Due to the late publication dates of Stereo World issues following our 20th anniversary color issue (Vol. 21 No. 1), the Assignment "Wheels" has been extended. The new deadline is March 7, 1995. This in effect makes "Wheels" a full year project and should allow those with interesting ideas more time to do some shooting. Others may have images in their files that simply need to be dug out and mailed. Judging from the submissions already received, the potential variety of "wheel" images is truly impressive - as are the imaginations and skills of readers who have sent in some fascinating views. This made the decision to extend the assignment easy. It seems to inspired several creative efforts, and besides, we want to see more!

Current Assignment: "Wheels"

This isn't limited to rustic wagon wheels being used as fences or the chrome hubcaps of overly customized hot rods. Anything that moves on, under or by wheels is fair game here, including cars, trains, unicycles, pretzel carts, skate boards, etc. Things like large pulleys or tiny watch parts would also be eligible, as would spherical rolling devices like ball bearings or the ball on the underside of a computer mouse. The wheels themselves would not have to be the center of interest in views of things like vehicles, but a close-up of just a windshield wiper on a 1938 Plymouth probably wouldn't be in the spirit of things. Deadline for entries has been extended to March 7, 1995.

The Rules:

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

Prizes are limited to the worldwide fame and glory resulting from the publication of your work. Anyone and any image in any

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3-D Drawing for Anyone Who Owns a Pencil

ON THE COVER
A 1950s Trick Self-Portrait by Tommy Thomas, who
died in September, 1994. The talented stereograph-
er, well known for his imaginative "Stereolusions"
and his stereo column in Modern Photography
magazine, is remembered by Susan Pinsky in this
issue.

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ed in USA. A subscription to Stereo World is part of NSA membership. Annual membership dues: $22 third class US, $32 first class US, $34 Canada and foreign surface, $48 international airmail. All memberships are based on the publishing year of Stereo World which begins in March
and ends with the January/February issue of the next year. All new memberships received will commence with the March/April issue of the
current calendar year. When applying for membership, please advise us if you do not desire the back issues of the current volume.

Member, International Stereoscopic Union
Editor’s View

NSA Secretary Larry Hess deserves the thanks of the entire membership for his extensive work on the very large and very impressive 1995 NSA membership Directory. In fact, if there had been need for only a few more pages the book would have been too thick for binding with staples. As it is, it’s bigger than the telephone books of some small towns, but the inclusion of member’s stereo interests and club affiliations combined with the computerized NSA Search Service make this far more than a list of names and addresses. (Do read the Introduction page.)

One of the changes I appreciate most in the new directory is found in the section at the back where members are listed by state. The names of the cities are printed in a noticeably different typeface from those of the members, making a quick scan far less confusing. A completely new feature is the inclusion of a separate list (following the international listings) of the e-mail addresses of NSA members who participate in the photo-3d internet group. (See NewViews in this issue.) Those who wish to find member addresses on-screen may order the 1995 Directory on PC-DOS or Macintosh high density 3.5” diskettes. The DOS disk includes Word Perfect 5.1, ASCII text, Q&A Write, and Dbase III files. The Mac disk includes MacWrite. The disks are $8.00 for U.S. mailing or $12.00 U.S. for international mailing from NSA, PO Box 398, Sycamore, OH 44882.

Credit for the cover goes to two sources this time. The H.H. Bennett Studio Foundation supplied the Bennett view “On the way to Stand Rock” showing the famous stereographer’s photographic wagon being pulled and pushed through some shallow water to shoot more of the famous “IN AND ABOUT THE DELLS OF THE WISCONSIN RIVER” series.

Contributing a much more recent sort of 3-D image to the cover, NSA member Bob Mannle created a single-image stereogram version of the NSA logo with a custom computer program he uses in generating SIS images for commercial clients at his New Vision Technology firm in Vista, CA. Nearly five years after Dan Dyckman’s Stereo World article inspired the world-wide commercial explosion of SIS posters and books, it seemed about time the NSA made use of the technique for its own purposes.

Remembering Howard

The recent death of Howard Frazee represents a more significant loss to the community of stereo photographers and collectors than many people may recognize. The thoughtful remembrance in this issue by John Dukes will help correct that, but I find it impossible not to mention a few memories of my own.

It was Howard, in fact, who visited me shortly after I had volunteered to assume the editorship of Stereo World. As a trusted representative of the NSA Board, he was

(Continued on page 5)
The Kaiser Panorama in Australia

I read with interest the excellent article on the Kaiser Panorama in the March/April 1994 issue of *Stereo World*. Within, it states that one of the smaller versions of the Kaiser Panorama was stranded in Australia following World War I and that it now resides in a museum. I am wondering what is meant by "being stranded" and would like to learn more.

Many years ago I attempted to piece together the history of the Panoramas in Australia but ended up with more questions than answers. I believe there were at least two Kaiser Panoramas in Australia but this is not conclusive. I am not aware of a small size version, as the enclosed photograph of the Panorama in Adelaide (taken in the 1950s?) clearly shows a large version as is the Panorama on display at the Swan Hill Pioneer Settlement Museum in the State of Victoria. This is a working display and is housed in the Mechanics Institute Building of the museum complex.

I believe that the original machines had acetylene gas and paraffin lamps and the mechanism was driven by an operator who sat inside to run the apparatus, cranking the drive weights while giving some commentary to the surrounding spectators. Most of the surviving machines have been converted to electricity.

The unit at the Swan Hill Museum is dated 20th April 1895 and accommodates 25 people. It was owned for many years by a Mr. Forester who traveled all over the country with the theater. He would lease an empty building for periods from a week to many months depending on the patronage, advertising the views he was currently showing and changes to the program. His series included scenes of the San Francisco earthquake, Venice, the Alps, Spain and the bull fights. Being a showman, Mr. Forester played appropriate music and even burnt incense during the oriental series. Each performance lasted about twenty minutes.

Mr. Forester last used this theater as a complete unit at Gawler in South Australia in 1910, after which his son removed the lenses to make boxed penny arcade machines which traveled around Australia until 1940, the last show being in Tasmania. Mr. Forester Jun. also obtained a second Kaiser Panorama theater from the Coogee Aquarium in N.S.W. and converted it likewise into penny machines but in 1915 this equipment was sold. It is presumed this machine was reassembled when sold but its fate in the years to follow is not known.

A Kaiser Panorama theater made an appearance in Adelaide in about 1950 when a friend of the author (Mr. Ken Crane) purchased one for £125 after answering a newspaper advertisement. Imagine his surprise when the lady of the house (a Mrs. Geisler) showed him into the front bedroom where it was all set up, filling the room completely. The reader must appreciate that this was the large 25 panel version. It is not known if this was the way she entertained her visitors, but it certainly would have made a good conversation piece!

After Mr. Crane purchased the Panoramic theater, it was set up in Kearns Bros. auction room in Weymouth Street, Adelaide for about five years as a show piece before it was sold again. The theater then made several other appearances around Adelaide including the Oakbank Easter race meetings. It then disappeared from the scene and was reported to have been broken up for its walnut paneling. This machine was the same size as the theater at Swan Hill and appears to be similar in all respects including the detail in the ornately carved timber work at the top of the panels. It is very probable that they are the same Kaiser Panoramas.

The Swan Hill Pioneer Settlement Authority purchased their machine together with four sets of slides from Mr. & Mrs. Cummins of Cowes in Victoria who had the machine in their shed prior to selling it. In my collection I have one
of the glass slides from the machine purchased from Mrs. Giesler.

Should any Stereo World readers be planning a holiday to Australia, a visit to the Museum at Swan Hill on the River Murray is most worth while. The writer would be pleased to hear from any reader who can throw any more light on the Australian Panoramas.

Ron Blum
2 Hussey Ave.
Oaklands Park, SA 5046, Australia

Books to Flip Over

I came across some interesting items at the recent gift and museum show at the Jacob Javits Center in New York City. These items are from a company called Optical Toys, which started in 1988 and is located in Putney, Vermont. They are devoted to “resurrecting, enlivening and enhancing” optical toys based on pre-cinematic entertainment.

What I found most interesting and intriguing is their line of flipbooks. Although not 3-D, I know many 3-D collectors and enthusiasts who are intrigued by flipbooks. These flipbooks, in particular, should have an interest among 3-D collectors since most are based on the historical works of both Edward Muybridge, a pivotal figure in the invention of motion pictures, and Harold Edgerton’s photographic techniques.

In addition, there are other flipbooks and two of the most unique are “Juggling Sam” (designed in 1985) and another of a pregnant woman photographed in the same position once every week, reducing a 9 month pregnancy to 3 seconds. The last page shows the baby.

Optical Toys also manufactures thaumatropes which are cards that, when spun, form a complete image — only part of which is printed on each side; phenakistoscopes — which are the earliest form of motion pictures and consist of round disks with designs and slots and when spun in front of a mirror (included) produces animated imagery; and a zoetrope kit based on an 1896 model.

All these items are available at speciality and museum shops. If you have trouble finding a particular item of interest, you can contact Andy Voda at Optical Toys, PO Box 23, Putney, VT 05346, (802) 387-5457.

Sheldon Aronowitz
Teaneck, NJ

Anaglyph Video Blues

I sympathize with Ron Labbe’s disillusionment over the abysmal quality of anaglyph video, and used to share his puzzlement over the cause. The technique seems self-evident, even trivial. A bit of research and experiment, however, quickly leads one to the conclusion that the NTSC standard is simply not conducive to the anaglyphic transmission of stereo images.

Remember that the NTSC television standard was introduced a half century ago for black and white broadcasting. It wasn’t until some years later that practical methods for color were devised. The FCC decreed (for good and obvious reasons) any color system had to be compatible with existing black and white sets, and had to fit in the same broadcast channels. This problem was solved by modulating the color information (chrominance) over side bands unused by the grayscale (luminance) channel. Your TV displays a colorized black and white image.

Without getting into technical details, this has three important consequences for anaglyphs: first, the luminance channel is always visible by both eyes; second, the chrominance channel has less resolution than the luminance channel; third, the component colors are not pure. That is, the red, green and blue primaries are not kept separate, but are compositcd for transmission, then re-separated at the receiver. Since this is an analog system, there are losses at each step, resulting in the adulteration of the primaries. The color crosstalk is not significant for ordinary TV, which is mixing the primaries anyway, but for 3-D mixing the red signal with the blue means unavoidable ghosting. It should be pointed out that this effect is aggravated by the imperfections of TV set design and anaglyph viewing filters.

The lack of resolution in the chrominance information leads to less obvious but even more intractable problems. NTSC television cannot reproduce fine detail in color. Large areas are reproduced in full color, smaller areas are in two-color orange/cyan and the fine details lapse into monochrome. Furthermore, NTSC video cannot make immediate transitions across contrasting colors. You can see this on your TV as a smearing of colors across borders. Unfortunately, it is the edges and fine color details that are the most important to anaglyph reproduction. The smearing effect exacerbates the color adulteration ghosting. I believe the collapse of detail to monochrome explains the hard ghost edge often seen on the anaglyph fringes.

The luminance channel itself is the source of inherent ghosts. Again, the NTSC picture is a fairly sharp grayscale image with fuzzy color information smeared over it. This gray image will be transmitted through any color filter. If you try to scan an anaglyph film print with a single video camera, you will put double images into the luminance and eliminate any chance of stereo vision. This is why anaglyph mirror attachments for single video cameras don’t work very well.

“Smarter” anaglyph systems scan the left and right views separately, then take just the red chrominance information from one stereo half,
Editor's View (Continued from page 2)

apparently to report on whether I was simply garden-variety crazy for wanting the job or dangerously over-the-edge psychotic. (The board probably would have accepted an editor in either condition, but needed to know if it was safe to invite me to conventions where knives would be available on the banquet tables.)

