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PANORAMA

OF AMATEUR FILM & VIDEO

SUR LE FILM ET VIDEO

The Publication of the SOCIETY of CANADIAN CINE AMATEURS / SOCIETE DES CINE AMATEURS

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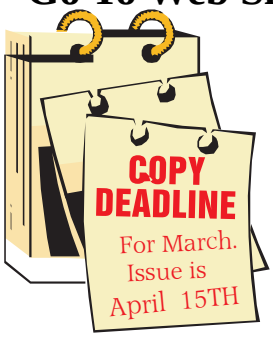

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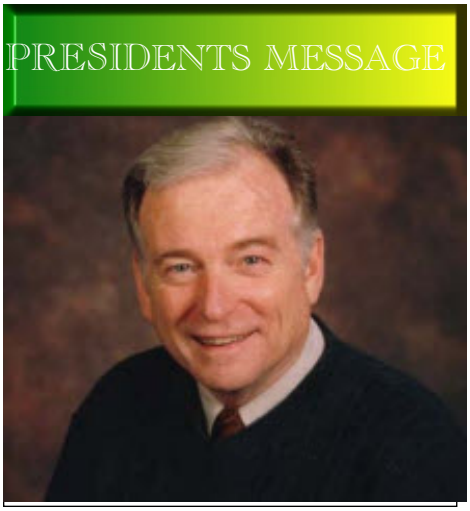


Photo by Joseph Bochsler Jr.

Fred Briggs, FSCCA

They say The Road To Hell is paved with Good Intentions. It's a good thing I don't believe in Hell! Try as I might, I never seem to be able to catch up and get PANORAMA out in the month on the front cover.

However, slow as it is, we do have some progress to report.

I kept an eye open for a good deal on two 1TB USB Hard drives, and manged to grab a pair, at $65 each, plus taxes. They're still in their boxes, waiting for me to find time to start copying all the SCCA data.

I don't see any potential problems, and I hope to be able to report in the March PANORAMA that the copies have been made and the two backups are in the hands of two different members of the SCCA Board of Directors.

While I was buying the hard drives I noticed a portable record player equipped with USB2 to make it easy to copy LP's, 45's and 78's to your hard drive. I snapped it up because the price was very good and while I have high-end audio equipment, including turntables, they are in a different room than the computers at some distance, making it very inconvenient to use with my computers.

I have approximately 50 of my own LP's of Sound Effects (I say approximately not because I can't count, but because there are a few duplicates in the collection) which have always been available to augment the SCCA Collection when a Member requests a Sound Effect. Unfortunately, I have had only a few (read two!) requests over the years, but I'll add all those tracks to the hard drive so they will be available in the future to any member who may need one, or some.

Carolyn and I, with Rick Doelle, visited the TD Bank and the Royal Bank to arrange for new signing rights for Rick to replace Thom Speechley. It was fast and easy at the TD, and he now has an ID Card for the SCCA Account, but slow and difficult at the Royal, and the card for the CIAFF Account allows him to deposit funds into the account at an ATM, but he can't make withdrawals or even see the Balance! We're still working on that.

Keith Gloster updated the SCCA Competition Rules and Entry Form as passed by the Board at their meeting in January, and they were circulated to the Board by email for approval. Briefly, the Script Competition has been dropped, the Assigned Theme this year is "The Way It Should Have Been" (please don't use that as your title as it gets very confusing when we receive several entries with the same title!), several awards have been changed from plaques to certificates and they have been made optional, and major changes have been made to the requirements for the Class D, the Garlick Trophy. Club Reps: Please study this carefully and report the changes to your club Executive. The new Rules and Entry Form will be found on pages 7 – 9 in this issue.

The new Rules and Entry Form will be uploaded to our web sites soon after this PANORAMA is distributed.

The May and July 2010 Issues of PANORAMA have been added to those available to the public on the PANORAMA page of the SCCA web sites, and the September Issue will be added soon after this issue is distributed to our Members.

The Film Archives of the University of Western Ontario was contacted in the hope that they would accept the library of winning CIAFF 16mm, 8mm, and Super 8 films, and convert them professionally to DVD copies that would be easier for us to store. After some week's consideration they decided that those films are largely outside their geographic area of interest, and they have declined to accept them. We will continue to look for a suitable home for this collection, and are open to suggestions.

We have contacted almost all Members in Arrears and most of them have caught up on their Membership Fees for 2010-2011. A few chose to allow their membership to lapse, and we were unable to contact two of them after many, many attempts. After this issue goes out, we will prepare an updated Roster of Members in Good Standing (a couple of cheques are still in the mail) and distribute to those on the list by email. We don't add it to PANORAMA because eventually that information would end up on our web site, and we don't want to advertise the phone numbers and email address of all our members.

