? Just how—and why—this view of the actual surrender of Cronje after Paardeburg wound up being equated with the Australians at an earlier locale is unclear. So the jury is still out on this one. Whether or not such ambiguity was deliberate, the accuracy of Underwood captions definitely should not be taken at face value.

But, if Boer War stereographs often leave much to be desired, the genre should not be too quickly dismissed or maligned in its entirety, for there are in fact many views that exhibit considerable interest for the serious collector or historian.

Underwood Goes to War

By far, the vast majority of Boer War stereographs encountered by collectors today, perhaps 75 or 80%, are those of Underwood and Underwood. They were the preeminent publisher of views at the time, not yet having lost their edge to Keystone. As to the others, Kilburn was obviously past its prime and H. C. White was hardly a serious rival.

The Underwood views appear on both buff mounts and the later gray card stock (introduced around 1903), with the former predominating, perhaps indicating that a large majority of the Boer War stereographs were marketed during or immediately after the conflict, and that their popularity then fell off rapidly. This is hardly surprising, as other “hot” topics such as the Louisiana Purchase Exposition, Russo-Japanese War, and San Francisco Earthquake would soon have supplanted them in the public’s interest. Unlike the scenic sets, which tended to have a more timeless quality, the appeal of historical subjects would likely have been of a more limited duration.

As might be expected, Underwood issued boxed sets in various formats, of which the 36-card, simulated book design is the most commonly encountered today. Entitled “South African War Through the Stereoscope” and retailing for $6.20, it seemingly enjoyed a longer production run than several more extensive varieties. Considerable variation occurs in the content of such boxed sets and position numbers are not printed as part of the title.
as was commonly done with many other Underwood sets but were instead hand-stamped on the face of the card subsequent to production.

One of the earliest of the Underwood offerings was a 72-card set, seemingly designed for the Canadian market, entitled "For Empire Queen and Flag" and subtitled "South Africa 1900". Tastefully advertised as "appropriately packed in a box covered with khaki," the set lists "Toronto - Ont." as the place of issue with no other Underwood offices listed. The khaki cloth cover is lighter in color than the typical Underwood boxed sets and the box itself is rectangular in shape, similar in construction but evidently predating by about a year the development of the more elaborate "bookcase" design. The cards are all on the earlier buff mounts, bear a 1900 copyright date, and depict events occurring up to about June of that year. These cards bear no position numbers at all, suggesting that purchasers may have been able to assemble their own set from among a larger selection of images—or, conversely, it may simply be that the numbering of cards was a later refinement. Curiously, in the 72-card set that I have, no more than four cards specifically identify Canadian forces, and the same set may have been issued, perhaps with a different point of origin, for the Australian market as well (although this is just a guess).

In any event, considerable evolution of the boxed set concept appears to have coincided with, and may have been stimulated by, the Anglo-Boer War. Keystone had not as yet ventured into the format but it is possible to distinguish a progressive development in the Underwood set design at this time. The Boer War may in fact have been the first historic event covered in the boxed set format. This is suggested both by the emphasis on details of the box itself in the advertising for the Canadian set and by the absence of boxed sets depicting the hugely popular Spanish-American War which occurred only a year before the outbreak of the conflict in South Africa. The original appearance of boxed sets of the war in late 1900 was followed by three other developments in fairly rapid succession: 1) the sequential numbering of the individual cards in the set, 2) replacement of the earlier buff card stock with the later gray mounts, and finally 3) introduction of the advanced, more eye-catching "simulated book" box design.

All of these developments seemingly occurred during the Boer War years, with the introduction of the "bookcase" box perhaps taking place right at the very end. This is borne out by the fact that the sets of William McKinley (issued subsequent to his October 1901 assassination) still retain the primitive rectangular design, while the boxed sets of the Martinique disaster (which occurred in the very month the Boer War officially terminated—May 1902) utilize the new "book" design. The more durable cloth cover introduced in the Canadian set to simulate the khaki uniforms of the troops may also have paid an unexpected dividend—in the stronger construction of the subsequent "book" boxes.

Another interesting feature in the Canadian "Empire Queen and Flag" set is the inclusion of a staged sentimental grouping of six views (which are numbered), designed to appeal to the emotions of a typically Victorian audience,

3 As indicated, I recently acquired one of these Canadian sets and (with more than 300 different Underwood images already in my collection) expected to find few if any views that I did not already have; however, no less than 25% of the views were new ones, which says something about the extraordinarily large number of images Underwood produced of the conflict.
particularlly those families with loved ones serving in South Africa. In the series, a young man is called to war, leaving wife and parents behind, and is subsequently wounded in combat, while the folks at home read newspaper accounts of the battle and fear the worst. But in the end the hero returns on furlough for a joyous reunion. Although overly maudlin to modern tastes, this group vividly captures the feelings and attitudes of the "home front." The grouping was hardly original, being modeled on a similar series of views done by Underwood a couple of years earlier, of an American soldier and family caught up in the Spanish-American War. In yet another attempt to enlist patriotic symbolism, this time unrelated to the boxed sets, Underwood issued at least a few views in which actors are dramatically posed to create what are in effect living statues in a style known as the "tableau vivant." Case in point: a pair of views, in the first of which "Liberty" in the guise of "His Excellency Sir Alfred Milner and Staff, Cape Town, South Africa" (U&U). Milner (seated) was an ambitious imperialist whose designs on the two Boer republics helped to bring on the conflict. Standing (third from left) appears to be Dr. Leander Starr Jameson, whose provocative 1896 raid on the Transvaal was a precursor to open hostilities; Jameson subsequently became Governor of Cape Colony.
an attractive, white-robed young woman is menaced by a group of shabbily-clad but heavily armed "Boers" who trample the flag underfoot; in the second, companion view, the young lady now stands triumphant under the banner of the restored "Union Jack," while at her feet kneel a group of British soldiers, their determined features peering outward over fixed bayonets. The lesson was clear—if somewhat less than subtle. It was the proverbial story of the virtuous maiden who is menaced by a fierce dragon and saved in the nick of time by a courageous knight (or knights) in shining armor—a veritable St. George in khaki! This sort of thing may have played well in the sentimentality of far-off London but one suspects it would have met with a more mixed, less enthusiastic reception—even perhaps derision—among the combat-hardened veterans on the battle lines in South Africa.

As to the mechanics of the cards themselves, most of the Underwood views have their titles repeated on the back in German, French, Spanish, Russian, and High Dutch, an indication of the company's desire to tap into a global market. Similarly, many of the views themselves identify either Australian or Canadian troops, indicative of Underwood's desire to promote sales in those two sizable outposts of the Empire.

Taken as a whole, the Underwood stereographs provide a remarkably comprehensive portrait of the South African War from the British perspective, although their impact is perhaps lessened for the modern collector by the presence of so many "featureless" views of battlefields in retrospect. Given the real treasures that one does find on occasion, it is regrettable that such lackluster scenes, together with equally unimpressive images of columns of troops endlessly marching across the barren veldt, and the all-too-obviously faked pseudo-combat scenes, constitute the vast bulk of the Underwood views.

There was also considerable selectivity in what was or was not photographed in stereo. Not surprisingly, absent are the scandalous "concentration camps" where Boer women and children died by the thousands (due, as has been noted, to inept administration and unfamiliarity with basic sanitary requirements rather than to any deliberate policy). Also missing is almost any record of the impact of the war on the country's blacks, despite the fact that they represented the vast majority of the population and suffered greatly from mistreatment and privation in the three sieges. There are a few views of black teamsters with the British supply trains, but that is about it. This may seem strange given the large percentage of the population blacks represented, but it should be remembered that this was first and foremost a "white man's war"—neither side was particularly anxious to arm black groups like the Zulu and send them out to fight fellow whites! Blacks were used extensively in a support role (as the teamster views indicate) and also to some extent for scouting.

The guttural-sounding High Dutch was the language spoken by the Boers at the time; the modern Afrikaans spoken in South Africa today is a twentieth century development.

Perhaps nothing so graphically illustrates the woefully inadequate and unfunded state of the British Army at this time than the fact that the tiny Boer Republics had better artillery; their German made Krupp guns and French Creusot "Long Toms" consistently outperformed and outranged the British weapons—Buller and even Roberts had to mount naval cannon on improvised gun carriages in an effort to keep pace.
Another feature that adds an unreal quality to the stereographic coverage of the Boer War is the scrupulous avoidance of real images of death (as opposed to non-threatening, romanticized, staged images such as "The dying bugler's last call" or "The last letter home"); the genuine article would have been regarded as too disturbing for the Victorian audience. This ban on death is in fact so pervasive that the only unquestioned corpse I have seen in any Boer War stereograph is that of a lone cavalry horse! Such sentimental squeamishness does not seem to have affected the stolid, no-nonsense Boers and photographs (largely non-stereo) taken from their side have a grittier realism to them—one is particularly mindful of photographs of the piled corpses on Spion Kop (an eerie preview of the haunting images of World War I).

This sanitizing of war by the British was not a phenomenon unique to stereographs. According to a recent article in MHO: The Quarterly Journal of Military History, a virtually identical process may be seen in the work of the various battlefield artists sent out by the London newspapers to document the war in sketches, men like Melton Prior of the Illustrated London News, George Steevens of the Daily Mail, and William T. Maud of The Graphic. In each case, these artists captured the heroic charge, the gallant defense, but rarely the grisly aftermath of battle. It was war as pure myth, a reflection of the Victorian fascination with chivalry and Arthurian romance.