Howard contributed material for two articles in our first color issue (Vol. 15 No. 1). He supplied clear and complete instructions along with sending samples and a some of his custom hardware for making posterized color stereo slides, and he located the images and information for the article on stereo Autochromes. One of his own Macro Realist stereos was featured in that issue’s “Color Gallery”, reminding many of his exceptional presentation of similar slides at the 1982 NSA convention in San Jose.

Following that convention, on which he had worked for months, he drove my wife and I from San Jose to San Francisco to help us catch a late night bus back to Portland. Despite what must have been something very near exhaustion, he kept up his usual friendly conversation about any and all aspects of stereo photography and his many devices and plans for making it easier. Howard seemed to get involved in nearly anything and everything having to do with stereo sooner or later, and as often as not he came up with a way to improve some related device or technique—quickly sharing all with anyone interested.

I have comments or questions for the editor concerning any stereo-related matter appearing (or missing) in the pages of Stereo World, please write to John Dennis, Stereo World Editorial Office, 5610 SE 71st Ave., Portland, OR 97206.

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

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This list of donors demonstrates in a very literal sense the especially generous and caring attitude one finds among members of the National Stereoscopic Association. From a straightforward request for contributions (without exaggerated promises or threats of doom) has come over six thousand Allen E. Woodward donations, with dollars in amounts ranging from two to hundreds of dollars in individual donations. I want to thank each of these members for their special and very encouraging support.

Although many similar non-profit organizations must rely on contributions for day-to-day survival, the NSA is able to apply funds donated over and above regular dues to expanding and improving its functions and services. These include grants for historical research and coverage of special stereo-related events for publication in Stereo World as well as continuing improvements in the magazine itself and efforts to publicize the existence and purpose of the group.

While the NSA continues its slow but steady growth, the officers and directors are acutely aware of how far the organization remains from its potential in terms of both membership and information services. To reach more collectors and producers of stereo images with the kinds of useful and more varied information they need, we depend on the continued support of those able to help with the donation of funding and/or time and skills. So if you feel left out, please don't assume there's any need to wait for the next fund-raising letter. And please don't hesitate to send your ideas, suggestions or questions to any of the officers listed inside the cover of the 1995 membership directory.

Peter E. Palmquist,
President, NSA

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September/October 1994 STEREO WORLD
Beaches, Bathing

Above and opposite page: "How she went in"—and—"How she came out" from Harper's Bazaar, August, 1870.

... though you do look cute in your bathing suit we don't know WHO you are ... from THE BOY FRIEND

Underwood & Underwood No. 10599, "Holiday throngs on the sands at Southsea, England." Going to the beach did not mean going into the water. Turn of the century throngs crowd the stony shore at Southsea, not far from the Isle of Wright in the English Channel. At the upper center stand bathing machines, apparently unused.
Some years ago I acquired a copy of Underwood & Underwood stereoview #10599 entitled "Holiday Throngs at Southsea, England". It raised several puzzling questions and thus began an interest in beach scenes that still continues. The view was taken at Hants, near Southampton on the coast of the English Channel and not far from the Isle of Wight. Some dear soul, a previous owner I suppose, had penciled this query on the back of the viewcard: “Before the invention of the bathing suit?” This picture shows a mass of people crowded against the shoreline and absolutely no one in the water. A very few children appear to be engaged in wading at the very edge of an outgoing tide. All of the adults seem grossly overdressed and not a bathing or swimming suit is in sight. They could have attended a coronation, it would seem, without changing clothes and feel quite proper about it. Women’s straw hats and men’s bowlers and various other headwear are universal. However warm it may have been, tight collars were the order of the day. Umbrellas abound.

Far in the distance bathing machines are parked, apparently unused. The beach is stony and lacks sand. Many rowboats are available on the shore but only one is in the water. Why all of these people went to the sea with

E. & H.T. Anthony No. 11314, "Beach View." shows Coney Island beach in the mid-1870s. There were no lifeguards but ropes to aid bathers were strung into the water. Horses and ponies were permitted throughout the seaside expanse.
no intention of using it occurred to me as a puzzle—one I have yet to resolve completely. But, there they are in the photograph.

This led me to look for more stereo beach scenes and over the years I have gathered in a few. Although some sources say they are plentiful, my experience is that really good ones are scarce, especially attractive close-ups. They do illustrate the changes in what was acceptable attire for beach activities and recorded for a few instance the changing mores of those now distant days. Each such instant, frozen in time, shows one phase in the long and still ongoing process of the invention of the bathing suit.

In Early Times

Over the ages references to swimming and bathing in the surviving records have been sparse, at least until the modern era. Even then, serious treatments of the subject, especially relating to costumes, are not plentiful.

It is well know that water activities were highly regarded in classical Greece and Rome. They built sumptuous public and private baths which offered recreational,
social and hygienic benefits. So far as costuming from those times is known, it would appear that street togas were adapted for use in the baths. But after the Roman Empire expired water sports also passed from the scene and the baths were destroyed or otherwise fell into disrepair. They were considered by subsequent repressive religious dictators of thought to be part of pagan activities. Swimming and bathing apparently all but disappeared during the middle ages. Religious asceticism probably contributed to the decline of bathing for personal hygiene. And realistically, facilities for bathing, let alone swimming, were inconvenient, if not nonexistent, for great masses of the people. Even the rich rarely bathed. In most royal courts it may not have been a pleasant time for a sensitive nose.

People today in modern communities may not appreciate what a different world it was in an age of privies and with the absence of plumbing. Bathing and swimming can combine the benefits of exercise and cleansing. But, they are two different activities that require separate discussion as well as costuming. Although "bathing suit" and "swim suit" are synonymous

Bert Underwood Series 1894, "Seaside Sunbeams." This studio shot hints that strict beach dress codes didn’t necessarily apply to young children.

J.F. Jarvis, "Atlantic City’s Crowded Beach, New Jersey, U.S.A." Bathers and observers of bathers were mutually supporting groups. When they merged and intermingled, as in this 1896 view, it was an imposing sight.
terms today, it was not so as the twentieth century began.

**Bathing Renaissance**

Interest in bathing made a come-back around the last half of the eighteenth century under the guise of being for "medicinal purposes." This led to the growth of the famous spas which drew the more affluent people in great numbers for many years. Indeed, some of the spas are still extant for a die-hard clientele who believe in their curative powers.

By the early nineteenth century the idea of using the beaches for recreation had begun to take hold. Other than the toga, the past offered no advice on proper bathing attire. Before mid-century, reports of gender-segregated bathing, with or without costumes, are recorded. A mishmash of makeshift beach wear to meet the needs of decency, where necessary, was reported in some sources. Women used chemise or other types of gowns adapted to bathing purposes—inhibited by prevailing attitudes about proper behavior of

---

Strohmeyer & Wyman, "Seaside Belles." These avant-garde costumes, too nice to get wet, were not only ahead of their time in 1897, but their time never came and acceptable bathing costumes for the next two decades followed a more sedate path. Gordon D. Hoffman collection.
a lady as it was then perceived. By mid-century, mixed-gender bathing was prevalent at resorts all up and down the eastern coast of the United States. The need for some standard types of acceptable beach wear was pressing and the solution often did not come either speedily or, in retrospect, sensibly.

Prior to the appearance of outfits recognized as bathing costumes, the photographic record of beach activity is skimpy. Cameras and even sketch artists were not welcome visitors, let alone encouraged to record people taking part in such activity.

Later on, newer and older styles of costume were seen together on the beaches and this remained true over the years as individuals made apparel choices with which they could be comfortable. Dress codes developed, either defined or implicit, at the principal summer playgrounds and these tended to differ in details from one another but not in any major fashion.

**Bathing Hardware**

The so-called bathing machine was popular in nineteenth century Europe, though it never really transplanted well to America. It was sort of a bathhouse on wheels that was actually taken into the water where the slope and firmness of the bottom permitted. Eventually the wheels were disposed of and the hut became fixed in place as a sentry-box type of structure just about large enough for one person to change clothes.

Batteries of such bathhouses appeared at beaches everywhere and were followed by commercial and public communal bathhouses that were able to offer more services such as security, showers and even rental bathing suits (which offered a unique fashion statement of their own).

**Segregation and the Early 19th Century**

For men, bathing, when it occurred, was not encumbered and often quite unclothed. For them, swimming, whether in Europe or America was possible under any conditions of dress or undress where gender-segregated water activities took place.

Women, hidden in the bathing machine or in segregated baths needed to spend little time pondering any fashion statement they might be making. Partial dress and even skinny-dipping were possible for some occasions for either sex, though more likely for men. But then mixed bathing began to be accepted and by 1850 it had become common at many beaches along the American Atlantic coast. This changed everything. The beach and the water were now for fun—a treat, not a treatment.

At first, outfits were makeshift and every possible solution was seen, consistent with current codes of decorum. People went into the water fully clothed in recycled pantaloons and old jackets, bloomers and colorful dressing gowns. Ladies in trousers were a noteworthy sight. It may not have been chic, but that did not diminish the delight that mixed bathing brought to the pleasure seeking participants. Slow on the pick-up, the fashion industry was not involved in the early stages. But this was a self-correcting oversight as more and more people headed for the beaches.

The journey of bathing costumes from a haphazard potpourri to conformance to an accepted standard was tortuous and slow, but was rich in detail. Some overriding taboos remained throughout and dictated the general destination as observed at the turn of the century. After that even these basic taboos fell, one by one, as the accepted standards changed.

Whenever this happened, repercussions spread far from the beaches and into every corner and crevice of the times. Some people always lagged behind current usage and others were ahead. But in every period the absolute allowable limits of civilized clothing were found in the avant-garde bathing attire.

**Telling the Boys from the Girls**

In the nineteenth century and well beyond, we had a society that liked the sexes clearly differentiated. This affected nearly all aspects of life and certainly applied to clothing. Much of it was built on myth and self-fulfilling beliefs of how things were supposed to be. For example, women were not believed to be capable of serious swimming. They were then wrapped in enough clothing to sink them and the now-certain result pointed to as proof of the original assumption. It all tied together into a nice circle that satisfied the limited requirements of the time as they were applied to the roles of the sexes. Fortunately, not everyone bought such reasoning but changing the mass mind takes time.

As any discerning person might see, a man's swimming costume at the turn of the century was not far removed in appearance from his underwear, which was likely manufactured at the same places. The pullover top covered the shoulders but allowed arm movement. The pants were body-hugging leggings which came down almost to the knees. To make the outfit look different from underwear, belts, buckles and bright stripes were added. The overall result seems rather humorous and was considered so by many at the time. As one observer in 1891 noted, the typical male bather looked like "...a creature that the land was trying to shake off and the sea was unwilling to take." Now, as then, the Gay Nineties male bather is considered a denizen of the world of comedy. Still, there was no confusing of the boys with the girls. That much was accomplished.
Feminine Fashions

For the ladies entering the last quarter of the previous century, a standard bathing costume included a pair of drawers covered by a bellowed skirt which almost reached the ankles. There the drawers banded and the trimming of them with lace was optional. By the 1890s' the drawers moved up to band just below the knee with the skirt hem a little above that. Stockings and bathing shoes were deemed necessary, though, to cover the lower leg area that would have been exposed. The bodice of the costume bloused over a belt, but in the nineties bare arms became accepted, with the sleeves pushed up and puffed at the shoulders. The neckline was near throughout. Many of these style changes arose from current evolving usage in Europe.

An increasing desire of some women to actually swim and not just cavort on the beach and in the water forced awkward changes which would eventually produce the swimsuit. But that process was neither easy nor speedy. The costume of fashion was for wearing at the beach and not necessarily to go into the water.