We haven't had any offers of articles for this issue from members other than our regular contributors, but we have managed to fill this issue.

John Cook has been doing a lot or research on the internet on 3D. He realized that before you can shoot good 3D on video, you need to understand it from the standpoint of still photography. John has done a very thorough examination of every aspect of this topic, and I was pleased to see that he almost filled the available space, which was just as well, as I didn't really have much for an article for this issue.

And after reading through all of his article, and maybe visiting many of his links, I think you'll be in the mood for something lighter, so we've turned to humour for the final column! I'd seen a very funny article, "What You Can Learn From The Movies" in the latest issue of the Viewfindsclub Digital Video Club of Cupertino's newletter, so I phoned their editor, Brian Lucas, to ask for permission to reprint it. He informed me that it isn't really his, and it was all over the internet!

I searched the internet and found many variations of the material, none of it credited to anyone in particular. I guess it's like a joke – nobody knows who wrote it, they just repeat it forever after. So I pulled a bunch of them down, and I still have more for the future.

While I laughed at these jokes, I split my sides laughing at something someone sent me by email, credited to John Cleese, (the funniest man in the world, or at least in the English language, in my books), so I thought I would find his original version on his blog, or wherever, and give you the link, rather than publish it without his clearance.

I never found it. Instead I found a very interesting discussion regarding the original source of this piece on Snopes, the authoritative debunker of rumours, urban myths, and outright lies that I consult so often. Their repetition of this piece is a little short, but the information readers have supplied is very interesting, and illustrates the problem of determining a copyright holder. The entire version of the monologue as it was emailed to me can be enjoyed at an unauthorized site.

Jim Town, our Membership Chairman, has recently moved and is still surrounded by boxes. Furthermore, his computer guru hasn't yet been able to find a replacement motherboard for his computer, so I'm sending out this issue to our members, and will look after emailing you the update Membership List. ■

CLUB NEWS

By Thom Speechley FSCCA

BUFFALO VIDEO-MOVIE MAKERS

Camerama editor, John Weiksnar

The February issue of "Camerama" reported that several members at the January meeting were equal to Jon Soyka's December challenge to produce storytelling ten second videos. Also in this issue, Archive Chair John Weiksnar asks for volunteers to help with the daunting task of converting the clubs physical history to digital format for posterity. In another short article, Treasurer Eileen Beiter offers some useful hints for "voice acting" for video production. Her short article explains how altering pitch, tempo and other voice characteristics can affect the results and 'sense' of the presentation. The February meeting opened with a short musical video by guest filmmaker Joe Russell. The film featured Joe's band, the Twin City Kings. The rest of the evening was devoted to showing the films made in response to Jon Soyka's January challenge to produce productions not exceeding seven minutes and shot entirely in one room/set. Everyone was very pleased that the unexpected number of eight films were submitted. Jon's latest challenge is for members to bring to the April meeting, films of interviews and five minutes in length. John Weiksnar showed two short films, one of which featured the amazing Phantom Flex High-Speed Digital Camera. The film, shot in a Las Vegas hotel room can be seen on the internet.

HAMILTON VIDEO/FILM MAKERS

"Reel News", editor Dave Stewart

A winter storm threatened to cancel the January meeting altogether but a number of hardy souls showed up and only a few left early to avoid the worsening weather. This was also the evening the club was supposed to show their "ten second" videos, as proposed at the December meeting by Jon Soyka. Unfortunately Jon called shortly after the meeting started to advise that he couldn't make it, so the executive decided to delay the showing until the February meeting. Despite the small turnout, four members had brought videos for the evening's member participation.

The main part of the meeting was devoted to 'state-of-the-art' amateur 3D stereo videography. Fred Briggs provided members with the newer amber/blue anaglyph glasses and he and Dan Copeland showed video prepared for that format. Dan had prepared a slide show and Fred had edited a copy of the CBC feature, "The Queen in 3D", in order to remove all non-3D content. The result was a 30-minute feature. The audience was asked to make mental notes of their viewing experience for a discussion of the results at the end of the showing. During that discussion, it was evident that a small majority felt that the technique was worth further evaluation and as expected, some viewers failed to get any real sense of three dimensions in any part of the presentations. Despite this small sampling and relatively uncontrolled setting, Fred advised that he will continue to investigate this amber/blue alternative further.

INSTITUTE OF AMATEUR CINEMATOGRAPHERS

Film and Videomaker editor, Garth Hope

In the February issue of FVM, Tom Hardwick concludes his in-depth review of the Sony NX5 pro camcorder. In this and in his previous article, he compares the camera in very fine detail, with the Sony Z1, which had been his favourite workhorse for several years. Despite his initial complaints about the challenging ergonomics of the newer machine, his final "8 out of 10" score for the NX5 is based on a more full appreciation of the advantages of flash memory recording, greater zoom range and improved image stabilization, among other significant changes.