Among the topics that were covered in the Underwood Boer War stereographs are the key cities and towns in South Africa that played a major role in the conflict, such as the disembarkation ports of Capetown and Port Elizabeth, the Boer capitals of Bloemfontein and Pretoria, the great gold mining center of Johannesburg, and of course the three small towns that were the center of all the fuss, Ladysmith, Kimberley, and Mafeking. The latter are particularly well covered, with overviews, street scenes, shell-damaged buildings, and defensive works all represented. Perhaps the most unusual among these are two views of makeshift artillery pieces hastily improvised for the defense of Kimberley and Mafeking.

One of the Underwood photographers, perhaps H. F. Mackerm, evidently was present with Lord Roberts' army at least from February through June of 1900 and there is a freshness and documentary "you-are-there" quality to the views of the relief of Kimberley, surrender at Paardeburg, and advance on Bloemfontein and Pretoria that is absent from much of the other coverage of the war. Indeed, the Underwood photographer appears to have arrived at the front even before Lord Roberts disembarked at Cape Town on January 10th, for one view purportedly shows the distribution of Christmas packages to troops of Methuen's force on the Modder River—the packages in question do not appear to be the famous chocolate tins issued to the troops on behalf of Queen Victoria but rather genuine parcels from home, so the actual date of distribution cannot be ascertained with any degree of precision.

Views on the Tugela front and in Ladysmith, on the other hand, appear to have been taken either on a visit during the six-week layover at Bloemfontein or, more probably, after the fall of Pretoria in June. The latter is suggested since one of the views shows an actual stone monument on the Colenso battlefield and this seems unlikely to have been completed.
while active field operations were still going on in the area.

There are few if any stereographs of actual combat, although two variants of a view allegedly showing British troops firing on a distant Boer mounted patrol near Colesberg have been cited as an exception. If this is so, it is unconvincing, for the British soldiers involved are not positioned to advantage (except from the photographer’s perspective) and some are even aiming their guns away from the “Boers.” In short, it shows many of the hallmarks of the “staged view” category. As another example, lines of soldiers lying prone on the veldt, staring intently over their rifles into the distance and attempting to hunker down to be as inconspicuous as possible are convincingly genuine—until one realizes that the photographer is standing with his camera, the only possible target visible to an enemy for miles! Even if outside rifle range, one can only imagine the soldiers saying, “Get that bloody fool out of here before he attracts the artillery!”

Nevertheless, such staged views do provide a sense of the operations that characterized the war in South Africa. Even the more “hokey” of the staged views, such as “The dying bugler’s last call,” with their rank sentimentality, dramatically draped “bodies,” exaggerated poses, and superfluous bayonets, in addition to providing the troops involved with a welcome break from the tedium of camp life, speak to the way the war was perceived at home in England—or at least how the powers-that-be hoped it would be perceived—with patriotism and sentimentality.

This absence of combat views should not be very surprising, given the nature of the war. Many of the actions involved long-range skirmishing of short duration that would have provided little opportunity for photographers to exercise their craft. Furthermore, many of the classic set-piece battles were fought within the first three or four months, before the major American companies had time to organize their effort and get photographers on the scene. Also, because of the devastating new accuracy of infantry small-arms fire, those early battles provided painful lessons; much of the subsequent combat involved long-range bombardment of a largely unseen, entrenched enemy, rather than the picturesque but costly frontal assaults of a Colenso, Spion Kop, or Magersfontein. There are views of artillery batteries in action, but whether in earnest or staged for the photographer’s benefit is uncertain.

There are also views of local garrisons “standing to” to repel a Boer attack on their defensive works, such as at Honey Nest Kloof; these
are not as conspicuously staged and may represent a genuine combat or post-combat situation. Once again, it is unlikely that any sane photographer would have stood in the open, exhorting everyone to "remain still and smile", while Boer bullets whistled around him. Nevertheless, there is a certain informal grittiness to the views taken here and Underwood's photographer was sufficiently impressed to expose at least two different views with no less than three different variants of each. Furthermore, the movement of the individual soldiers between the variants appears extremely natural and one soldier in the background even has what appears to be a blood-soaked bandage on a head wound; blood is almost never shown in any Boer War view! Accordingly, these views appear to depict the immediate aftermath of a genuine Boer raid and may constitute virtually the only actual combat stereography of the war. But if so, what action is it?

Honey Nest Kloof was in fact little more than a minor station on the railway line between DeAar and Kimberley in the Northern Cape that was occupied by the British (King's Own Yorkshire Light Infantry not the Royal Munster Fusiliers as the views suggest) during the battle of Graspan on November 25, 1899. It was subsequently reoccupied by the Boers who then pulled back as Methuen's advance on Modder River continued. Although no major action was fought here, the incident depicted may have occurred during this last change of possession. Originally intended by the British as a major camp and supply base for the advance, it was abandoned due to inadequate water supply.

Perhaps because of the long association with Roberts' army, the Underwood views excel at depicting camp scenes, the day to day life of an army in the field. The richness, quality, and variety of such views is considerable, ranging from the baking of bread and dressing of beef for food to the mending of shoes, kit inspection, and the writing of letters to the folks at home. Even the quirky but very human act of using a magnifying glass coupled with the hot African sun to light a pipe is shown.

No aspect of army life is more thoroughly covered than the medical services, with numerous views of the various hospitals, doctors and staff, field ambulances, and emergency care of the wounded and sick. There is even a view of wounded horses being cared for, an absolutely essential but generally overlooked function in an age of pre-motorized warfare. (A related Underwood view shows cavalry horses of the 6th Dragoon Guards being cared for in their stalls aboard a transport ship during the long voyage out from England.)

Transport and communication, the technological side of war, is also covered, with views of field telegraphers, semaphore and heliograph units. Lord Roberts' observation balloon, the long supply trains of ox-drawn wagons, and the railroads. Views of destroyed bridges and rail lines are especially numerous; also documented are the efforts of the Royal Engineers to restore them through the use of both pontoon bridges and more permanent spans.

As has been noted, a large number of the Underwood views identify individual military units, perhaps in an attempt to appeal to local markets. These read like a litany of the Empire, and include the Gordon Highlanders, Coldstream Guards, Inniskillings, Prince Albert's Horse, Royal Munster Fusiliers, 1st Royal Irish Regiment, Gloucesters, Guards Brigade, 6th Dragoons, South African Light Horse (with whom Churchill...
served after his escape), 10th and 14th Hussars, Cape Garrison Artillery, City of London Imperial Volunteers, Suffolks, Warwicks, Wiltshires, Yorkshires, and Worcesters, along with irregular volunteer units like the famous Rimington's (not Remington's as given on the card) Scouts. Australian units represented include the New South Wales Imperial Bushmen, Mounted Rifles, Lancers, and Medical Corps, as well as the Victoria Mounted Rifles. Canadian troops are also frequently shown, although individual units do not appear to have been identified in this case.

A wide range of key personalities are also featured in the Underwood views, including Lord Roberts, Baden-Powell, the defender of Mafeking, French, whose cavalry relieved Kimberley, and several Boer leaders, including Louis Botha, whose forces captured Churchill's armoured train and defended the Tugela crossings against Buller's relief force. There is even a view of Botha's young son, who accompanied the Boer armies on campaign at the age of eleven.

One of the most intriguing of the Underwood personality views is a formally posed portrait of Sir Alfred Milner and his staff. An avid imperialist whose designs on the Boer states riled in intensity those of Rhodes himself, Milner largely provoked the outbreak of hostilities through his devious diplomacy. But it is not Milner that provides the greatest interest in the view. Behind him and to his right (our left) stands a diminutive figure, believed hitherto unidentified (at least he is not named on the Underwood view). Recognizable both by his appearance and stature, this is almost certainly Dr. Leander Starr Jameson, formerly Rhodes' confidante and designated "hit-man," who had led the ill-fated raid that bears his name; now serving on Milner's staff, Jameson would go on to head the Cape Colony government after the war.

Perhaps because the distinct lack of uniformity in the Underwood boxed sets of the war prevented the issuance of a standardized guidebook, a few of the later gray mount cards are found with fully descriptive backs that include the fine eye for geographic orientation that is so characteristic of those volumes. Along with suggested references for further reading, these cards often contain a wealth of rich detail that greatly enhances the interest of the subject for the modern collector. One example will suffice, from an Underwood view of that elusive little skirmish at Honey Nest Kloof, which, as has been indicated, may be an exceptionally rare view of actual combat.

This is 35 miles southwest of Kimberley, within the limits of Cape Colony, but only about five miles west of the boundary of the Orange Free State. It is the big, bare, "inexpressible veldt" that stretches away on all sides, broken by those irregular ridges (rands) and hills (kopjes), each one a natural fortress that must be taken and held against the Boers. We can see now every detail of the sand-bag defences from which these Irish lads are firing. There are no braver fellows in all the British army; the pluck of Irish Tommy Atkins is proverbial. ... It was in recognition of the noble services of Irish privates down here in South Africa that Queen Victoria established the custom of the wearing of a sprig of shamrock by each Irish soldier on St. Patrick's Day. The honors are being hard-earned now! See how sadly the bandages from the Red Cross ambulance stores are needed at this very moment. It is a horribly fierce fire that is raining on this little group from off there at the right, and - such are Boer practices -

The term "Afrikanders" refers to cattle, not people, while "Afrikaners" is the preferred term for the human inhabitants of South Africa. A hundred years ago, however, there seems to have been no such clear-cut distinction, and one encounters "Afrikanders" in usage by Underwood, Keystone, and Churchill.
wounded and those caring for them are likely to be taken as marks by the enemy's rifle. Ordinary rules of warfare spare the Red Cross, but the Afrikanders, with their strange mixture of civilized and barbaric ideas, use it as a strategic shield for their own concealed guns and disregard its distinction of non-combatants among the foe.