The origin of women's bathing outfits was closely related to the bra and girdle industry. Corsets were often an unseen part of beach attire for many discriminating ladies and were even worn in the water at the risk of inducing cramps, which was wont to happen. The ideal of an eighteen-inch waist was a tempting siren and, to many, worth some pain to attain. Inevitably, fashion had to be factored into an equation which was already complicated enough. The fun of water activities had a notable price tag which increasing numbers were willing to pay.

From the Death Trap to the Princess Style

It was widely believed that women were afraid of the water and that this was the reason that they found it so hard to learn to swim. But, consider the handicap of the three-piece costume which some have characterized as "the death trap known as the Victorian bathing outfit." It contained up to eight yards of thirty-six-inch wide material, plus equal amounts of linings of cambric and cotton. When soaked, the poor ladies were dragging well over twenty pounds of soggy anchor. Good reason to fear the water! Even a child's bathing costume might contain three and one-half yards of material and was equally hopeless in the foamy brine.

Two processes can be noted to have begun back in those times that are certainly interdependent. Underwear had quietly embarked on a slow but relentless journey outward that would eventually completely succeed in reaching its destination. And along with this came the inevitable revealing of the real female figure which had been so carefully hidden and steeped in mystery. This could be considered a blessing for some, a development of questionable value for most, a catastrophe for others, and for all a new area of endless concern to worry about.

The beginnings of this can perhaps be seen late in the 1870s when a conjoined undergarment came into use combining chemise and drawers into a single unit with buttons at the waist to which petticoats could be attached. This foretold the "Princess Style" bathing costume of the Gay Nineties which made a single unit of bodice and trousers sewn to a belt. Over this a skirt was buttoned to the waist and extended almost to the trousers which fully covered the knees. The sailor collar became a very popular choice to set the whole thing off. Although an eye-brow-raiser, removal of the skirt

B.W. Kilburn No. 11841, "Say that again and I'll dip you in, Atlantic City, N.J." 1897. "How Much of This Do You Want Your Daughter to Share?" headlined a Ladies Home Journal article containing similar pictures as late as 16 years after this Kilburn view was taken. Such photos, they stated, reveal the free-and-easy familiarity that exists on beaches throughout the season.
for swimming was possible and not unknown in practice. Generally, the Princess bathing costume did not show off much figure but could be very attractive when expertly fashioned. For serious swimming, however, it had shortcomings.

Spectatorship, an Honorable Avocation
The increasing popularity of bathing and swimming paralleled the growth of leisure time among larger and larger segments of the population. Industries devoted to diversion arose in chorus to service the new-found freedoms of time and activity enjoyed by the fortunate beneficiaries. Summer resorts (and especially Newport, Rhode Island) became showcases where the affluent could try out experimental styles of dress and behavior. But what good was “showing off” if there was no one to see?

Keystone View Co. No. 10554, “Jolly Bathers, Atlantic City, N.J.” Groups of family and friends frolic in the water and show off the styles of the day in 1900. Actual swimming was not feasible where the big crowds gathered, nor did most people intend to swim.
The spectator joined in as an essential element of the whole process. The culture of leisure gave rise both to the swimmer and to the spectator of swimming. Swim wear and observers of swim wear became two sides of the same coin. Each needed and supported the other.

Swimming and beach play were by-products of the enjoyment of leisure. The continuing process slowly rid itself of the clothing and taboos that prevented its free exercise in earlier times. This amounted to an unheard of alteration in the basic moral equation. It has been said that “there was something magical about the bathing dress that dissolved constraint and melted reserve.” Repeatedly the modes and conventions of fashion were upset in a cavalier manner. Non-swimmers by the swarm appeared regularly at the beaches to observe and ogle what many deemed a revolution in morals. In full over-dress they stood and talked and promenaded among the bathers. The viewer and the viewed existed together in a sort of symbiosis of mutual gratification.

Did the bather dress to see or to be seen? There is no universal answer, but as a rule of thumb one can assume that those who had no intention of getting wet did dress

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C.L. Wasson No. 728, “Bathers in the Surf, Atlantic City, N.J.” (1901)

H.C. White No. 479, “A Jolly Crowd, Atlantic City, N.J.” zeros in on the boys and girls of summer, 1901. The openly displayed loosening of inhibitions and behavior among the sexes not usually seen in public was seen by many to herald a decline in moral standards.
Underwood & Underwood No. 83, “Neptune’s Smile—Old Ocean’s playful dashing breakers, on the Beach, Asbury Park, N. J.” While Atlantic City got the publicity, many other choice beaches were drawing numbers of bathers, as in this 1901 view. The paragraph on the back concludes, “...these ropes give confidence to the timid.”

to be admired. The attraction was clear enough. What was never seen in public was now not only allowable but acceptable at the beach. A hint of the slightly naughty added an element of spice that, though unspoken, was always there. Standing at the edge of the water both bather and viewer toed the rim of propriety and enjoyed the experience.

Pushing the Limits of Convention

Away from the seaside a more reactionary majority looked at much of these developments with little understanding and equated them with assaults on respectability. Indeed, as looser attitudes of dress and behavior spread from the beaches to the streets and beyond, they were contested nearly every stop of the way by forces rooted in a more traditional outlook. Deeply entrenched ideas, even when completely wrong or outmoded, are never easily cast aside.

The war against such reactionary repression was marked by many small skirmishes. Though the front was at the beaches, in the end the battlefield was everywhere. It is difficult now to comprehend that any exposure of flesh at the ankle, or even the wrist, could be considered suggestive or to be a reach for new freedom. But, convention was teased and violated again and again, often in small ways which added up to something larger. The children of affluence were at any time likely to be in the vanguard. Young ladies from noted families slowly seemed to succumb to loosened standards of modesty under the influence of the sun, the sand and the pounding surf.

At Narragansett Bay and at Newport, Rhode Island, the waltz and the polka were so popular in the early 1850s that they were carried into the water. Complicated maneuvers were choreographed by couples cavorting in these water ballets. One observer noted seeing “gentlemen in clinging tights handed about their pretty partners as if they were dancing water quadrilles.” There seemed to be ample opportunity in the process for what many would consider love play.

In numerous small ways the limits of proper behavior and dress were being stretched. Not only skin was being exposed to the eyes of an uncertain and sometimes shocked public. A newly affluent leisure society was also fashioning new rules. Yet, they were not unmindful of public concern. A youthful Winslow Homer, who later became the noted artist, wanted to sketch the bathers at Newport in 1858. Reluctantly, he was permitted to do so, but only under these conditions: the bathers must be shown in the water, only above the waistline, and not identified in any way. He complied, although stretching the rules a little in the process.

Chipping the Edges of Propriety

It was about the turn of the century when lady bathers discarded the corset and the possible erotic appeal of the female form was looked at in a new light. Parts of the human anatomy that had been carefully shielded from public view now could be emphasized as fashion decreed. And for the next three decades, and beyond, each change and alteration might find itself embroiled in debate and controversy, if not mired in conflict. For bathing apparel changing styles were steadily marked, over time, by reductions in the amount of fabric used.

Fashion was ever an important consideration but it would be difficult to assert that an element of erotic appeal was not present in these changes. The activities that took place at the resorts and on the public beaches involved a lot of things. Physical well-being as well as vanity and fashion were factors, to be sure, and so were sta-
tus and social climbing. But an undercurrent of sex and sensuality was always there.

The sauciness shown in the poses of the pert and pretty bathing belles tell their own story. Just a hint of naughtiness garnishes each scene. Those blessed with "correct" figures could showcase them in a proper outfit and bask in the esteem of many admiring eyes. Problem figures were another story; the frank revelations of skimpier costumes created a new class of victim who did not view them as welcome developments.

Opposition to this style of "progress" often stood on grounds characterized as morality, decency or religious. But to many insecure people, lacking confidence in their appearance, they were plainly a threat.

A Search For Standards

Time after time attempts were made to freeze fashion in place through legal action in the name of public morality. Momentary successes delayed the process, but in the end a society that likes to think of itself as free will follow what the people really want and not interposed rules that some elements deem to be good for them. The force of public pressure finally determines the standards it accepts, however rational or irrational those standards may be. A comparison of bathing and swimming costume styles between the 1890s and the 1990s clearly shows which forces have enjoyed the most success in the past century.

Arms were the first to be partially bared early in the 1880s when foreign fashions displaced the long sleeves which were formerly universal on American beaches. Women swimmers needed freedom of arm motion as well as other changes if they were to meet minimal requirements of safety. Skirts below the knee were deadly threats.

The Swim Suit Wars

One heroine of the swim suit wars was Annette Kellerman, an Australian girl who took up swimming to strengthen her legs after a bout with polio. She succeeded so well that she became a champion in early-day competitive meets, as well as a star of vaudeville and motion pictures, noted for her comely, svelte figure. "I want to swim," she said, "and I can't swim wearing more stuff than you can hang on a clothesline." In 1907 she devised a stripped down functional swim suit without skirt or sleeves, but with trousers cut off two inches above the knee. A later version used in diving exhibitions was a black-wool, one-piece, sleeveless body stocking that covered her from neck to toe. When she appeared at Boston's Revere Beach, she was arrested for indecent exposure and characterized as a wanton. Actually a true swimming suit was utilitarian sports equipment and not a fashion statement. In Boston the point was lost; they arrested Annette anyway. But, she garnered widespread support and her name became a household word virtually overnight. Who the winner was, if any, is unclear.

Two years later a twenty-year old teacher named Adeline Trapp became the first woman to swim the East River in New York. She wore a similar suit to the Kellerman version and was not accosted by the law. However, she was notified in writing, by the Brooklyn School Board, that appearing in public so scantily dressed was not proper behavior for an educator of Brooklyn children. For future swims she had a blanket waiting to wrap herself in.

There Otta Be a Law

During the decade 1910-1920 many good people of both sexes were harassed by authorities and self-appointed guardians of morals while wearing sensible swimming outfits. In 1913, in Atlantic City, a
ed by Colonel Ghadiall, founder of New York City's Aerial Police. The New York Times quotes him as asking, "Why should beautiful women ... be compelled by an unmoral, un-American and inhuman law to cover their limbs?"

Perhaps the acme of idiocy was reached in 1919 at Coney Island, New York, when a gendarme interpreted the law so literally that he arrested a woman for wearing a bathing suit in public ... under her

Keystone No. 9688, "A Cake Walk on the Beach, Atlantic City, N.J." Did beach wear soften reserve and remove repressions? This elaborately posed view certainly implies a time of carefree leisure.

Underwood & Underwood No. 10074, "In the good old summer time, holiday crowds on beach, Coney Island, New York." Bathers are outnumbered by spectators of bathing in this view where more liberal dress codes may be seen in the absence of stockings, the bared feet of some of the girls, and the more abbreviated trunk legs sported by some of the boys.

woman was attacked by a crowd when she appeared in a short swim suit. For both men and women a skirt of appropriate length was a required part of the beach outfits. Frequently, criminal behavior consisted of the removal of the skirt to enhance ease of movement and to eliminate a safety hazard. Even during the 1920s, at some locations, women were fined and removed from the beach for legs without stockings even though they may have been wearing beach shoes and long skirts. Such a rule was current at Atlantic City, the premier watering place, in 1918 and was publicly lambast-
street clothes. Although the case was thrown out by the magistrate it does shed light on how the comic concept of the Keystone Kop may have been inspired among the west coast moviemakers.

Regulations
In 1917 the American Association of Park Superintendents had appointed themselves guardians of public morality, at least in regard to acceptable bathing wear. Their regulations were published in The American City. They may have meant well and even thought they had to do something regarding their bailiwick. But style and permissible behavior are variables and they acted as if they are constants. This did draw battle lines, though, and affected many people for many years at many beaches. (Two young ladies were run in during the 1990s at a Lake Erie beach for

Whiting View Company No. 913, “Mother may we go in to swim?” One social critic complained, “It’s time we do something about young men in skin-tight, sleeveless, and neckless bathing garments, about a yard in length, and bare-arm girls with skirts and bloomers above the knee, lolling together in a sort of abandon.” John Waldsmith collection.