Both sides in the conflict repeatedly accused their opponents of atrocities; misuse of the Red Cross flag was an allegation that was often made against the Boers. Curiously, because of their traditional animosity with the British, there were also units of Irish volunteers among the Boer forces. (This is yet another parallel with the American Civil War, in which units from several states fought in both Northern and Southern armies—one occasion Maryland troops actually faced each other on the battlefield.)

**Other Companies Cover the War**

Although Underwood dominates the field with many hundreds of different images of the South African War, sizable groupings of views were also issued by Keystone and B. W. Kilburn, with lesser efforts by H. C. White, R. Y.

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"Here's to Your Health!" - In Pretoria at Last, South Africa" (No. 11866 by Keystone). British soldiers in the colonial wars came up with some unusual mascots such as this baboon; others included lion cubs and young zebras.

..."Dr. A. Conan Doyle, in his tent at Bloemfontein, South Africa" (No. 11832 by Keystone). Conan Doyle, the creator of Sherlock Holmes and The Lost World, served as a doctor in the Army medical corps in South Africa, was subsequently knighted for his efforts, and wrote a popular history of the war.
Young's American Stereoscopic Co., M. E. Wright's Excelsior Stereoscopic Tours, and others, not to mention Rau's "creative" grouping. There was also a group of British-produced lithoprints by W. Tylar of Birmingham known as the "B-P" series, apparently so-named in honor of the hero of Mafeking. In addition, one finds a series of cabinet mounts on heavy gray card stock by the Australasian Stereoscopic Co.; examination of the prints reveals that many were in fact pirated from standard sized Underwood views. (Underwood images were also pirated for views issued by another Australian maker, the Parkworth Supply Co. of Sydney.) One particularly interesting Australasian view is entitled "Building where prs. were tried, Pretoria." Although unconfirmed, this may refer to the notorious "Breaker" Morant incident in which three Australian officers were tried for "war crimes" at a time when the British were trying to get the Boers to agree to peace terms—two of the men were eventually executed in what amounted to little more than a whitewash of British policy.

Given the scale of Australian participation in the Empire's war effort, it is not surprising that George Rose, perhaps the premier Australian stereographer of his day, also produced a number of exceptionally fine views of what a later generation would come to know as the "Home Front." Best known for his later superb documentation of the visit of the American "Great White Fleet" of sixteen battleships to Sydney and Melbourne during their round-the-world cruise in 1908, Rose, who did not travel to the battle front himself, did issue dozens of views in 1900 of Australian units preparing to depart for South Africa: poignant images of soldiers with their sweethearts (the "girls they left behind"), the pageantry of seemingly endless parades, the farewell activities of the "Second Victorian Contingent," which sailed from Melbourne aboard the Euryalus on January 13th, 1900, the similar departure of the "Imperial Contingent" aboard the rather ominously named steamer Medoc, and their return aboard the Surrey and Harlech Castle.

Rose was not the only Australian photographer to issue views of the Australian "home front"—similar images were also produced by both J. A. Sears of Melbourne and the firm of Craig & Solin of Fremantle and Kalgoorlie, in Western Australia.

Perhaps surprisingly, very few Boer War views appear to have been produced either in England or elsewhere in the Empire. British views seem to be pretty much confined to the aforementioned Tylar "B-P" lithoprints and a mere handful of extremely scarce views by M. E. Wright's Excelsior Stereoscopic Tours. Wright, who operated out of Burnley, just to the north of Manchester, also produced a number of exceptional views of Queen Victoria's funeral in January of 1901, but, unfortunately, Wright's views were prone to serious fading and are rarely encountered today. Exactly how many views he may have produced is unclear, for their survivability was not high (especially given the widespread recycling of paper during the World Wars). There was also little need for local effort since, as we have seen, Underwood and the other giant American companies catered to the British and Canadian markets as well.

Among American makers, generally more interesting and to my mind more artistically pleasing than the Underwood stereographs
are those by Keystone, a group of about a hundred views numbered primarily in the 11800s. Keystone’s photographer accompanied Roberts’ advance and many of the views were taken either in Bloemfontein or on the subsequent march to Pretoria (May-June 1900), including a rather bizarre view of a regimental pet monkey with a wine bottle allegedly drinking a toast to the capture of the Transvaal capital. Many military units kept local wildlife as mascots and monkeys were a favorite, perhaps because they so readily adopted many of the bad habits of their owners; one is reminded of a similar view, taken at the London Zoo by Frederick York in the 1870s, of a monkey sporting an Abyssinian War medal and smoking a cigarette!

There are also several attractive Keystone views taken in Ladysmith and on the Natal front. These most likely were taken sometime after the conclusion of that often unfortunate campaign, despite captions on a few cards purporting to show British cavalry advancing on the beleaguered town. Of equal interest are a number of exceptional views of personalities, including Sir Alfred Milner, the British High Commissioner whose machinations were largely responsible for bringing on the conflict, mystery novelist and doctor Arthur Conan Doyle, who was then serving as a surgeon in the medical corps, Mafeking’s Baden-Powell, and Winston Churchill, war correspondent and sometime-soldier. Conan Doyle would subsequently gain a knighthood for his services during the war; this would be conferred in 1902, the same year that saw the publication of the greatest of the Holmes’ novels, *The Hound of the Baskervilles.* Churchill was stereographed at Bloemfontein outside the tent he was sharing with his cousin, the Duke of Marlborough (also stereographed), who was then serving as ADC to Lord Roberts.

One personality stereographed by Keystone is likely to be misidentified: Lord Roberts’ daughters appear in a view taken at Bloemfontein with another ADC, Neville Chamberlain. Despite a similarity in appearance, this is not in fact the unfortunate future Prime Minister who would cave in to Hitler’s demands at Munich in 1938. That Chamberlain was at this time safely home in England, while our Chamberlain’s sole claim to fame would be the invention of the billiard-like game of snooker!

As with Underwood, many of the Keystone views repeat the title on one end of the reverse in six foreign languages, including German, Italian, French, Spanish, and the Boers’ High Dutch. A few also bear an extensive commentary, apparently in an attempt to produce on the back of the individual cards what would be the equivalent of an Underwood guidebook. These provide what is oftentimes a highly perceptive and vivid contemporary account of events, as witness the following analysis on the significance of Ladysmith from a card (#11810) showing an overview of the town.

The English have a conviction that South Africa, half-way to Australia and India, is the Keystone of their Empire. Many had a full conviction that during the early part of the war Ladysmith was the Keystone of South Africa. If Ladysmith with its 13,000 British soldiers and $5,000,000 worth of stores had fallen into the hands of the Boers at the beginning of the war the English cause in South Africa would quite likely have been lost. Such a victory would have opened the Boer’s way to the sea at Durban and would have encouraged their fellow-Afrikanders in Cape Colony to rise and “drive the English into the sea.” If Sir George White could not escape from Ladysmith and could not by sorties inflict any considerable damage upon his opponents he had the satisfaction of

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"Paul Kruger, President of the South African Republic, Waterval Order, S.A., July 4, 1900" (No. 13824 by B. W. Kilburn). Magnificent even in defeat, the irascible Transvaal leader had fled from Pretoria at the end of May by the same route as Churchill, east along the railway line, spending the summer as a fugitive in a railway carriage, before finally crossing the border into Portuguese territory in September. Kilburn’s photographer apparently accompanied the flight of the Boer leaders.
keeping them busy and holding them back from the sea...

The writer may also be having a bit of fun with us—note the repeated use of the capitalized word “Keystone,” a none too subtle play on the company name. Unfortunately, not all the Keystone commentaries are so restrained. A few are more strident or melodramatic. Consider for example the following from a view of British troops watering their horses on the Tugela.

“That accursed river” - writes Conan Doyle. It may yet be firewater to inflame the Dutch and Huguenot blood to a successful war of independence. General Buller, defeated again and again, crossed and recrossed the Tugela until he was lampooned as the Ferryman. Unless love and wisdom worthy of Christian peoples take the place of racial folly and malice the Tugela may yet run red to the sea.

With her hands free everywhere else, Great Britain had those hands full to recover her own territories from the invading Boers, and marshalled the largest army she ever sent to war to crush the two little states. What if the stock that resisted Spain in the pride and power of her empire, resisted for eighty years and triumphed, should again rise up against Britain? and when Britain’s bayonets are busy in Europe or in Asia? It needs all the wisdom of both parties, especially of the conqueror, to forestall that day. Tugela, Tugela, make Albion wise.

Grossly overblown, but perhaps expressive of the type of sentimentalism found in so much of Victorian writing, a literary style that we today find rather stuffy, especially in its smug self-assurance of racial and religious superiority. Such views are, however, evocative of their times. The “racial folly” referred to in the text is that between Boer and Briton; the concerns of blacks were generally ignored by both.

Some of the revelations are surprising, such as the following, which would certainly have won mixed reviews from a host of temperance organizations in both Britain and the United States.

... Lord Roberts wrote that there never was a more temperate army than that which marched at his command to Bloemfontein. Roberts had nurtured the Army Temperance Society and had transfigured the army in India. Kitchener had poured whiskey on the sands of Egypt when it had been smuggled within his lines. The army on its way to Bloemfontein had little to drink but disease-laden water. ... [A] halt of six weeks was necessary to fight the fever imbibed at Paardberg. ... All in all, the alcohol would have been safer! As noted earlier, either the ban was not that strictly enforced or apparently did not extend to monkeys.

Kilburn (or more properly James M. Davis, who by this time held the exclusive rights to distribution of the Kilburn views) apparently issued two major groupings of views of the conflict, the first, with negative numbers in the 13600s to 800s, copyrighted in 1900, the second, numbered in the 14100s and 200s, in 1901. These may not represent unbroken runs, however. Although the company documented the arrival of British forces in Capetown and the activities of various British units, in one sense the Kilburn views of the conflict are highly unusual, perhaps unique. Possibly because many Americans, especially Irish-Americans, supported the Boer cause against the imperial pretensions of “perfidious Albion,” many (perhaps most) of the Kilburn views show Boer forces engaged in active operations. Apparently, Kilburn’s photographer (or source) had actually accompanied the Boer armies in the field. There are also several fine Kilburn views depicting the activities of the field ambulances, as well as a particularly interesting sequence...
showing captured British officers and their Boer guards at the Nooitgedacht Prison Camp, a rather makeshift unwalled facility that reflects both the unexpectedly large haul of captives taken by the Boers in the first months of the conflict and the relative ease with which Churchill was able to take leave of a similarly amateurish (though walled) enclosure. Kilburn was therefore the only major stereo publisher to document the conflict primarily from the Boer perspective. Many of Kilburn's views of the Boer forces have a wonderfully relaxed, informal quality to them that is missing from much of the other coverage of the war.

That Kilburn was on particularly good terms with the Boer establishment is also indicated by the several fine views he produced of the Boer political leaders, including Transvaal President Paul Kruger. In appearance almost a caricature of the stolid Dutch burgher, Kruger, whose policies, like those of Milner, had helped bring on the conflict, fled with his government from Pretoria on the approach of Roberts' forces at the end of May, leaving behind his terminally ill wife, who could not be moved, and ironically proceeding east along the very same Delagoa Bay railway line that Churchill had used in his earlier escape. Throughout the summer, Kruger attempted to govern his rapidly disintegrating country from a railway carriage before accepting the inevitable and crossing the border into Portuguese East Africa, and thence to Europe, in September. He never saw his wife or his country again. Kilburn's photographer seems to have accompanied the Boer government on its flight from Pretoria (at least part of the time), as several fine views were taken in towns along the railway at this time.

Perhaps the most startling of the Kilburn views is one (#14231) showing Boer women and children being transported by train from their homes to one of the notorious "concentration camps"—this is virtually the only view I have encountered even hinting at this potentially explosive and embarrassing topic.

George E. Hamilton, who would go on to become a Rhodes Scholar at Oxford University in England, and later, after World War I, the long-term President of the Keystone View Company, originally worked his way through college in Indiana by peddling Kilburn views for James Davis during the summers of 1900 through 1903. These were the Boer War years and competition between the major companies was keen. Curiously, according to Hamilton, Davis himself had gotten his start as a salesman for Underwood, while B. L. Singley, who preceded Hamilton as President of Keystone, had flogged views for both Underwood and Davis before branching out on his own in 1892. Hamilton noted that during the Boer War years, Underwood had employed no fewer than 3000 college students as summer salesmen, while Keystone, White, and Davis had each sent out about a thousand, making stereographs a major influence in funding the education of the next generation of America's political, social, and business leaders.

In a lecture on the history of the stereoscope delivered before a gathering of the American Newcomen Society in 1949, Hamilton recalled that Underwood had been the first company to provide extensive printed information on the back of each stereograph. Keystone too had soon embraced the idea but Kilburn's James Davis declined to follow suit, citing as his reason a belief that the text "distracted attention from the picture." Hamilton saw this as little more than an all-too-transparent cover-up of the real reason—an
attempt to cut expenses. Kilburn may already have been in serious financial difficulties and Hamilton went on to note of Davis that “his was the first of the four big companies to quit the business.”

The last of the “big four” makers of American stereographs at the time of the South African conflict was H. C. White. Hawley White was a relatively new kid on the block. In the years since his 1873 move to North Bennington, Vermont, White had branched out from his original business of supplying ground-glass lenses to various small-scale manufacturers of stereoscopes. By the start of the Boer War, he was producing entire stereoscopes, and doing it so well that he was exclusively supplying the viewers for many of the major publishers of stereoscopic cards. Nevertheless, it was not until 1900, after the war was actually underway, that the H. C. White Company was formally organized and White ventured into the production and sale of stereographs themselves.

Although H. C. White’s offering of Boer War views is far more limited in scope than that of the other major stereo publishers, it nevertheless has elements of considerable interest that are seemingly lacking from the more voluminous efforts of Underwood, Keystone, and Kilburn. Of particular note are two views taken at Kimberley that reflect the technology of the conflict, one a spectacular view of an armoured train (although it may seem on the surface that the British learned nothing from Churchill’s unfortunate experience, such trains were in fact quite useful in moving British troops to areas threatened by Boer commando raids during the later “guerrilla” phase of the conflict); perhaps even more intriguing is a view of a “trackless” train, a steam traction engine pulling a line of cars loaded with troops and supplies. This was a common but rarely documented means of transport throughout the British Empire at this time, replacing the heavy ox-drawn wagons in places where reasonably decent roads were available and comparable to the double-trailer rigs seen on many American interstates today.

Another unique offering in the H. C. White group is a view depicting South Africa’s hidden minority, neither Boer, Briton, black, nor “colored” (mixed ancestry), but Indian. A great many workers and their families had been imported from India (the “Jewel in the British Crown”) to serve as laborers in South Africa and many soon found themselves victimized by South Africa’s unique racial hierarchy. (It should be noted that the great Indian liberator, Mohandas Gandhi, served in a field ambulance with Buller’s forces during the Boer War and was present at both Colenso and Spion Kop.) The White view shows a family of Indian squatters near Colenso. The White series, bearing a 1901 copyright date, appears on both the company’s earlier buff mounts and the later gray “Perfec” Stereograph format introduced in 1903.

Curiously, in addition to the many superb views of the war itself, there are also several stereographs of a Boer War “reenactment” of sorts—the so-called “South African Boer War Exhibition” at the St. Louis World’s Fair (the Louisiana Purchase Exposition) in 1904. This Fair attraction, which modestly billed itself as “The Greatest and Most Realistic Military Spectacle known in the History of the World,” was the brainchild of South African impresario and showman Frank E. Fillis, a sort-of bushveldt Buffalo Bill, and apparently featured reenactments of the battles of Colenso, Modder River, and Paardeberg—with at least alleged participation by repre-
sentatives of one of the most illustrious of all British regiments, the Gordon Highlanders. Stereographic coverage of these simulated battles was included in H. C. White’s extensive documentation of the Fair and also by Philadelphia’s C. H. Graves (on Universal Photo Art Co. mounts). Some of these “reenactment” images are actually more convincing than many of the allegedly genuine Underwood “staged” views.

The Boer War was a war of transitions, the last of the relatively small-scale colonial wars that permeated the Victorian Age with an aura of romance and, at the same time, a grim precursor of the more frightful global conflicts of the twentieth century. As such, it saw both the comic opera siege of Mafeking and the fearful slaughter of frontal assaults on the Boer trenches at Magersfontein and along the Tugela, a foretaste of the horrors of World War I. It featured both the rakish, plumed cavalry of an earlier age (in the irregular volunteer units at least) and an unintentional glimpse of the concentration camps that would haunt a future generation. In these respects, too, it shares much in common with the American Civil War—in the absurd vision of a flushed covey of disturbed picnickers at First Bull Run, the dashing, romantic exploits of a Custer, Stuart, or Mosby, the grim trenches of Petersburg, or the horrors of an Andersonville.

And, if the stereographs of the conflict in South Africa lack much of the oft-searing impact of the earlier Civil War views with their stark vision of death, they are nonetheless worthy of greater study and attention from collectors than they have heretofore enjoyed. Even in their studious avoidance of images of death, except in the safely sanitized, romanticized context of the staged views, Boer War stereographs are a reflection of the sensibilities of a supposedly more sedate and refined age. Those soldiers whose images stare back at us, who tenaciously held the line at Kimberley, Ladysmith, and Mafeking, as well as their compatriots who fought gallantly to relieve them, the stubborn Dutch farmers who were their enemies, and those who waited patiently at home in England, Canada, and Australia were, in more than one sense of the word, the last Victorians.

**Recommended Reading**

For further information on the Boer War, the author recommends Michael Barthorp’s *The Angle-Boer Wars* as an excellent introduction and Thomas Pakenham’s *The Boer War* as a more exhaustive study. Emanoel Lee’s *To the Bitter End: A Photographic History of the Boer War, 1899-1902* also provides a fine account and exceptional detail on several key aspects of the war, especially the medical services, but, although it unveils an astonishing array of (largely amateur) images, contains surprisingly little new on photography. *Thank God We Kept the Flag Flying: The Siege and Relief of Ladysmith, 1899-1900* by Welsh actor Kenneth Griffith and Brian Gardner’s *Mafeking: A Victorian Legend* detail the two most dramatic sieges. In terms of biography, Geoffrey Powell’s *Buller: A Scapegoat?* examines the war’s most controversial figure, while Celia Sandys’ recent *Churchill: Wanted Dead or Alive* provides a well-balanced study of her grandfather’s spectacular adventures (Churchill’s own autobiography, *My Early Life: A Roving Commission* is an incredibly delightful book to read, although Winston never lets the truth stand in the way of a good story). Finally, Ian McDonald’s *The Boer War in Postcards* examines a format that was beginning to challenge the stereograph in popularity.