Whiting View Company No. 914, “Playing Leap Frog on the Beach, Atlantic City, N.J.” Many were appalled by sights of what they considered scantily clothed young men and women frolicking in a manner suggestive of erotic activity. John Waldsmith collection.
sunbathing topless in violation of the current concept of the regulations.) But in 1917 the Superintendents' list included the following:

All white or flesh colored suits were discouraged since they revealed too many details of human anatomy when wet.

Suits that exposed the chest, male or female, lower than a line level with the armpits were banned. Ladies blouses must have quarter-arm sleeves or close-fitting arm holes.

Full bloomers or a skirt effect over trunks no higher than four inches above the knee were acceptable with the skirt no more than two inches above that.

Similar rules applied to men's tops, trunks and skirts with specific replications applying to each of the popular men's and women's styles.

Such attempts to be objective and quantify modesty had many shortcomings but were embraced by the enforcement patrols in their foredoomed efforts. Critics were quick to raise the picture in the public mind of Keystone Kops rushing around the beaches, each with a tape measure in one hand and a pair of handcuffs in the other. Still, these and similar regulations were widely supported by a society largely conservative in such matters. Changes in attitudes did not come readily, but they did come in time. Even the best written regulations were riddled with fuzzy areas that allowed it.

Where It All Leads

The process of giving up the bathing costumes of the Victorian era for the swimsuits of the twentieth century was marked by reluctance for those uncomfortable with change and uncertainty with deviating sexual mores. Newspapers which refused to print pictures of burlesque stars had no problem with running views of equally scanty-clad swimmers. Advertising using girls in swimwear became a staple.

Viewing with dismay the goings-on observable at the aquatic playgrounds, many were appalled at what they interpreted as half nude men and women indulging in activities very reminiscent of erotic behavior. One dissenter was quoted, "It is time we do something about young men in skin-tight, sleeveless, and neckless bathing garments, about a yard in length, and bare-armed girls with skirts and bloomers above the knee, lolling together in a sort of abandon."

In 1913 the Ladies Home Journal ran a sequence of pictures illustrating what was characterized as the free-and-easy intimacy of a new licentiousness that continuously infests the summer playgrounds. The title of the full-page spread blared the question, "How Much of This Do You Want Your Daughter to Share?". The pictures, gathered from far and near, show boys and girls in scenes of beach frolic which today we would not consider unusual. "Where do you think such easy familiarity between the sexes leads?", was the poser with which the article left us. Now, eighty years later, and with perfect hindsight, we all know the answer.

Recommended Reading

WOMEN'S BATHING AND SWIMMING COSTUME IN THE UNITED STATES Claudia B. Kidwell, Smithsonian Institution Press, 1968


SPLASH! A History of Swim-Wear Richard Martin and Harold Coda, 1990
The Magic Marches On

The Magic Eye series of single-image stereogram books and calendars continues to dominate the market both in terms of sales and easily fused images with a consistent quality and popular appeal. A "strategic partnership" between N.E. THING Enterprises and Digi-Rule Inc. of Calgary, Alberta has added more skilled computer artists and imaginations to the line. The results are especially evident in two of the most recent Magic Eye books.

Henry's Gift

Easily the best among new trend toward SIS illustrated story books, Henry's Gift: The Magic Eye is an illustrated sword-and-sorcery tale of a medieval boy whose strange visions guide him through haunted hills, battles with ghostly knights, and an encounter with a powerful necromancer. His visions, of course, appear in the patterns of things like tapestries and wheat fields—patterns printed for the reader as single-image stereograms that reveal what young Henry has seen as the story unfolds.

Like all good fantasies, Henry's Gift opens with a map. This one is naturally in 3-D and is packed with small figures and details that continue to appear as your eyes explore the fused image. Many of the 20 stereograms in the 69-page book incorporate wallpaper-effect (or in this case tapestry-effect) drawings that march across the page to end up in perfect position and plane to form highly detailed faces and other features on figures otherwise made up of the random pattern background. While this sometimes reveals the subject of a stereogram before it's fused, the added detail at the center of interest gives some of the images a lot more impact.

If you're only glancing through the book in a store, there are at least two SIS to be sure you fuse. The frightening visions Henry sees in a haunted forest appear for the reader on page 23, and the serpent that only he can see hidden in a river is revealed in the stereogram on page 27. Both are very well done and provide visual punch to the more than plentiful magic in the story.

Henry's Gift is a largely Canadian production. Writer David Worsic and 3-D Art Director Bohdan Petyhyrcyz are both with Digi-Rule of Calgary, and Illustrator Joyce Harris (whose more traditional art appears on the text pages between the stereograms) is a Canadian who has illustrated children's books and paleontology textbooks. While it may sound like something targeted mainly at a seventh grade audience, anyone who enjoyed films like Dark Crystal or Labyrinth could easily enjoy this first SIS storybook in the Magic Eye series.


Deep Disney

On top of their book sales in the millions and many weeks on Best Seller lists, the Magic Eye series has further established its place in the popular print media with one of the ultimate affirmations of acceptance, a publishing collaboration with the Walt Disney Company. The 26 stereograms in Disney's Magic Eye are all derived from familiar Disney film images seen in classics like Snow White and Sleeping Beauty up to recent hits like The Lion King.

Backgrounds made up of images from the various cartoons fuse into simple stereograms of the characters themselves on many of the pages, as seen in the cover illustration of Mickey Mouse. While some of these like Mickey and Pluto work nicely, others like Goofy or the Mushroom Dancers from Fantasia suffer from the large image elements used to make up the backgrounds. Some of the book's most effective stereograms use more abstract, randomized background patterns, the pirate ship...
from Peter Pan flying through the stars being a good example.

Credited in the introduction are the contributions of Bohdan Petyhyrycz and Peter Ciavarella of Digi-Rule, with the fully dimensional face of Pluto on page 22 mentioned as an example of their imaging skills. The Pluto picture is a good example of the problems involved with the use of clever theme images as backgrounds from which to build stereograms. While Pluto himself is a nearly perfect 3-D image when fused, the butterflies sharing the frame with him are smaller than the cartoon Micks and Plutos that comprise them, and they can be a challenge to decipher.

**A Magic First for Christmas**

The Magic Eye Christmas book, *Do You See What I See*, is a collection of 21 stereograms in a smaller format than the usual Magic Eye books, retailing for $6.95. The images are a colorful assortment of Christmas themes with no specific slant or story text involved, and many would have made interesting greeting cards if they had been printed that way. The unique feature of the book is that it contains, on page 16, the first stereo pair reproductions to be seen in any of the Magic Eye books so far.

The pairs are some vintage Christmas views, one of which was featured on the cover of *Stereo World* Vol. 19 No. 4. The right and left images are repeated as a wallpaper stereogram, with only one set of the small images fusing into normal stereo. To prevent the others from appearing pseudoscopic when fused, they have been manipulated so that the whole card half twists or so that flat sections of the image appear on different planes. By sizing the halves of the stereoviews to match the widths of the convergence strips used in the book’s other stereograms, Magic Eye fans have been painlessly introduced to free viewing stereo photos, although in a format too small to see detail. The next step needs to be the reproduction of slightly wider pairs (without the wallpaper repeats at the sides) until true parallel free viewing size images (the classic 6 x 13cm format) can be printed along with single image stereograms in books that can reveal the full magic of any and all 3-D images.

**The BBC Explains 3-D**

British Broadcasting’s BBC-1 television service has a weekly show called *How do They do That?* which attempts to explain the mysteries behind various phenomena of modern life. The December 6, 1994 show featured Tom Baccei of N.E. THING talking about the history and technique behind his company’s wildly successful Magic Eye books and other products. In describing his first exposure to single-image stereograms, he opened a copy of the May/June 1990 *Stereo World* as the camera zoomed in on Dan Dyckman’s article “Single-Image Random Dot Stereograms” on page 12.

The program went on to trace his creation of a SIRD puzzle advertisement for his software company which let to the creation of N.E. THING to actively market SIS images, and the eventual publication of the first Magic Eye book in Japan. Along with tips on viewing stereograms, the program mentioned that total sales of the Magic Eye books (printed in 25 languages) have now exceeded 8 million. With the release of the 1995 *Star Wars* 3-D calendar, the Magic Eye publications have continued expanding their imaging, if not their market, beyond the confines of the planet and out toward a whole galactic empire.

**3-D Planet**

Cadence Books has published another English edition of some of the best single-image stereogram work being done in Japan. *3-D Planet: The World as Seen Through Stereograms* maintains a similar format and the same impressive level of quality found in Cadence’s earlier *Stereogram and Super Stereogram*. The primary difference is that *3-D Planet* is devoted to a single theme, the Earth’s living systems as illustrated through 3-D computer graphics, and the book focuses on the work of two artists rather than several—Hiroshi Kunoh and Eiji Takaoki.

Some of the images are very naturalistic, with animals appearing out of leaves and forests, and others are more abstract or symbolic but all are easily fused and a real treat to the eyes in their flawless and often complex 3-D effects. Like the the earlier Cadence books, this one includes some real stereo pairs that challenge and instruct readers with the far larger and more detailed stereo images available to their eyes through the free viewing skills they’ve already learned.

Cadence Books, Viz Communications, PO Box 77010, San Francisco, CA 94107.

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A SIS Mystery

**Death at Sea: A Murder Mystery in 3-D**

A plot outline for an episode of the PBS Mystery series, written by Len Oszustowicz and set in 1990s London, portrays a death in question that takes place aboard a private yacht shortly before it docks there.

The 26 stereograms by Brian Small illustrate scenes from the ensuing Scotland Yard investigation, covering various places and objects. Several of the images are quite well done and easy to grasp, while others simply reveal very well, despite their relatively fine texture.

In five cases, the faces of characters have been outlined in an attempt to provide more detail in the fused image. This doesn't involve the incorporation of a wallpaper stereogram to replace specific points within a random pattern stereogram, but simply the addition of black outline features over the areas of random pattern that fuse into faces. This may have been an afterthought to help differentiate the characters, as facial detail is hardly the strong point of even the best SIS art.

To their credit, the book's designers didn't resort to 2-D frames or intrusive 2-D drawings to try and reinforce the meanings of any of the stereograms.

**3-D Bible Stories**

Following their 3-D Night Before Christmas, 3-D Revelations has published a larger book titled 3-D Bible Stories. Several scenes from both the Old and New Testaments are pictured in 26 stereograms by Otherworld Artyfax, Digi-Rule, and John Olsen. Each image is accompanied by a summary of the story it illustrates.

Some of the stereograms seriously stretch the ability of the medium to convey the sort of detail or drama generally expected in images illustrating religious texts. In several cases the thematic elements making up the background texture are simply too large to allow good fusion into the detail needed. In other cases the subjects just don't lend themselves to SIS treatment, as with the hard-to-distinguish "Burning Bush" or the harder to comprehend "Parting of the Red Sea" stereograms.

3-D Bible Stories is a 64 page, 8½ x 11" paperback available from 3-D Revelations, 537 Newport Center Drive Suite 282, Newport Beach, CA 92660.

**Another and Another Dimension**

More selections of work by leading U.S. stereogram artists have been published by 21st Century Publications, who's Another Dimension was reviewed in Vol. 21 No. 2, page 20. A combination of familiar themes and imaginative gems fills the pages of their new book, the most easily found of which seems to be Another Dimension 2 - The Little Book. This 47 image, 8 x 9 inch collection is a bargain in the SIS world at $6.95. If you prefer larger images, look for The Big Book - High Definition 3-D which features poster size, 15 x 17 inch stereograms. Also from 21st Century is the 7 x 9 inch, 48 page Stereographic Magic. For retail sources contact 21st Century Publications, Box 74715, Los Angeles, CA 90004.

**SIS by the Pound?**

A series of thin paperback books featuring almost completely generic stereograms called Eye Illusions has been published by Modern Publications of Unisystems, Inc. in New York. While most of the images are fairly easy to fuse and appreciate, the predictable subject matter and often intrusive 2-D frames make these, at most, a handy starter set for very young beginning free viewers—if any such individuals remain to be found. Sets of the books were found shrink-wrapped together for sale at a large discount chain for under $10.

**SIRDS for NIRD**

Ultragrafix, one of the first commercial publishers of single-image stereograms (some of their images are seen in the Another Dimension books), has announced "the first computer program that incorporates both a screen-saver and a stereogram making program." The SIRDS for NIRD program can cycle eight Ultragrafix stereograms across the screen one by one and includes an "Easy View" function which adds the grey-scale depiction of the image to the stereogram when the space bar is hit. Hitting the space bar again returns the screen to the stereogram only. On top of that, each screen-saver image has its own audio soundtrack with effects matching the subject. (The CD-ROM version will include nearly 20 screen-saver stereograms.)

The custom stereogram making program allows users to produce stereograms from any .BMP, .TIF, .GIF, or .PCX files. Different tiles are included, or users can make their own. (Continued on page 32)
Many of us have had the experience: Taking photographs with a garage sale 3-D camera—and feeling totally alone in the world—we finally, often after years, meet another 3-D photographer. And our life changes.

My extraordinary fortune was that the other person was Howard Frazee. He opened the 3-D world to me, as he did to probably hundreds of others.

A master photographer, he shared his skills and tricks with all. A talented collector, he invited all over to his home to enjoy his collection. An extraordinarily talented inventor and craftsman, he developed new color techniques and designed, built and often gave away all sorts of 3-D apparatus from camera jigs to ingenious, usually beautiful, and frequently whimsical 3-D viewers. (I remember with delight his Rolodex File to rotary sequence viewer conversion.)

Those stereographers who had the good luck to encounter him (perhaps at the 1982 San Jose NSA show where he was everywhere quietly helping everyone as deputy director for physical arrangements) may well have not known his many other talents. He knew and loved flowers and he collected and raised fuschias. He built a pipe organ into his home for his wife Helen. Although I knew him many years and knew of his automobile restorations and collections (three-wheeled Morgans!), and knew of his superb historical trolley restorations for the City of San Jose, and knew of his professional skills as electrical engineer in charge of the wind tunnel at NASA’s Ames Field, I learned only at his memorial service that he had also been a pilot and a skilled actor.

But manifold though Howard’s skills were, they always involved generosity and sharing and a wonderful good nature. His skills were inseparable from the spirit with which he used them.

We have lost a very special friend.

- John Dukes

As well as his room-filling collections of stereo cameras and viewers, Howard Frazee assembled one of the most complete collections of stereo projectors known to exist. Some of his gems are seen here in a special exhibition. Photo by Susan Pinsky.

Assignment 3-D

(Continued from inside front cover)

print or slide format is eligible. (Keep in mind that images will be reproduced in black and white.) Include all relevant caption material and technical data as well as your name and address. Each entrant may submit up to 6 images per assignment.

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

Send all entries directly to: ASSIGNMENT 3-D, 5610 SE 71st, Portland, OR 97206.
Tommy Thomas, 1923-1994

Tommy Thomas was an unorthodox free spirit to the very end. He died on Sept. 21, 1994 at the age of 71, and was buried in a shirt covered in jellybeans, wearing bright red socks. He was never a “suit-and-tie” kind of person—not in life, not in photography, and not even in death. Tommy never settled for living buried in a shirt covered in jellybeans, wearing bright red socks. He was frequently successful, and he was always uniquely creative. The chapter he wrote in this book describes many of his techniques—giving diagrams, charts and examples to easily help readers start making their own Stereolusions” (the title of that chapter, and a word he coined himself.)

Tommy’s own trick images were so unusual that he offered them for sale in the 1950s under the name “Stereolusions”. Nowadays these are highly collectible and for good reason. These were duplicates of his slides “The Bodiless Cowboy”, “Peek-a-Boo”, “The Monster”, “Portrait of the Photographer”, “The Great Profile”, “Double Exposure”, “The Blond From Outer Space”, “The Primary Colors”, “The Little Poker Player”, “Shattered”, “Bikini Babe”, “The Girl in the Ice Block”, “Portrait of a Salad”, “Alan Young as Twins”, “The World’s Fastest Lenses”, and more. Each one was a gem of a slide.

For example, he once wrote me a description of what went into creating “The Blonde From Outer Space.” He said,

My own personal favorite of all! I built a wooden device that would set atop a very sturdy tripod, that would allow me to rotate my Realist upon its own center (the viewfinder). Then I spent weeks roaming around L.A. after dark, photographing neon signs. I actually took hundreds and hundreds of color stereos, exploring all the various possibilities. Then, rather excited about it all, I talked Snoka and her brother into going to Las Vegas with me, to help me take this one photo. We had to wait until four in the morning for the traffic to subside enough so I could set up in the middle of the street with all my clumsy apparatus, and Snoka and her brother helped me set up, then guarded my back and held back traffic for me. It was a full one minute exposure: for 58 seconds I didn’t touch the camera, just let the neon lights burn in (small aperture) and during the last two seconds I rotated the camera upon its own axis. This, as I knew, left me with a black sky (completely unexposed) “circle” in the center. Several weeks later, hiring a model (I was going all out) and having an “outer space” outfit made up, I took the second photo against a huge velvet background... upon the still undeveloped film, of course. Being much younger then, after all this work, if it hadn’t turned out just as I had planned, I most likely would have killed myself.

During the period of 1954-1955 Tommy wrote a monthly column entitled “Modern Stereo” for Modern Photography magazine. His attitude was always one of how to keep stereography easy and fun—if it got too complicated he felt people would lose interest. He outlined and explained how to create those trick shots he was famous for, plus other important aspects of stereo photography such as mounting, multiple exposures, fantastically easy close-ups with a stereo camera, fill-flash, and much more. I’m sure many, many people were inspired to try new and exciting things after reading his columns. Later he wrote me “Nothing secret or sacred about any of the explanations. In fact, I’ve always had the feeling that it added to the enjoyment of the stereos to explain to people just how they were made. So, if you wish, please do so yourself!”

In 1978 David Starkman & I decided to publish our own newsletter about 3-D photography.

Trick Self Portrait by Tommy Thomas taken in the 1950s.
under the name Reel 3-D News. We were inspired after researching the subject through the periodicals of the 1950s. We used to cut out ads, articles and any mention of 3-D in these old magazines. We felt fortunate to have found most of Tommy's old columns, and wanted to reprint them to share with more modern 3-D enthusiasts. Through asking around, and a lot of word of mouth, we managed to find a phone number for Tommy. I called him up. It was the beginning of a pen pal friendship that I will treasure all my life.

I found Tommy (now Tom) living in Arizona. An early retirement had allowed him the kind of life many of us dream of, but never make happen. He lived a simple life—didn't travel, didn't buy lots of things, simply enjoyed his family, his photography (now flat, but still marvelously creative) and his world. We corresponded for 16 years, sharing all kinds of subjects, including 3-D. Every 3-D convention throughout the world that we attended during that period I wrote a detailed report of the programs, people, location and benefits of attending. He was interested and enjoyed hearing what was happening in 3-D from Nimslo to Toshiba, Stereo Club of Southern California to the International Stereoscopic Union.

Every letter I received from Tom included at least one photograph, usually glued onto the letter, and set into a box within the letter. These were always something amazingly wonderful—always snapshots, but never ordinary. I've kept every one, and will always appreciate the relationship we shared and the mementos he left with me.

Tom Thomas was unique. He was a kind soul, a creative vital force, and a generous spirit. He will be remembered for his contributions to stereo photography, but some will never forget him for all the other wonderful pieces of our hearts and lives that he touched.

—Susan R. Pinsky


He was a strong believer in three-dimensional image communication, and pursued autostereoscopic imaging research for many years, first with lenticular type systems and then with holography, notable projection type systems. Subsequently, he became a pioneer in coherent-optical fiber communications, bringing his warm and creative style to that field also. As a hobby, he composed semi-classical music in a light classical style. He was a frequent international lecturer and had many friends and colleagues around the world. He was one of the leaders of holographic imaging among academia, and among industry through his many students.

Professor Okoshi was born in Tokyo, and swiftly rose through the ranks of the Department of Electronic Engineering at the University of Tokyo. In 1987, he was elected Founding Director of their Research Center for Advanced Science and Technology, and since 1993 has been the Founding Director-General of the National Institute for Advanced Interdisciplinary Research, in Tsukuba.

—Alexander Klein

**Takanori Okoshi, 1932-1994**

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The Print-Masters' Folio

For several years now, one special feature of the OP and CP print circuits has been the MEISTERFOLIO. For a given calendar year it has been composed of the highest scoring points from the two circuits (with a limit of three entries from any one printmaker). It then traveled through both circuits and the members voted on their favorites of the favorites, thereby ranking the best stereo prints for the year in question. A high score in this folio has represented a distinct honor for the stereographer whose work was selected by his/her peers as outstanding from a base group of several hundred folio entries.

For the calendar year 1992, the highest scoring entries were assembled and the 1993 MEISTERFOLIO was launched in April of that year (1993). Since it had to travel both circuits it was a long time in route, finally completing its tour on July 1, 1994. I am pleased to be able to summarize the voting results here, at least for the top scoring entries.

In short, David Lee and Michael Pierazzi ran away with the 1992 show! Each placed all three of his entries in the top ten. David took first place, second place, and sixth place while Michael garnered fifth place, seventh place, and tenth place. Third place went to Ray Bohman; fourth place to Ken Carpenter; eighth place to Judy Profitt; and ninth place to Dale Walsh.

The quality level of the viewcards was quite high and evenly distributed. This led to considerable variation in the voting, reflecting the tastes of the individual members when filling out their ballots. Not a single entry escaped without getting a "zero" from somebody. Similarly, each and every view got at least one second place vote and every view but one got at least one first place vote. All in all, MEISTERFOLIO 1993 was masterful.

1993 MEISTERFOLIO Top Scoring Viewcards

Listed here are the top fifteen viewcards by title, name of maker, and percentage of total possible points scored.

<table>
<thead>
<tr>
<th>Title and Member</th>
<th>Percent of Possible Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Weeds and Trees (Zion, NP)</td>
<td>72.8</td>
</tr>
<tr>
<td>David Lee</td>
<td>2. Orchid</td>
</tr>
<tr>
<td>David Lee</td>
<td>3. Jackson Hole/Tetons</td>
</tr>
<tr>
<td>Ray Bohman</td>
<td>4. Laurel Creek, Tenn</td>
</tr>
<tr>
<td>Ken Carpenter</td>
<td>5. Cascade (Mill Valley)</td>
</tr>
<tr>
<td>Michael Pierazzi</td>
<td>6. Manly Beacon</td>
</tr>
<tr>
<td>David Lee</td>
<td>7. Babyface</td>
</tr>
<tr>
<td>Michael Pierazzi</td>
<td>8. Dogwood Detail</td>
</tr>
<tr>
<td>Judy Profitt</td>
<td>9. Holy Man in a Holy City</td>
</tr>
<tr>
<td>Dale Walsh</td>
<td>10. Carmel Mission</td>
</tr>
<tr>
<td>Michael Pierazzi</td>
<td>11. Everlastings</td>
</tr>
<tr>
<td>Dale Hammerschmidt</td>
<td>12. Hi! Wanna Play?</td>
</tr>
<tr>
<td>Jack Swarthout</td>
<td>13. Near and Far, Up and Down</td>
</tr>
<tr>
<td>Jonne Goeller</td>
<td>14. Downstream</td>
</tr>
<tr>
<td>Brandt Rowles</td>
<td>15. Woodcarver</td>
</tr>
<tr>
<td>John Steffen</td>
<td></td>
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</tbody>
</table>

The original color print of "Weeds and Trees by David M. Lee was the highest scoring viewcard in the 1993 MEISTERFOLIO. The view was taken at Zion National Park, UT, in April, 1987 and reprinted in black and white for the Society Column by David Lee.
More on David Lee

David Lee says, "First of all I'd like to say that I am thankful for the Stereoscopic Society, because I had been making stereo images for about eight years before I ever made a stereo card and the Society has given me the inspiration to make both the cards and many more images than I had previously."