The author would like to express his appreciation to NSA members John Saddy of London, Ontario, Canada, Neil DuBrey of Port Elizabeth, South Africa, and Ron Blum of Oaklands Park, Australia, for their assistance in the preparation of this article.

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**14th ISU Congress, Besançon**

*(Continued from page 11)*

more often than not he discovered that the scene through his viewfinder evidenced double-barreled cameras pointed back at him. Whilst busloads of 3-D folk were off invading the surrounds of Besançon, or investigating the fourth dimension at the Museum of Time, five inconspicuous tourists were awaiting a tour of the Horloge Astronomique, an 18th century mechanical clock comprised of 30,000 moving parts. At the appointed time, a man dressed in a solemn suit admitted them through a door below the Cathedrale St-Jean. The group composer listened to his explanation of the clock’s engineering, but sprang to action in sync with the gears of the monumental clock when a myriad of small sculptures enacted a tableau vivant. A statuette of Jesus popping in and out of a coffin proved too photogenic a provocation. Although the spectators had themselves not known that they were connected, their alliance became apparent when all unveiled twinned cameras of different designs.

Since its discovery, stereography has undulated in waves of popularity and obscurity. Yet its torch has always been steadfastly maintained by guilds of those conscripted by passion to serve as guardians and perpetuators of the genre in all its forms. Its allure is so mesmerizing that it prompts 3-D tribes to travel from far and wide to revel in a week-long feast for the eyes, a showcasing of 3-D images created to the highest standard.

*Text for this article was condensed from a feature in Stereoscopography, the magazine of the ISU. For information on joining the ISU, see http://stereoscopency.com/isu/*
Watch Out for 3-D Bugs!  
(Continued from page 7)

distant fellow out in the forest that could barely be seen. It required headgear and the guy in the distance held two flags; he dropped his arms just in time to try to sync. There was a little tweezer slate and a fun and unusual shark’s mouth slate.

Phillips explained, “What’s critical and what was really important in the 8 perf process, was that because we had to do an optical anyway to blow it up to 15/70, the fact that we had to do that meant that we could fix all types of problems in terms of alignment. And as it turned out all the particular special rigs were impossible to perfectly align. Sometimes one eye would be a little bigger, or a little bit smaller, there would be errors in x, y, z and roll. Sometimes very subtle, but if you can fix them, it generally behooved us to do that”.

Alignment and realignment had to be adjusted for as many as 100 shots. They actually came up with some clever ways of taking Photoshop files done by Phillips, scanning single frames, aligning them, outputting charts and putting those into the optical printers and realigning the shots, so they actually look viewable on film. At the LFCA conference we saw some very interesting shots, first the elements that went into the digital composite of the “Matrix” shot and Phillips had selected shots that had required some fixes (we saw them twice). Imagica had blown up the footage without fixing for the tech session. They showed lighting changes, density changes (a zoom-in that had gotten darker—Imagica produced dynamic changes for the fix), shots with north, south, east, west roll errors, many shots with sizing changing between the eyes, and misaligned shots. We were instructed to check them with the 3-D glasses off. About half the shots in the film had to be re-converged for a number of reasons. The Digital composites allowed maximum depth of field by keeping various layers in focus, and we were shown all the different elements for some of these shots.

After opening at the Smithsonian Institution’s National Museum of Natural History in Washington DC and the Audubon Institute’s Entergy IMAX Theater in the second week of March 2003, it had its European premiere the following week at the IMAX Theater in Bristol, UK.

Bugs! quickly rolled out to more than a dozen LF theaters (both 3-D and 2-D). The film opened at the Reuben H. Fleet Science Center IMAX Dome (2-D) in Southern California (San Diego) for the summer of 2003 and is not scheduled to open in 3-D until March 2004 at the California ScienCenter (in Los Angeles). In 2-D the wonderful imagery is not highlighted and you find yourself just not having the same experience. This is truly a film that should be viewed in 3-D.

With a crew of up to 110 people, Director Mike Slee credits the painstaking photography, the visual effects team at Double Negative FX and the post-production work for a beautifully seamless LF adventure. The 40-minute feature does combine incredible footage with cutting-edge technology to deliver a fantastically entertaining and enlightening, not-to-be-missed 3-D experience.

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**ARCHIVAL SLEEVES: clear 2.5-mil Polypropylene**

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Talking 3-D Filmstrip Concept Lives

The concept of a talking, 3-D filmstrip viewer lives again with the National Geographic 3-D Talking Viewer, available from the National Geographic Online Store as item number 73119 on the website http://nationalgeographic.com. Each cartridge contains a filmstrip loop with twelve 3-D natural history scenes and a recorded description of each subject.

The viewer and its cartridges bear striking similarity to the 1997 Talking View-Master 3-D Viewer (SW Vol. 24 No. 3, page 42) and to the later, non-talking, View-Master 3-D Pocket Viewer (SW Vol. 26 No. 6, page 34). It also closely resembles the "Orbitor" filmstrip cartridge viewer which had limited distribution in recent years and reported lens alignment problems.

As with similar viewers, angled light wells provide diffused illumination behind the stereo pairs which are advanced by a lever on the right side of the viewer. Each advance of the approximately 16mm filmstrip triggers a different message from a memory chip in the cartridge. On the National Geographic Website, the viewer (with two cartridges) is $34.95 and a pair of additional cartridges (Weird & Wild and Reptiles & Amphibians) is $14.95.

A non-talking version of the National Geographic viewer with two cartridges is available at Target stores for $8.00. The viewer and cartridge work well both mechanically and optically but several of the images look very much like 3-D conversions from flat images.
Keystone's Great War

review by John Dennis

It's easy to forget that for many years, World War One was known as "The Great War" or simply the "World War", only acquiring its "WWI" status when another world war came along. Publishers of stereoviews naturally used the same terminology, and views of "The Great War" were published and sold through the 1930s. Keystone was by far the largest publisher, with over 800 war views appearing in one or more of the seven sets produced between 1915 and 1932.

Many of the images were of course those acquired by Keystone with the purchase of other stereoview companies, Underwood & Underwood being the most notable. Sorting out the origins of images, the actual locations and situations shown, and the accuracy of titles or back notes has long been a challenge for collectors and historians. With the publication of The Great War Through Keystone Stereographs by NSA member Robert S. Boyd, much of the mystery and confusion has been removed.

The book goes far beyond any annotated catalog, covering matters of editorial decisions at Keystone regarding both images and texts used in various sets as the war became history and better images from more sources became available. Several tables identify the categories of views in the various size versions of sets published over the years, while others chart the differing coverage of various aspects and years of the war by Keystone and Underwood.

Even if you don't collect WWI views, the detailed publishing history presented here makes one hope for similar treatments of other famous view sets.

(Continued on page 45)

Coming or going? Views and captions from page 41 show errors in the 1920 set. View No. 19194 originally had U.S. troops leaving for France, but later was corrected to say they were boarding a transport to return home. No. 19163 first identified the scene of returning troops as New York but was later corrected to read Newport News, VA.
A Rose City Adventure
With More, in 2004

The 6-day NSA 2004 convention begins Wednesday, July 7 at 8:30 am when buses leave the hotel for a day of 3-D movies and exploration of northwest Portland. Plan to arrive on Tuesday, July 6 so you don’t miss anything!

National Stereoscopic Association
30th Annual Convention
July 7-12, 2004, Portland, Oregon
Contact Diane Rulien chair@nsa2004.com
website: www.nsa2004.com/
NSA 2004, PO Box 68724, Oak Grove, OR 97268-0724
Watch for registration forms on the website or in the next Stereo World issue.

Convention Hotel
Jantzen Beach DoubleTree Hotel, 909 N. Hayden Island Drive, Portland OR 97217, (503) 283-4466
Reservations: 1 (800) 222-8733

The Jantzen Beach DoubleTree Hotel provides a free 12 mile shuttle ride to and from the Portland International Airport. Guests also receive complimentary chocolate chip cookies upon check-in, complimentary USA Today newspaper delivery, and complimentary access to on-site health club and recreational facilities including an outdoor pool and tennis court.

2004 NSA Convention rates
Single/Double Occupancy ........ $104
Triple/Quad Occupancy .......... $114

To receive this rate, reservations must be made before June 23, 2004. Be sure to mention you are with the NSA 2004 convention so you will be quoted the convention rates. For the best selection of rooms (some rooms have river views), reserve early.
Inside the DepthCube

Every year or so, a new concept for a volumetric 3D display system is publicized but few ever get beyond the prototype stage or some highly specialized application. Nevertheless, the appeal of an image more substantial than a hologram and directly viewable without the viewing angle limitations of autostereoscopic systems has kept researchers busy. The latest result is the “DepthCube” from Vizta3D (formerly Dimensional Media Associates) marketed by LightSpace Technologies, Inc.

The DepthCube Z1024 presents detailed 3-D images within a 15.7" x 11.8" display four inches deep. The full image is viewable over a 90° field of view, allowing several people to see it from any distance without special eyewear or head-tracking required. The secret is a rear-projection, high-speed DLP video projector which sends a series of 3-D image slices into the display space. This four inch deep space is filled with 20 electrically switchable liquid crystal scattering shutters.

Each image slice is stopped at the correct depth plane, producing a complete 3-D image within the 20 layers. A “proprietary hardware algorithm” is said to eliminate visual discontinuities between the layers to make the image appear smooth and continuous. The projector sends out 1000 images per second to refresh the entire volume of space 50 times a second. A completely new 3-D image can be written to the display nearly 20 times a second—not fast enough for Virtual Reality, but enough for real-time user interaction with the image—and even for video games.