David and his wife, Deborah Kogan, live in Sacramento, CA, and own a small photography business called the Singular Image, the purpose of which is to make commercial photographs and custom prints. He is also part owner, with Michael Isenberg (another Stereoscopic Society member) of a small business called Hyper-View. The purpose of Hyper-View is to develop and market stereo viewers for viewing large stereo prints. David Lee, along with Michael Isenberg and Michael Pierazzi will be having a 3-person show of large stereo prints at the Photolab Gallery, 2235 Fifth Street, Berkeley, CA 94710, beginning in mid-February 1995. These prints, as seen at the NSA 1994 Convention in Milwaukee, are truly an impressive form of stereo imaging.

Changes

Apparently the Master's Folio concept is under revision and will be handled differently for the next round. Although the current method was very successful it is not easy to achieve and takes a long time to complete. Also, both print circuits have new secretaries and such special projects need to be re-examined to accommodate the people who have to carry them out. However it develops, it has been a rewarding project. Credit for the initiative and effort required to make the MEISTERFOLIOS a success goes to former C Print Circuit Secretary Dr. Dale Hammerschmidt, aided by erstwhile O Print Circuit Secretary Judy Proffitt.

The color version of "Orchid" by David M. Lee (March, 1992) was the second highest scoring viewcard in the 1993 MEISTERFOLIO.
NewViews

French Book-Viewers From Cygnus

A new series of 3-D book-viewers has been published by Les Devenirs Visuels of Paris. Besides the Paris in Relief and Caves in Relief books shown here, similar book-viewers illustrating flowers, dew, insects and Versailles in 3-D are among those currently available. Each wire-bound, five by six inch book-viewer features 32 pages of color stereo pairs with captions on the backs of the pages and good quality plastic lenses in the front flap. The pairs vary in height, but each image is two and three-eights inches wide—just as in many of the pairs in Stereo World.

The flexibility resulting from the books’ lightweight design requires the user to horizontally align the lenses with the pairs at every turn of a page. But the trade-off is easily illuminated viewing with no shadows from a septum or stabilizing side panels.

Spliced Hexar Compacts From RBT

A compact, spliced stereo camera has been announced by RBT, the German company behind the RBT X2 reviewed in Vol. 20 No. 6, page 18. Designated the RBT 3-D S1, the new camera is made from two Konica Hexar compact cameras and has a stereo base of 59mm. The Hexars are very high quality non-SLR 35mm cameras with 35mm f/2 lenses and shutter speeds of several seconds to 1/250th.

For details on the camera, prices, and ordering information, watch this space or contact RBT Raumbildtechnik, Karlstrasse 19, D-73773 Aichwald, Germany, Fax: 49-711-36 39 56.

Minox $tereo

Those who had hoped that the Minox Stereo GTE twin camera rig (Vol. 21 No. 1 page 38) would be an inexpensive option have suffered from a bit of sticker shock on learning the price. Answering a letter from NSA member Alfred Whiting, the HP Marketing Corp. informed him that the Stereo GTE lists for $1800.00 and is a special order with delivery two to three weeks from order date.

The factory-synchronized 35mm full-frame cameras come mounted on a bar with a 108mm stereo base and separate focusing of the f/2.8, 35mm lenses. There is no separate literature covering the Stereo GTE, but any Minox dealer can assist in ordering the rig. Information is also available through Bob Salomon at HP Marketing, 16 Chapin Rd., Pine Brook, NJ 07058, (201) 808-9010, fax 808-9004.

Les Devenirs Visuels is the same firm behind the Mirror Album viewers seen in the Mar./Apr. ’94 NewViews, and some future books may be published in a large, mirror-viewed format. The current books are available for $11.95 each (postpaid in the U.S.) through the latest Cygnus Graphic catalog and will include a printed English translation of the French captions.

The 24-page Cygnus Graphic catalog is packed with 3-D books, posters and prints of every subject type and format, as well as a variety of viewers and a selection of View-Master reels. The Catalog is $2 in the U.S. and $3 in all other countries (refundable with orders by using the Refund Certificate) from: Cygnus Graphic, PO Box 32461-X, Phoenix, AZ 85064-2461.
@New Photo-3d Email Address

by Martin Simon  msimon@physics.ucla.edu

The photo-3d electronic mailing list discussion group (see Nov./Dec. '93 Stereo World) has survived a major threat to its existence and continues to grow. Reacting to the scandal at Lawrence Livermore National Lab, where a few employees were storing and distributing pornography on government computers, other national labs took measures to restrict non-work related computer activities. The internet photo-3d list and archive site, which was located at Lawrence Berkeley Lab, was told to move. If a new host site could not be found, the list may have had to go to a commercial service or become a usenet newsgroup. Both options had significant disadvantages.

To the rescue came Bob Weir who offered his computer at East Texas State University as a host for the mailing list. He and John Bercovitz, who managed the list at LBL, will manage and moderate the list and archive. The transition between hosts was made the first week of December without missing a beat, quite a tribute to the hard work of these two NSA members. The new address for photo-3d is: photo-3d@bobcat.etsu.edu

To subscribe, send a message to:
listserv@bobcat.etsu.edu
The body of the message should be:
subscribe photo-3d your name
You can also add a line that says:
set photo-3d mail digest
This will combine all the messages from one day into one single message, lowering costs if you pay by the message and making your mail easier to handle. Subscribing to photo-3d is free, but your internet service provider may charge for email.

The list has greatly expanded in the last year. There are now over 500 subscribers from all over the world. There might be 20 or more messages on half a dozen different subjects (or threads) on any given day. Recent discussions have ranged from single lens 3-D using red/blue or polarized filters at the internal aperture of a lens, to methods of converting FED slide projectors to operate in the U.S., viewer repair, reviews of the new IMAX 3-D theater in New York, and of course, 3-D photo and mounting tips. Some photo-3d members have even organized a mixed format postal folio.

The archive has also expanded. There is a new Illustrated Guide to Stereo Slide Mounting written by Joel Alpers which can be retrieved by ftp. It includes mounting guides for all popular formats which can be copied onto transparencies (make sure the copier doesn't change the size). The answers to Frequently Asked Questions (FAQ) has been expanded to over 60 pages. There is an updated list of 3-D products and services and a list of 3-D clubs.

Starting with the 1993 convention in San Diego, photo-3d'ers have met at a predesignated time during the NSA conventions to see each other "face-to-face". This year, at the Atlanta convention, photo-3d subscribers will be identified with an @ symbol on their name tags. (The @ sign is commonly used in email addresses.)
So, watch for the @ signs in Atlanta this year!

3-D From 2-D on Your PC

When people new to 3-D ask if their regular flat photos can be converted to 3-D, the usual negative answer preceding an explanation of stereo photography will from now on have to be, "Well, sort of" thanks to new consumer software released by at least two companies. Electronic Imagery's "3-D IT" Windows program converts flat photos, graphic files or video into anaglyphic 3-D images on the computer screen.

According to an item in the Dec. '94 Shutterbug, the most effective 3-D images are created from originals with a "definite foreground, middle ground and background..." rather than landscapes with few planes of depth. Just how the software chooses appropriate planes for all the objects in an image isn't explained. Also unexplained is how 3-D IT guesses the actual size of objects and the appropriate degree of shift for table-top scenes vs. street scenes. (Some sort of mind-reading function would seem essential if you had been actually been thinking "hyper" when you shot that picture of the Rocky Mountains from 34,000 feet.)

Most controversial, of course, is the question of how the computer fills in hidden areas or objects that become visible from behind things in the near planes when an image "seen" from a different angle of view is generated to create a pair.

Extending a section of wall or curtain behind someone's head in a simple portrait is one thing, but creating an entire face that had been hidden behind someone's hat in a crowd scene for instance, sounds like a real challenge in logic for even the most sophisticated software. Will later versions of programs like this include an infinite supply of Waldos in a variety of colors and genders to insert where needed? Will the hidden leaves of a computer generated 3-D tree be extensions of those already visible or will an occasional gap for an anomalous spot of sunlight, as happens so often in actual stereography, be allowed,? Neither synthetic pair may come close to the documentation of reality that actual stereos aim for, and if eventually published or distributed will they be identified as illustrations of simulated depth?

3-D IT is available from Electronic Imagery, Inc., 1100 Park Central Blvd. Suite 3400, Pompano Beach, FL 33064, (305) 968-7100.
(A closer look at a similar software package from Synthonics, Inc. will appear in a coming issue.)
Searching the Outer Depths

While stereo pair images taken of or on the moon (Stereo World Vol. 17 No. 3) or from orbit above Venus (Sky & Telescope Aug. '93) have been fairly well publicized and distributed, stereo images of the outer planets and their moons have been rare exceptions. The reason isn't that these pairs don't exist, but simply that nobody has gone to the effort to locate and align them—until now.

Starting with an accidental stereo pair of Saturn's moon Rhea, Paul Schenk of the Lunar and Planetary Institute in Houston has been building a library of stereos of the outer solar system from the files of images sent back by the Voyager I and Voyager II spacecraft. With the help of LPI colleagues Daniel G. Wilson and Robert D. Morris, as well as Jeffrey M. Moore at NASA's Ames Research Center in California, outer planet moons Ganymede, Callisto, Io, Rhea, Titania, Ariel, Miranda and Triton have been documented in stereo by locating and refining Voyager images taken from different angles.

Some examples of these outer solar system stereos have recently appeared in two magazines. Along with a very informative text by Ron Cowen, Science News (Nov. 12, 1994) printed four of the images as stereo pairs but in a very small format with centers of 35mm to 45mm separation. The September '94 issue of the British magazine Astronomy Now features an 18-page section of anaglyphic 3-D which includes the moon, Venus, Mars, Earth, and constellations as well as some of Paul Schenk's Voyager pairs of outer planet moons.

Unfortunately, the Astronomy Now anaglyphs are printed in regular four-color process inks, with magenta and cyan used for some images while others use magenta, yellow and black to create orange/green anaglyphs. Ghosting is a problem in nearly all of the anaglyphs except the Lunar closeups, but most of the images are spectacular enough that it's worth the effort to view them.

Astronomy Now, Hall Park Publications Ltd., Douglas House, 32-34 Simpson Road, Bletchley, Bucks MK1 1BA England, (0908) 377559.


A Stereo World feature covering the stereo imaging of the solar system and including high quality pairs of many of the images mentioned above is in the works.

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3-D With Any Camcorder in Print

An article by NSA member Neal DuBrey is scheduled for the January, 1995 issue of CAMCORDER magazine. Titled "Your Own 3-D Video – With Any Camera", the article describes how to construct and, more important, how to set an advanced but simple type of beam-splitter. A simple and novel viewer is also described, and the article includes diagrams, photos and a materials list.

Picture quality through this system using an improved and updated combination of basic stereo principles is good, and the stereo effect is excellent.

As seen in the SW classifieds in Vol. 21 No. 1, an expanded version of the article is available with finer detail, more photos, and larger diagrams. According to the author, "Seriously interested constructors really need this, together with the personal 'help' service that goes with it." The material is available for $25.00 U.S. from Neal DuBrey, 8 Marchant Way, Taybank, Port Elizabeth 6001, South Africa.

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Virtual Regurgitation

Will a "VR Syndrome" become the popular ailment of the 90s? British researchers have reported that 89 of 146 healthy adults had temporary nausea, dizziness or impaired vision after using a virtual reality helmet-mounted display for 20 minutes.

One hypothesis is that people get used the lag time between their head movements and the interactive response of the images, and when they take the helmet off, normal reality is too confusing. Another is that the immersive 3-D images on screens so close to the eyes may disrupt normal depth perception later. The British Health and Safety Executive, a government agency, has launched its own investigation but the irony is that it seems to be the real world that actually makes people sick! The most serious concern is for possible harm to the developing visual systems of children. Quoted on page 49 of the November, '94 Popular Science, Mike Griffin of Colt Virtual Reality in Havant, England worried, "If adults get sick after 20 minutes, imagine what might happen to a child who plays eight hours a day."

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

Thanks to Standish Lawder, Claire Rius, Ron Paul Smith and Alfred Whiting for sending material in to NewViews.

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SIS Update

(Continued from page 24)

their own. Custom-made stereograms can be printed to any Windows compatible b&w or color printer. System requirements are Windows 3.1 or higher, VGA Graphics and mouse. A sound card is optional.

The 3.5" disk version is $19.95 and the CD-ROM version is $29.95 from Ultragrafix, 4360 Beltway Place, Arlington, TX 76018, (817) 472-9516.
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"The #1 Antique Photo Image Show in the USA"
90 tables of stereoviews, CDVs, Daguerreotypes, photographs, etc.

No Cameras!
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15 March, 1995
10 AM - 4 PM
Public Admission $5
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1900 N. Ft. Myer Dr.
Preview admission 8:30 AM $20
Boston show: 2 April
Fall DC show: 15 October, 1995
Managed by Russell Norton
PO Box 1070,
New Haven, CT 06504
(203) 562-7800

SIXTH ANNUAL SPRING Boston Antique Photo Show
"The #1 Antique Photo Image Show in the NE"
50 tables of stereoviews, CDVs, Daguerreotypes, photographs, etc.

No Cameras!
**Sunday**
2 April, 1995
10 AM - 4 PM
Public Admission $5
Westford Regency Hotel Ballroom
I-495 exit 32 to route 110 W.
Westford, MA
Preview Admission 8:30 AM $20
DC Show: 15 March
Fall Boston Show: 22 October
Managed by Russell Norton
PO Box 1070,
New Haven, CT 06504
(203) 562-7800

NSA Directory on Disk!

The NSA Membership Directory alphabetical listing is now available on computer disk. The current listing will be shipped on PC-DOS and Macintosh high density 3.5" diskettes. The DOS disk includes Word Perfect 5.1, ASCII text, Q&A Write, and Dbase III files. The Mac disk includes Mac-Write.

Send your full address and $8.00 for U.S. mailing or $12.00 U.S. for international mailing. Be sure to specify PC-DOS or Mac format.

Mail to: NSA, PO Box 398,
Sycamore, OH 44882 and allow 3 to 4 weeks for delivery. If you have questions or require other disk or file formats, write to Larry Hess,
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Here’s an easy way to draw your own 3-D images. All you need is graph paper and a pencil. (A ruler is optional.) For best results tape a piece of typewriter or similar paper over a sheet of graph paper. Viewing directly from graph paper shows some interference because the grid may not line up to fuse properly. There is graph paper available for copy machines that does not duplicate when copied. You can draw directly on the paper and the grid disappears on the copy for easy viewing, reduced or enlarged.

To start, pick two squares at a distance apart that is comfortable for free-viewing or matches your hand held viewer. Trace the outline of the squares or fill them in solid to use as reference points (fusion dots). Draw a shape by tracing the lines on the grid centered under the left reference point and repeat the shape centered under the right reference point. (Fig. 1.) From here on we can add shapes to appear in front of or behind the original shape. For example, draw a large square emerging from behind the original shape on the left. Draw the same square behind the right one, but move it to the right ¼ square on the grid. Viewing this you should see the square slightly behind the original. (Fig. 2.)

Add another shape on the left and move the matching one over ½ square to the right. This should appear even further behind. Now add one more shape to the left, but this time move the matching shape ¼ square to the left. This should now appear in front of the rest. (Fig. 3.)

These are the basics. Moving to the right moves the shape behind, and moving to the left moves it in front. Use a vanishing point for added perspective, or use shading or color. There are infinite combi-
nations of shapes and objects to explore and create dramatic effects. (Fig. 4. is shown with the grid lines removed.) This simple technique can be used by everyone. You don't have to be artistically or mathematically inclined and there's no need for special equipment or tools. It's just another way to express yourself in 3-D.

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To commemorate the 20th Anniversary of the National Stereoscopic Association, we have produced this special 7-Scene View-Master Reel containing 3-D scenes from contributors to the 20th Anniversary Issue of Stereo World.

The 7-Scene View-Master 3-D Reel comes in a folder with descriptive copy and a brief history of the National Stereoscopic Association. We hope that this format might be used as a companion to interesting future articles appearing in Stereo World.

A major share of the profits will be turned over to the NSA. The cost is $1.90 per set, plus 50¢ postage and handling.

Send order to:
Charley Van Pelt
1424 East Mountain
Glendale, CA 91207

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**View-Master Story Still Available**

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

ANAGLYPH images produced from your stereo pairs in digital format for viewing on your computer screen. $25 per image + $2.50 S&H. Write Computer Communications services, PO Box 13231, Alexandria, LA 71315. Ph/FAX (318) 442-3562.

ARTHUR GIRLING’S “Stereo Drawing – A Theory of 3-D Vision and Its Application to Stereo Drawing”, 100 pages hardbound 8x12. Stereo photographers are finding that the book applies equally to stereo photography and is a mine of information on methods of making 3-D pictures and viewing them. Written in non-technical language and profusely illustrated with B&W drawings as well as 11 pages of superb anaglyphs, this book is a must for the serious stereoscopist. Now available from NSA Book Service, 4291 Nagle Rd., Bryan, TX 77801. Price (including postage) $19.00 USA, Overseas add $2.00 surface, $4.00 air.

BOOK, The Siege at Port Arthur, hardback with 3-D viewer, greatly reduced at $10 incl. seailmail. Add $4 for airmail. Ron Blum, 2 Hussey Ave., Oaklands Park SA 5046, Australia. See reviews, SW, Nov. ‘87.

EXPERT PROCESSING/MOUNTING of your Realist-format, E-6 slide films, 24-exp. $12, 36-exp. $18; add $1.50/roll for First Class postage/handling. Rush films, check/m.o. today to: D.R. Jacobowitz, 440 Rt. 163, Montville, CT 06053.

FED STEROE CAMERA, used two times, $200. P. Weissman, (914) 949-9481.

FIFTEEN ANAGLYPHS circa 1900 digital images for display on your computer screen in self-viewing EXF format. Other formats available. $10 + $2.50 S&H. Computer Communications services, PO Box 13231, Alexandria, LA 71315. Ph/FAX (318) 442-3582.

JOHN WALDSMITH’S “Stereo Views, An Illustrated History and Price Guide” available signed 50s, 60s, 70s, 80s, 90s, for display on your computer screen in self-viewing format. Written in non-technical language and profusely illustrated with B&W draw- images, original instructions, $145; Ex-lib. $55.50; Ex-lib. $55.50 postpaid. Macdonald’s, 1316 NE 113th, Portland, OR 97220, (503) 255-7256.


STEREO SLIDE STORAGE BOX! Eliminate those shoeboxes! 4x6x2 corrugated cardboard boxes holds approximately 130 cardboard or 60 glass mounted slides. $2 each, plus $1 shipping per order. TKE, PO Box 6455, Delray, FL 33484-6455.

STEREO VIEW CARDS, private collection - many subjects. D. Hendrickson, 2650 West 223rd St., Buckeye, KS 66013, (913) 964-3360.

STEREOSCOPIC VIDEO multiplexer and viewer. Shoot 3-D video with two sync’d cameras, record and view with ordinary VCR and TV. With two paired liquid crystal glasses, $500. Call for more information. D.A. Hunter, (407) 495-6104.

THE 2-D BOOK, THE SECRET GARDEN - 100 FLO- RAL RADIOGRAPHIES is available from ALMAR Company, PO Box 15174, Ann Arbor, MI 48104. Price: $40 + $5 S&H. Ideal gift for flower lovers. 3-D slides and cards of floral radiographs are also available. Send for catalog.

VERASCope (Stereoscope) by Richard (France), c. 1905, wood, adjustable eye pieces, w/66 glass positives (sepi a tone), 36 glass negatives, in original vintage boxes, all of Paris, France, c. 1919, Ex cond., $300 + post. Marvin Balick, 5900 Kennett Pk., Wilm., DE 19807.
VIEW-MASTER

VIEW-MASTER PERSONAL camera with built-in hot shoe $275; Personal camera tan with silver top $325; NIB Personal cutter $375; VM projector unassuming color $400; real storage boxes $50-75; Mark II with cutter $600; Delta camera $125; Videocon camera $150; Stereostill 7-perf viewer $200; Sears Roebuck 50-view boxed set $150. Paul Baker, 5 Huntington Circle, Naperville, IL 60540, (708) 961-2453.

WORLD’S LARGEST embossed holographic stereogram. Full color animated hologram of “Jesus Christ”, 9” x 12” suitable for framing. Integrates 110 images. $30 US, Mark Diamond, 7255 NW 41st St., Miami, FL 33166, (305) 954-7685. Include $3 shipping & handling.

YOUR TOWN, your state historical stereo photos, photographs, real photo post cards, documents, medals, engravings and memorabilia. MacDonal- ds’ Historical Collections, 1316 NE 113th Ave., Portland, OR 97220-2214.

Trade

BRADY #561 (Antietam/Anthony #188 (Broadway), $184 (West Point) & others/Kibler #12724 (Women - Klondyke) continental #631 (Chinese - California) #261 (Indian girls) Civil War (Officers tent). Tel. (416) 691-1555, Fax (416) 693-0018.

OCCUPATIONS and 1500 other selected stereo views in stock. Will trade only for Maine flat mount views - any subject or condition. Write or call for details. Elaine E. Bryant, 664 Bridgton Road, Westbrook, ME 04092, (207) 854-7075.

The REALIST NEWS - Vol. 1 No. 1 (Jan.1951), couple stains at top, otherwise Exc.; Vol. 1 No. 2 (March 1951), Exc.; Vol. IV (March 1954), Exc. +. I will trade these issues for ones that I need (Exc. + condition or better). Please let me know which you have available. Mark Wilke, 200 SW 89th Ave., Portland, OR 97225, (503) 297-7653.

VIEW-MASTER for trade, please. Send SASE for list. B. Shotsberger, 4917 Cockrell Ave., Fort Worth, TX 76133.

WOLLENSAK 10 CAMERA and viewers wanted. Have over 5000 stereoviews to trade. Manfred Schmidt, 6544 N. Oak Park, Chicago, IL 60631, (312) 631-5949, Fax (312) 631-2173.

Wanted

ALASKA-KLONDIKE-YUKON-ESKIMO-ARCTIC stereoviews wanted, also will trade these. Additionally want Washington State, Idaho, Oregon stereoviews. Please write. Thanks, Robert King, 3800 Coventry Dr., Anchorage, AK 99507.