As with any volumetric display, image depth is limited to the physical size of the device and no through-the-window effects are possible.

Unlike the see-through images produced by some earlier volumetric 3-D displays, the DepthCube can display full color solid surface images as well as translucent or wireframe images. It can display images from real-time sources generated by several professional level software programs. Applications are possible in technical fields from medicine to science, weather, defense, security, computer aided engineering, complex data analysis, etc.

While the system is far beyond affordable consumer uses, it could be the first volumetric 3-D display to break open the market for this type of high quality, easily viewed 3-D that could eventually reach the realm of arcades and retail store displays. More information is available from LightSpace Technologies, 26 Pearl St., Norwalk, CT 06850, http://www.lightspacetech.com.

Upcoming Stereo Exhibitions

The PSA Stereo Division’s website: http://home.comcast.net/~psastereo/ has a number of current exhibition entry forms.

- **Oakland.** Format: Stereo slides and Stereo cards. Closing date: January 21, 2004. Cards: Barrie H. Bieler, FPZA, 737 Wighten Lm., Walnut Creek, CA 94598-4353. Email: abiele@astound.net Slides: James Johnston, 23699 E 14th St. #24, San Leandro, CA 94577. Fees: US $7, Others $8.


Closing date: February 1, 2004.

- Lawrence Kaufman, 1607 Mariposa Drive, Corona, CA 92879. Email: kaufman3d@earthlink.net Fees: US $8, Outside USA $10.


Lenticular Lives!

Consumer lenticular prints from 2, 3 or 4 lens cameras or from digital files are available from several sources, as are software packages and materials for creating your own lenticular prints. Not included here are the several firms offering custom display size or mass production promotional lenticulars. An internet search for "lenticular 3-D" will bring up several pages of these.

- The Orasee Corporation offers processing and prints from 3 and 4 lens cameras in a variety of sizes as well as professional services and lenticular lens material. Their website also continues to offer unused Nimslo cameras and flash units for sale. Orasee, 4850 River Green Parkway, Duluth, GA 30096, (770) 497-0727, http://www.orasee.com. Click on "3D photos" for print order forms & prices.
- In the UK, Lenticular printing is available from 3D Creations, which handles lenticular printing for 2, 3, or 4 lens cameras. (The 2 lens is a newly available option). They also sell new single-use and reloadable 3 lens cameras. 3D Creations, 93 Lethe Grove, COLCHESTER, Essex CO2 8RH, United Kingdom, www.3dcreations.ukcompanies.org.
- Prepackaged "3D4U" software, instructions, and lenticular material for creating your own prints are available from Mediabop, 46560 Fremont Blvd. #117, Fremont, CA 94538, www.mediabop.com.
- A free, downloadable lenticular printing instruction book is offered by Igor Kurchavov, who also sells lenticular materials at http://www.3dpictures.biz/technology.htm.

3-D in Your Lap

Autostereoscopic computer displays gained a new level of sophistication with the recent release of the Sharp Actius RD3D (aka Mebius PC-RD3D) notebook. The 15-inch barrier strip Liquid Crystal Display screen can be switched from 2-D to 3-D, allowing general laptop use as well as the viewing of true stereoscopic images.

Unlike other autostereoscopic computer or video screens (whether lenticular, barrier strip or exit pupil) the Actius RD3D is aimed at a more general market rather than just specialized scientific or CAD applications. In its promotional material, Sharp is highlighting entertainment applications like movies and games and is bundling three titles with the RD3D: James Bond 007: Nightfire, Tiger Woods PGA Tour 2003, and Need For Speed Hot Pursuit 2 as well as trailers from 3-D movie provider NWave. Also included is Sharp's Smart Stereo Photo Editor to convert digital photos into 3-D images.

The Actius RD3D sells for $3,299 and runs on Windows XP Professional. Key hardware features include a 2.8-GHz Intel Pentium 4 processor, 512MB of DDR SDRAM, a 60GB hard drive, and a DVD multidrive with DVD-R/RW/CD and CD-RW capabilities.

The Actius RD3D displays two overlapping images, one showing the right-eye perspective and one showing the left-eye perspective. At the same time, the monitor switches on an LCD filter behind the main screen that restricts the light illuminating every other
Stereo Movies from Another Era

World 3-D Film Expo
Revisits Stereoscopic Cinema

by Ray Zone

Who says time travel is impossible? The recent World 3-D Film Expo that ran from September 12 through 21 at the Egyptian Theater in Hollywood proves that journeying through time, as well as space, can be a reality. Motion pictures constitute a kind of cinematic afterlife for their subject matter, at once invoking and dispelling the notion of time. When you add the factor of depth to this resurrection of movement, color and sound, the result can seem to be a kind of spatial journey through time itself.

With the screening of 33 feature films and over 20 shorts in the classic dual-projection 3-D format, many of the stereoscopic films of the 1950s were given their Los Angeles premiere in the three-dimensional format as well as a first screening utilizing polarizing filters and glasses. Through the tireless efforts of SabuCat Productions and festival organizer Jeff Joseph, 3-D film archivist Bob Furmanek and stereoscopic technician Dan Symmes, the remaining elements and prints of rare 3-D films were assiduously assembled and projected onto a silver screen using state-of-the-art technology.

Stereoscopic projectionist Paul Rayton used two projectors interlocked with a computer to keep the two film strips running synchronously and to be on the lookout for problems inherent in twin-strip projection such as film “weave” in which horizontally traveling subjects appear to be pseudoscopic. In addition, with the screening of a special “Rarities in 3-D” program, alternate stereoscopic formats such as single-strip over and under, anaglyph and even the incredibly scarce vectographic format were used.

Speaking as one of a handful of dedicated but exhausted individuals who saw every one of the 3-D films at the festival, I can tell you that the experience was a little like trying to consume a twelve-course meal in 10 minutes. It was a perceptual feast, a once-in-a-lifetime experience for the stereoscopic cineaste, not to be missed and, very likely, never to be equaled again.

The Gold Standard for 3-D

The 3-D Film Festival opened Friday night with the screening of two fine-condition prints of Warner Brother's House of Wax, still the “gold standard” for 3-D movies with its seamless integration of great stereo-photography, an excellent story and fine acting. Director Andre de Toth was a one-eyed director of stereoscopic movies but his handling of the three-dimensional visual elements of House of Wax is exceedingly creative, from a silhouetted foreground head of “Igor” (Charles Bronson) rising up and entering the screen space to deep-focus, night-time “exteriors.” At all times the dramatic action in House of Wax includes the audience as an invisible but implicit element.

De Toth was working from a fine screenplay by Crane Wilbur that incorporated “dimensional effects.” Here, for example, is the

Looming menace, as enhanced by a deep-focus, night-time "exterior" shot in Warner Brother's House of Wax, which opened the World 3-D Film Expo.
description of Scene number 30, a fight sequence between "Jarrod" (Vincent Price) and "Burke" (Roy Roberts):

"ANOTHER ANGLE - JARROD IN F.G. Burke in b.g. as the latter flings the chair. Jarrod sees it coming and ducks down OUT OF SHOT - the chair comes hurtling toward the CAMERA, THROUGH THE FRAME and toward the audience. DIMENSIONAL EFFECT"

Ironically, de Toth opposed the use of the 3-D "gimmick" sequence with the paddle-ball coming out at the audience and had to defer to the wishes of producer Bryan Foy in using it in the film. Before the showing of House of Wax, John Norling's short 1939 film Motor Rhythm, a Technicolor stop-frame animation of a blue Chrysler assembling itself, was screened with brand new prints. This film delighted the audience. Under the title New Dimensions, it had been originally commissioned by the Chrysler Corporation and screened at the 1939 New York World's Fair. Curiously, the prints shown at the 3-D film festival were dated 1943. The film was released to theaters by RKO Radio Pictures in 1953.

The second feature of the evening was Andre de Toth's The Stranger Wore A Gun, a Columbia film reassembled from existing elements by Grover Crisp at Sony Classics. In an email of September 14, Crisp described the restoration of the film. "This print was made from right eye YCM (Yellow-Cyan-Magenta) printing negatives, and left eye YCM printing negatives, which are the closest thing to the original that survive," wrote Crisp. "There is no Cyan or Magenta for reel 2A of the left eye, therefore we printed it flat using the right set for both eyes. It seemed the most pleasing alternative for the moment. Additionally, where there was damage to individual shots in one eye that we could not replace, we double-printed from the other eye to cover for the damage. There are a few shots like that throughout."

The Stranger Wore A Gun was one of only two films shot with Eastman "stripping" film, a process which destroyed the original negative element in creating the YCM Technicolor matrices. Talk about a bad idea! The film itself is a surprisingly pedestrian directorial effort from de Toth with Randolph Scott sleepwalking through a potentially complex role as a former Quantrill's Raider. An interesting attempt was made, however, to combine match moves of 3-D foreground elements with the motion in 2-D background plates.

Restorations and Rarities

Sony Classics restored and made new prints for most of the Columbia films seen at the festival, including Man in the Dark, released April 8, 1953 (one day before House of Wax), Gun Fury (September 30, 1953), The Nebraskan (December 3, 1953) and The Mad Magician (April 30, 1954). Two 3 Stooges shorts, Spooks and Pardon My Backfire, directed with outrageous in-your-eyes 3-D effects by Jules White, were also produced by Columbia and screened in brand new prints.