ALFRED S. CAMPBELL views of Cleveland, Ohio (1896). Send copies or number and title, condition and price. Gary Peck, 3552 Tuttle Ave., Cleveland, OH 44111.

ANTIQUE STEREOSCOPIC photographs of the Old West and the Transcontinental Railroad. Opportunity for collectors/libraries/museums. Also interested in Western women, Native Americans, African-American, Mexican, Chinese and Japanese women. Prefer glass plate negatives. Please contact 3D Corporation, 675 Cowper St., Palo Alto, CA 94301, (415) 324-8581, Fax (415) 324-6583, email hopi@well.sf.ca.com

ANY 3-OS OF THE DOORS? Jim Morrison is desperately wanted by their largest fan club. Please help! Top prices paid! Kerry, 27 S. Sage Dr., Orem, UT 84050 or (801) 224-2230.

BASEBALL AND HOCKY stereo views, CDs, Cabinets, all Hard Images, real photo post cards, etc. Mark Rucker, PO Box 3203, Boulder, CO 80307, (303) 494-6715.

BEAM SPLITTER for 35mm camera. Also stereo views of children, machinery, or Pacific Northwest, i.e. Alaska, British Columbia, Alberta, Washington, Oregon, Idaho. George Snowden, RR 2, Site 45, Box 6, Winfield, B.C. V0H 2C0, Canada.

BLACK HILLS VIEWS. I have moved to the beautiful Black Hills and will eagerly buy or trade for local photos and books. Please help me build a great collection! Brian Bade, 13702 Mountain Beaver Way, Rapid City, SD 57702-6565, (605) 342-6067.

CAPE MAY, NJ photos (esp. stereo). All formats considered (including real photo post cards). Also, any US outdoor CDVs (1860-70 + cond. only). Richard Rydell, PO Box 132, Thomson, GA 30084, (204) 922-5223.


COLORADO and New Mexico stereo views, cabinet cards, mounted photos, etc. taken by D.B. Chase. Also xeroxies of the above needed for research. Mark Gardner, Box 879, Cascade, CO 80809.


DESPERATELY seeking real s-12 from the WWII Naval Training set. Will purchase, trade reel t-65 from same set or trade other reels from long list. Please write or call Harris Aaronson, 126 Kittredge Rd., Pittsfield, MA 01201.

ELECTRONICS ENGINEER wanted to build (2) 2x2 SLR Synchronizers. I have plans, you have the skill. Please write or phone Bernardino, Ca 92039.

EXCITING red/blue 3-D pictures wanted, any size or topic, but athletes or children or M.E. Escher art would be a wow for a toy I am creating. Tell me your price or just be kind and mail your analogies to me. I can return all and pay you for stamps and bless you for your kindness. Rob Carter, 110 W. 96 St. 7A, New York, NY 10025-6415.

FLAT MOUNT VIEWS of Russia, especially those by Russian photographers; will buy or trade. Also want to correspond with anyone interested in such material with a view to an article on it. T.K. Treadwell, 4021 Nagle Rd., Bryan, TX 77801.

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

HOLYLAND, Mideast - Buying E. Wilson, C. Bierstadt, Strong & Dotterer. Bert Zuckerman, 59 Overlook, Amherst, MA 01002.


I COLLECT 3-D EQUIPMENT! Stereo cameras, Viewers, any other 3-D related products, and books. Please contact Chang, Chih-Hsu, PO Box 42-94, Taipei, Taiwan, ROC.

I COLLECT VIEWS OF SAN DIEGO, California in Realist or View-Master format! Contact Dave Weiner, PO Box 12195, La Jolla, CA 92039.


LANGING, Ml stereoviews, photos, post cards, advertising, etc. Anything from Lansing. David R. Caterino, 9879 Biemark Hwy., Vermontville, MI 49096.

LOUISIANA and New York City stereo views wanted. Also daquerreotypes of children with toys or other just plain lovely or interesting photos in any format. Also interesting cameras. Larry Berke, 28 Marksmen Lane, Levittown, NY 11756-5119, (516) 796-7200.

LYNN SKEELS, Ravenna, Ohio, views of Airships USS AKRON & USS MACON. On grey mounts, similar to Keystone. Also want photos (any format) or ephemera of Canton Bulldogs, Akron Pros or Cleveland Panthers professional football teams. John Waldsmith, 302 Granger Rd., Medina, OH 44256.

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


NIMSLOT Battery Chamber Cover. Send information to: Anthony Angel, PO Box 1237, Hollywood, CA 90028.
WANTED

NOVELVIEW VIEWERS, strips, and advertising. Also looking for any Tru-Vue advertising materials. Contact: Tom Martin, 2510 Douglas Dr. n., Golden Valley, MN 55422-3632, (612) 591-9453.


PHILADELPHIA: Views of Wills Hospital, Washington Square, McAllister's Opticianry. Views of York, PA. Charles Letocha, 444 Rathton Road, York, PA 17403.

PROFESSIONAL DANCE - Ballet, Modern, Minstrelsy, Famous Performers. Stereo views and all other forms of photography. Mark Ruck, PO Box 3203, Boulder, CO 80307.

REALIST 1525 Accessory Lens Kit for Macro Stereo Camera.; Realist 2066 Gold Button Viewer; Realist 6-drawer stereo slide cabinet in Exc. or better condition (with Realist logo); Baja 8-Drawer stereo slide cabinet with plastic drawers marked "Versatile". Mark Wilke, 200 SW 89th Ave., Portland, OR 97225. (503) 297-7653.


SINGLE VIEWS, or complete sets of "Longfellow's Wayside Inn" done by D. C. Osborn, Artist, Assabet, Mass., Lawrence M. Rochette, 189 Woodland Drive, Marlborough, MA 01752.

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

STEREO DAGUERREOTYPES, especially European, sought in good condition. Also non-stereo daguerreotypes. Christopher Wahren, 11 Park Street Apt. 16-H, New Haven, CT 06511, (203) 772-3968.

STEREO VIEWS and photographs in any other format of streetcars in Scranton, PA or the Scranton area. Charles Wrobleski, 206 Green St., Clarks Green, PA 1841 1.

STEREO VIEWS of the Navy airship USS Shenandoah including transcontinental 1924 flight and 1925 crash. Excluding Keystone view #17402. Kent Bedford, 1025 49th St. NW, Canton, OH 44709.

TOSHIBA 3-D Camcorders, also 35mm prints of 3-D movies. Michael Starks, 3DTV Corp., PO Box Q, San Rafael, CA 94913-4316, (415) 479-3516, fax 3316.

WILD WEST WANTED! Buffalo Bill, Annie Oakley, Indians, Cowboys, outlaws, lawmen. Wild West Show performers. Western town views. Stereos, cabinets, CDVs, large photos. Please send xerox copy and price, serious buyer. Art Sowin, 8436 Samra Dr., West Hills, CA 91304, (818) 346-2171.

YELLOWSTONE N.P. by Stereo Travel Co., Numbers 1 through 4, 9, 17 & 18, 28, 33, 34, 38 & 39, 50 & 51, 57, 70 thru 75, 87 & 89. John Johanek, 4750 Rolling Hills Drive., Bozeman, MT 59715.
### Calendar

**February 4**  
(OH)  
Toledo Giant Used Camera & Computer Show, Meadowbrook Place, 4480 Heatherdowns Blvd., Toledo, OH. Contact Photorama USA, 20219 Mack Ave., Grosse Pointe Woods, MI 48236, (313)-884-2243.

**February 4**  
(SC)  
South Carolina Photo Fair, Quality Hotel, 7136 Asheville Highway, Spartanburg, SC. Contact Steve Biggs, (704) 377-3492 M-F 9-6 EST (fax (704) 331-9894).

**February 4-5**  
(FL)  

**February 5**  
(MI)  
Ann Arbor Camera Show, Sheraton Inn-Hotel, 3300 Boardwalk, Ann Arbor, MI. Contact Photorama USA, 20219 Mack Ave., Grosse Pointe Woods, MI 48236, (313)-884-2243.

**February 5**  
(NC)  
Charlotte Area Photo Fair, Government House Hotel, Charlotte, NC. Contact Steve Biggs, (704) 377-3492 M-F 9-6 EST (fax (704) 331-9894).

**February 11**  
(CA)  
Riverside Camera Show & Sale, National Guard Armory, Market and Fairmont, Riverside, CA. Contact Anton at Bargain Camera Shows, PO Box 5352, Santa Monica, CA 90409, (310) 396-9463.

**February 11-12**  
(FL)  
Florida Photo Collectors 19th Annual Major Regional Camera and Photo Show, North Miami Armory, 13250 NE 8th Ave. Contact Florida Photo Collectors, 8930 State Road 64 Suite 170, Ft. Lauderdale, FL 33318, (212) 595-2466.

**February 12**  
(CA)  
Hayward Camera Show & Sale, Centennial Hall, 22392 Foothill Blvd., Hayward, CA. Contact Carney & Co., 231 Market Place #379, San Ramon, CA 94583, (510) 828-1797.

**February 12**  
(NJ)  
Second Sunday Camera Show, Fireman's Hall, Parish Dr., Wayne, NJ. Contact Second Sunday Camera Show, 25 Leary Ave., Bloomingdale, NJ 07403, (201) 838-4301.

**February 19**  
(Germany)  

**March 26**  
(Ont.)  
Photographic Historical Society of Canada Annual Spring Photographica Fair, Queensway Lions Center, 3 Queensway Lions Court, Toronto, Ontario, Canada. Contact Mark Singer, 421 Horsham Ave., North York, Ont. M2R 1H3, Canada, (416) 221-8888.

### Upcoming National NSA Conventions

**1995**  
Atlanta, GA June 27 - July 3

**1996**  
Rochester, NY August 1-5

**1997**  
Bellevue, WA July 4-6

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### Stereographer List on Mac Too

The two-volume annotated checklist *Stereographers of the World* by T.K. Treadwell and William C. Darrah is now available in MAC format on 3.5" disks as well as DOS format. The price for either format disk is $20 including shipping. (The disk price given in the caption in the review in Vol. 21 No. 3 was incorrect.)

The hard copy versions of the over 800 total page volumes are available soft-bound for $50. Indicate which format and word program software you need, and send with check to the NSA at 4201 Nagle Road, Bryan, TX 77801.
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The Hyper-View Large Format Stereo Viewer was designed by David Lee and Michael Isenberg to provide the highest quality stereo image currently available.

It accomplishes this by using front-surface mirrors, instead of lenses, allowing the viewer to see a large unobstructed stereo image (up to 11 inches wide, or 22 inches for the pair). Because the Hyper-View Large Format Stereo Viewer allows one to perceive the entire image from the ortho-stereo position, it avoids the distortion and image degradation inherent in lenticular viewers. In addition, it improves on other mirrored stereoscopes by allowing one to get close up to view details as well as to see the entire image at once. (Pictured in Stereo World, July/August 1993, page 13.)

The Large Format Stereo Viewer is available from David Lee for $125 (plus tax for California residents). Call or write for further information.

Also available from Hyper-View:
- Stereo images by David Lee and Michael Isenberg (formats include Holmes stereo cards, Realist or 2 x 2 slides, or prints for the Large Format Viewer).
- Custom printing of your stereo images from negatives to Holmes stereo cards, slides, or large prints for the Large Format Viewer (black/white or color).
- Consultation on viewing and mounting techniques.

David Lee
1112 Santa Barbara Ct.
Sacramento, CA 95816
(916) 444-6101

Michael Isenberg
2600 Van Dyke Circle
Modesto, CA 95356
(209) 527-7593

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Keystone No. 9688, "A Cake Walk on the Beach, Atlantic City, N.J." For more stereo coverage of the shocking antics and attire to be found on beaches, see Norman B. Patterson's feature "Beaches, Belles & Bathing Costumes" on page 8.