Columbia's Miss Sadie Thompson (December 23, 1953) with a fine Rita Hayworth in the title role, closed out the festival. The three Columbia 3-D films directed by the "King of the Gimmicks," William Castle, were screened with Fort Ti (May 23), Drums of Tahiti (November 30) and Jesse James Vs. The Daltons (January 31, 1954). With Castle's 3-D efforts the off-the-screen effects were much in evidence with guns, torches and debris hurtling out at the audience. Drums of Tahiti, using many 2-D process shots in the background, featured some great double entendre dialogue in the first half and wildly ineffective special effects in the second part.

Since twin-strip 3-D projection requires two projectors there is always an intermission during the feature to enable the projectionist to mount the second set of reels. During the marathon 3-D viewing, these reel-change intermissions offered a welcome break for long-distance moviegoers to stretch their legs before reentry into stereo space.

Without the preservation and restoration efforts of 3-D film archivist Bob Furmanek, this 3-D Film Festival wouldn't have happened. The 3-D boom in the 1950s was very short-lived, from November 1952 to the Spring of 1954. When 20th Century Fox premiered The Robe in Cinemascope in September of 1953, the writing was on the wall. Many films photographed in 3-D, like Alfred Hitchcock's Dial M For Murder, were released flat in 1954. Herbert L. Strock's science fiction feature Gog had limited 3-D play dates in June of 1954.

Many of the 3-D films released flat had the left-eye and right-eye elements shipped out separately so the 3-D elements were lost. "I would find a print of a 3-D title," says Furmanek, "and realize that it was made up of reels from both the left and right side of the film." Furmanek's most difficult restoration was Cat Women of the Moon (released December 10, 1953) which was pieced together from at least six different prints. The distributors weren't too discriminating about different sides sent out
for 2-D exhibition of the films. A good example is Son of Sinbad, five minutes of which were pieced together with left and right eye elements and projected with single-strip over/under 3-D during the "Rarities in 3-D" program on September 20.

Furmanek rescued Motor Rhythm just in time. He located the original IB (dye imbibition) Technicolor prints which were deteriorating and shrinking with vinegar syndrome and put them through an optical printer. Paramount Picture's Sangaree (May 27, 1953) and Those Redheads from Seattle (October 16, 1953) are apparently lost but surviving segments in the form of IT's (interpositives) from each film were projected in 3-D during the Rarities program.

A somewhat faded but projectible left eye print from GOG was discovered and projected in sync with a richly chromatic right eye print. The slight difference in color value between the two prints did not interfere with stereo fusion for the audience. The film itself is a hoot with Richard Egan battling two menacing but ridiculously structured robots.

The Rarities program was full of revelations. Some of the earliest anaglyphic films released in America, provided courtesy of the Eastman House, were shown. These included some gimmicky 3-D tests, allegedly by William T. Crespinel (Winter, 1919) depicting an old woman holding forth a bottle of poison, cowboys firing directly at the audience and a swordsman thrusting his saber out of the screen. Intriguing anaglyphic silhouettes created by Frederic Elves, Jacob Leventhal and John Norling depicted a fisherman on a boat, a facsimile of Charlie Chaplin's "Little Tramp" mopping the floor and a baseball action scene.

The only surviving vectographic motion picture, a segment from Disney's 1953 cartoon Melody was projected, courtesy of professor Scott Duncan of Cal Arts. The vectographic film process, incorporating bi-directional linear polarization in the film emulsion itself, eliminating the need for two projectors and polarizing filters, was developed by Edwin Land during World War II. This particular test was made as an exploratory effort to break into the theatrical market.

Oskar Fischinger, stereographic painter and inventor of the music video in the 1920s created a 40 second Stereo Film in 1952 as a test on 35mm film which received its public premiere here in a theatrical setting. Remarkable Louis Lumiere stereoscopic footage from 1934 was projected in twin-strip format depicting a mother and child at play. This unique 3-D film was originally shot and projected with an unusual horizontal 35mm film format.

Deep Spaces of the Westerns

There were many 3-D westerns in the film festival and they demonstrated the unique use of real environmental space the genre offers the stereoscopic filmmaker. Gun Fury (November 1, 1953), directed by the one-eyed Raoul Walsh, was one of the best. It was photographed by veteran director of photography Lester White, ASC with Columbia's special stereoscopic camera rig.

Designed by Columbia Studios engineer Gerald Rackett, the stereoscopic camera utilized two Mitchell camera movements side-by-side shooting straight ahead without the aid of mirrors or prisms. Though housed within a blimp for noiseless filming, the Columbia stereo camera was a smaller, mobile unit that provided control of convergence and variable interaxial operated by knobs and dials on either side of the blimp. An additional control for follow-focus on moving camera shots was incorporated along with synchronization and interlocking of the lens mechanisms of both cameras.

These controls, and fine camera work by Lester White, were responsible for the excellent stereoscopic realism in Columbia's westerns. The prototype of Columbia's stereo camera was tested on it's first release, Man in the Dark, with fine results and put to good use by Charles "Buddy" Lawson, ASC, director of photography on Miss Sadie Thompson. But it was Lester White who really understood the stereoscopic potential of the rig. By the time White filmed Gun Fury he was varying the interocular from shot to shot and creating a subliminally different sense of scale with every scene. There is, as a result, a refreshingly fluid sculptural quality in the stereoscopic imagery.

Director of photography Lucien Ballard, ASC, made a fine use of the 20th Century dual 35mm "Clear-Vision" 3-D rig built by Grover Laub and Sol Halprin in filming Inferno (July 29, 1953), a crime story with "Mr. Carson" (Robert Ryan) left to die in the desert by his scheming wife (Rhonda Fleming) and her lover (William Lundigan). The excellent stereoscopic photography exploiting Mr. Carson's point of view places the audience right in the middle of the hostile desert landscape and its sweltering horizons to great dramatic effect.

Location-based realism also was used in the contemporary western Arena (June 24, 1953), MGM's first 3-D film, a drama of rodeo life well served by its documentary look created from filming at an actual event in Arizona. MGM's compact dual-camera unit, engineered by its camera department head, John Arnold, ASC, was highly mobile.

The pitfalls of stereoscopic filming on a sound stage with the use of miniatures could be observed in RKO's cable-car adventure Second Chance (July 18, 1953) directed by Rudolph Mate and starring Robert Mitchum, Linda Darnell and Jack Palance. Much better visual effects were achieved with RKO's later 3-D release Dangerous Mission (March 5, 1954) which effectively mixed location and sound stage filming with complex process shots of a forest fire.
Golden Clunkers, Cartoons and Stereo Landmarks

Two “Golden Turkeys,” Robot Monster (June 24, 1953) and Cat Women of the Moon (December 10, 1953), both released by Astor Pictures, had the festival attendees in stitches of laughter with their high kitsch dialogue and scenarios. Both are famous for their hystically ridiculous and fun characters. The “robot monster,” of course, is “RoMan” a basso profondo-voiced alien wearing a space helmet atop a gorilla suit who wanders endlessly along a trail and through the caves of Hollywood’s Bronson Canyon. A new generation RoMan put in a personal appearance after the screening courtesy of director Joe Dante who introduced the film. There are so many ridiculous elements in Cat Women of the Moon, from the chaise lounge seating of the astronauts to the “high-tech” presence of a 16mm film reel as decor, but the high point of absurdity for me was when female astronaut “Helen Salinger” (Marie Windsor) adjusts her make-up immediately upon landing on the moon.

A great collection of stereoscopic shorts and cartoons accompanied the feature films. Paramount’s Boo Moon, featuring Casper the Friendly Ghost, looked great in brand new prints with strong 3-D effects. Walter Lantz’s Hypnotic Hick, with Woody the Woodpecker, displayed exceptional depth with many continuous and volumetric 3-D visual elements. Interesting but not quite as dimensional were Walt Disney’s Working For Peanuts featuring Chip and Dale, Warner Brother’s Lumberjack Rabbit with Bugs Bunny and Disney’s Melody. In organizing the festival, Jeff Joseph paired up cartoons and shorts with the 3-D features as they were originally released in the 1950s, another factor which created the impression of traveling back in stereographic time.

Preceding the screening of Arch Oboler’s Bwana Devil (November 26, 1952), the landmark 3-D film which launched the 1950s boom, with original 1950s Ansco-color prints in fairly good condition, was a Milton Gunzberg produced five and a half minute black-and-white short, Time for Beanie, introducing 3-D, hosted by Lloyd Nolan and including Bob Clampett’s popular TV puppet characters Beany & Cecil, as well as “Miss 3-D,” Shirley Tegge who put in a personal appearance for a Q&A with Dan Symmes. Despite its landmark status, Bwana Devil is, as Life magazine characterized it in its issue of February 16, 1953, a “cheap and preposterous” film. (SW Vol. 29 No. 2.) Robert Stack’s “Jock Hayward” is a decidedly unsympathetic character perpetually complaining, ignoring his lovely wife “Alice” (Barbara Britton) and wildly flinging dirt about with a shovel. The scene where a lion attacks “Doctor Angus Ross” (Nigel Bruce) is so laughably staged it is reminiscent of an embattled Bela Lugosi flinging a rubber octopus about in Ed Wood’s 1954 (2-D) film Bride of the Monster.

Other black and white shorts at the festival very likely received wide兄弟 with two interlocked 3-strip Technicolor cameras side-by-side, featured a leisurely trip down the Thames. The Black Swan, a thirteen and a half minute black and white film, featured the Covent Garden Royal Ballet and Sadler Wells Group performing Swan Lake. The stereo window itself in The Black Swan was made to float off the screen by the addition of a black surround within the boundaries of the film frame itself. Leslie Dudley’s 10 minute black and white film, A Solid Explanation, features a humorously fastidious British gentleman explaining the principles of stereoscopy.

Kathleen Hughes, star of 3-D films The Glass Web and It Came From Outer Space, outside the Egyptian Theater. (Stereo by David Starkman)
In addition to the incredible list of 3-D films screening at the festival, practically every film featured the appearance of a special guest which included actors, directors, writers and art directors with such personalities as actress Kathleen Hughes (The Glass Web), director Richard Fleischer (Arena), actress Kathryn Grayson (Kiss Me Kate), Forrest J. Ackerman, Ray Bradbury (It Came From Outer Space) and many others. These individuals were interviewed by Dan Symmes and Michael Schlesinger and also fielded questions from the audience. An excellent program book designed and written by Dan Symmes was, and still is, available for purchase from SabuCat Productions as well as a DVD of 3-D trailers with anaglyph footage, and a Festival T-shirt and poster.

Rounding out the stereographic experience of the Festival, the Stereo Club of Southern California (SCSC) mounted a display of stereocards, sequential stereo slide viewers, and anaglyph photo prints in the entryway to the Spielberg Theater, within the Egyptian itself. Franklin London’s “Stereo Medusa” sculpture, incorporating illuminated stereo viewers with slide transparencies amazed all who experienced it. Inside the Spielberg Theater, SCSC stereo slide programs were running continuously with an SCSC compilation, Abe Perlstein’s U R There hyper-stereos and the author’s Hollywood 3-D show.

**Kiss Me Film, or Stereo Kinesthetics**

In revisiting historic stereoscopic films, the 3-D Film Expo represents a kind of “new and improved” infamy for the 3-D cinema, a second chance, if you will, to come across. By revisiting stereoscopic cinema’s past and giving it optimum presentation, a new consideration of the aesthetics of 3-D film and their “cinematic necessity” to the narrative (as Roger Ebert puts it) is in order.

As with still photography and art, the stereographic parameter of the z-axis may be not just an additive or “gimmick” like icing on the cake of the artistic product, but it also expands the possibilities for expression by the visual artist. With motion pictures in particular, the aesthetic potential of movement along the z-axis and the use of the stereo window, its edge definition as a portal into screen or audience space, redefines cinema.

One of the most seamless applications of stereo space to narrative, movement, color and sound is that of the film *Kiss Me Kate* (October 15, 1953). Presented at the 3-D Expo in stereophonic sound, this George Sidney-directed film, represents a nearly perfect marriage of the sensory delights that the musical and opera embody. The film was also released in a flat version and even in 2-D has assumed classic status. But seen flat, the viewer is deprived of the spatial experience the choreography and art direction were specifically designed to create. As well, the subtle interplay of the “play within the film,” the theatrical setting alternating with the “real” world within the narrative as “Kate/Lilli Vannesi” (Kathryn Grayson) and “Petrouchio/Fred Graham” (Howard Keel) interact, is given greater dynamic fluidity through the use of 3-D.

The audience of the stereoscopic film itself is symbolically represented by the audience within the film. These symbolic representations, the trompe l’oeil pleasure of identification with the artificial and the willing suspension of disbelief, lie at the very center of the experience of art. This is no small matter. It pierces the heart of “make believe,” the primal need for stories that all human beings possess. More specifically, stereography presents to the storyteller an expanded narrative palette with subtler and more seductive tools to invoke belief. [See SW Vol. 9 No. 3, page 34.]

The narrative tools of the z-axis are very powerful. Used without subtlety, they can backfire on the storyteller and instantly undermine belief. In certain of the films at the 3D Expo, the gimmick of the screen shots, though they may jolt us for an instant, actually pull us more powerfully back into the narrative. *It Came From Outer Space* (May 26, 1953), directed by Jack Arnold in black and white and presented at the Expo in stereo sound, is one such example. 3-D effects with meteors and avalanches hurl into audience space. Several times we see from the point of view of an alien. But always we come back into the otherworldly narrative, its atmosphere at all times reinforced by 3-D. The spatial experience is an inherent part of the film’s strangeness.

*The Creature From the Black Lagoon* (February 24, 1953), also directed by Jack Arnold, uses stereoscopic underwater photography very effectively. An ominous underwater ballet between an innocently swimming “beauty” (Julie Adams) and the “beast” of the Gill Man (Ricou Browning) in the aquatic depths below is a stereographic tour-de-force.

The scene works fine flat. But viewed in 3-D the aqueous space separating the two disparate worlds of innocence and experience these characters exemplify, is living and tangible for the audience.
Another 3-D Film Festival in Feb. '04

A 3-D film Festival is coming up on the east coast, February 27-29, 2004, at the Lafayette Theater in Suffern, New York. “3 Days of 3-D” will include Kiss Me Kate, Creature from the Black Lagoon, Dial “M” for Murder, It Came from Outer Space, Gorilla at Large, Inferno, Miss Sadie Thompson, Robot Monster, Gun Fury and House of Wax as well as short subjects like Spooks, Lumberjack Rabbit, Motor Rhythm, Pardon My Backfire and others.

All films will be projected in dual strip, polarized 3-D at the renovated 1000-seat 1924 movie palace. Tickets are $8.00 per show. Passes are $30.00 per day or $65.00 for a full festival pass. Contact the Lafayette Theater, 97 Lafayette Ave., Suffern, NY 10901, (845) 369-8234, http://bigscreenclassics.com/3days3d.htm email: 3DInfo@bigscreenclassics.com.

The artistic potential for stereoscopic narrative is so great that its failures represent a kind of betrayal of the medium. Paramount's Flight to Tangier (October 3, 1953), along with Money From Home (February 3, 1954) are the only 3-D features the studio filmed in three-strip Technicolor. It's no surprise that Flight to Tangier was released in both 2-D and 3-D. The stereoscopic photography, though produced by long-time Technicolor specialist Ray Rennahan, ASC, is so pedestrian in its blithe refusal to exploit the z-axis that I found the film offensive. Simple camera placement or movement could have engendered stereo enhancement to the narrative at no additional cost.

Watching Flight to Tangier in 3-D is like going to hear a full symphony orchestra with the conductor eliciting sound from the violin section only, for the entire concert, while the rest of the orchestra sits silent and inactive. Thank God a character in the film threw away a cigarette directly at the camera! It was the only 3-D moment in the film. A similar betrayal of the stereoscopic medium is Alfred Hitchcock's Dial M for Murder (May 29, 1954), adapted to film from the play by Frederic Knott. Hitchcock, under contract to Warner Brothers, was compelled to make this film in 3-D even though it ultimately was released flat and waited until 1979 for its 3-D premiere at the Tiffany Theater in Los Angeles. Hitchcock's daughter Patricia, a guest at the 3D Expo, confirmed the fact that her father "hated 3-D." We are not surprised.

Most of Dial M for Murder takes place within a single room and there is an interminable section in the first reel with "Tony Wendice" (Ray Milland) and "Mark Halliday" (Robert Cummings) conversing. At least they do move around the room a bit as they speak to each other. I personally find these "middle-of-the-road" 3-D efforts far more offensive than bombs such as Robot Monster and Cat Women of the Moon. At least with these turkeys the power of stereoscopic cinema in an inverse fashion, backfiring furiously, violently hurling the audience out of the narrative, is allowed to assert itself.

A great example of a 3-D film simultaneously making aesthetic use of the z-axis and being subverted by it is The Maze (July 26, 1953), starring Richard Carlson. Carlson was a kind of 3-D Everyman in the 1950s, also starring in It Came From Outer Space and The Creature From the Black Lagoon. In the first reel of The Maze, director William Cameron Menzies makes a great use of stereo space by dwarfing his actors in the seemingly immense confines of the cinematic frame. He suggests their powerlessness against overwhelming forces and displays their diminutiveness within a massive castle that is haunted by a centuries-old secret. In the second reel, with the surprising revelation of that secret in the form of an amphibious "monster," the audience erupts in hysteric laughter. The image of the monster is displayed with a stereoscopic realism that only makes it all the more ridiculous.

The addition of a stereoscopic parameter to cinema, then, artistically amplifies the medium itself. When song and music were added to theater, a new art form, that of opera, evolved. The 1950s 3-D films were launched by the studios and its technicians at light speed from a relative position of standing still. The 3-D Film Expo demonstrates that many of the 1950s stereoscopic motion pictures were actually very good films that incorporated the use of the z-axis into their narratives with great artistry. If the power and subtlety of this new narrative tool may have been misused by many of its practitioners, it's no reflection on the medium itself.

The World 3-D Film Expo program book and other collectibles are available from SabuCat Productions, P.O. Box 902875, Palmdale, CA 93590, 1-800-538-7228 or online at: www.3dfilmfest.com.

Keystone's Great War

(Continued from page 36)

The competitive strategies and politics behind many image and text choices at Keystone, as well as the outright errors and bogus titles, make fascinating reading. In fact, the quality of the research makes it frustrating that the views illustrating it had to be reproduced at only 2.5 to 3 inches wide—a complaint that wouldn't arise if this were simply a catalog of view titles and numbers.

A former Army intelligence officer, military view collector Bob Boyd is the author of numerous papers and articles on subjects ranging from local Pennsylvania history and genealogy to unconventional warfare. His interest in the Great War was aroused when he discovered a set of letters from his great-uncle, who was an aircraft mechanic in France (and will be the subject of a future book). In his preface, he acknowledges that more variations remain to be found, some of his reconstructions will prove to be imperfect, and more early sets may be found. He encourages collectors who notice errors or have new information to contact him at bobboyd72@aol.com.
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