In this issue, Colin Lamb concludes his article about shooting video on a DSLR. This is a summation of his previous advice regarding the need for an adequate external microphone and the addition of some kind of "shading" device for the LCD viewer. He also makes specific recommendations regarding interchangeable lenses available for Canon cameras. In Part One of a new series, Colin offers a basic outline and technical glossary of high definition formats. A subsequent article will get into the details of burning hi-def formats to 'Blu-Ray' and DVD disks.

Mike Shaw's regular column reports on activities of the Southeast (SERIAC) group if IAC affiliated clubs. In his February article he tells us that the Epsom club has solved the problem of incompatible DVDs by the use of a 'portable media player'. Using a laptop computer, a troublesome DVD can be quickly burned to a flash thumb drive, which can then be played through the portable player connected to the TV or projector. Portable media players are becoming quite common and inexpensive. The unit in question was the "Nbox" which ranges in price from $30 to $80USD.

In the April issue of FVM, IAC Chairman Ron Prosser invites readers to visit the recently revamped IAC website. (Link at the head of this article) You will find many of the subjects dealt with here, discussed under "Forums".

In November, the Finchley Film Makers created something of a landmark event when they broadcast their regular meeting by way of Internet streaming of picture and sound. The event is described in this issue of FVM. The streaming service was provided by a company called "Ustream". A report is also available at the club's website. This unique way of reaching members and other interested viewers will be repeated after some fine tuning and could become a useful tool for other clubs.

Also in this issue Tom Hardwick departs from his usual professional subjects and offers a brief revue of the consumer model Panasonic 3 CMOS flash memory HDC-TM700 camcorder. Tom finds the camera gives excellent results and he emphasizes a few of the outstanding features, such the large knurled ring around the lens which functions as focus, white balance, aperture and shutter speed control. His main criticisms are with the questionable need for 5.1 audio recording and the constant internal fan noise picked up by the built-in mic. The rest of Tom's article includes tips for differential focus using short focal length lenses, basic techniques for beginners, the use of 'zebra stripes' and concludes with some personal observations about good and bad wedding videography. In the final instalment of Colin Lambs guide to hi-def, he describes some of the methods he uses for transcoding files, downconverting to DVD and burning completed videos. He has experienced some problems burning to Blu-Ray disc but with the software he is using, first compiling the video as an ISO file has eliminated the problem.

Once again, Mike Shaw's ERIAC review has gleaned several useful tips from member club newsletters. The Staines Video Makers suggest an interesting method of filming a two-person interview when only a single camera is available or permitted. Basically the suggestion involves shooting in hi-def in native 16:9 and then downconverting to standard definition and cropping segments so that individual subjects are framed sequentially. This gives the finished product the appearance of a properly conducted two-camera shoot. The Teign FilmMakers has identified a reasonably priced teleprompter which clamps onto the tripod camera mount. The name is "Autocue Wing 7".

This issue also contains interesting comments about the differences between CMOS and CCD performance. Philip Bridge has discovered that the 'rolling shutter' effect of the CMOS creates frame sync problems when using a CMOS camcorder to copy 8-S8 films. He recommends that we get all our old film copying done before you get rid of our CCD camcorder.

LONDON VIDEOGRAPHY CLUB

From the website

Member Rael Wienburg began experimenting with pinhole photography before he immigrated to Canada from South Africa. At the February meeting he demonstrated his equipment and showed several samples that he has created over the years. Rael is doing additional experiments using a modified current model DSLR. He

simply created an extremely fine hole in a spare body lens-mount cap. The results are quite impressive. At the same meeting, Jim Bristow conducted a short test of the membership to illustrate the value of becoming intimately familiar with the manual which came with your equipment. The test demonstrated, among other points, that the terminology used in the manuals does not always agree with the user's expectations. What does the "Program" setting do? The moral seems to be that we should always fully read the manual. At the March meeting, Kim Brown presented a very detailed slide and video show explaining the newer features of the Adobe Premiere CS5 media suite. Of the more impressive utilities, the audio noise reduction and the image stabilizer received the most comments from members. You can see how the stabilizer feature works by visiting this site: Check the Adobe links. There is also an excellent series of Premier CS5 tutorials

Member's videos that evening included a wintertime visit to Resolute Bay by Wilf Rice to do an FM antenna installation, a part of a Pacific cruise to the Philippines by Ron Jacob and a slideshow by Paul Armstrong.

OTTAWA FILM & VIDEO MAKERS

From an e-mail from Connie Nozzolillo

Meetings from September to November were devoted to production of a club video, the unrequited love of a vampire. Chromakey and other special effects were employed to create the appropriate atmosphere. Following the club's annual December Christmas dinner, the finished project was shown at the home of member Amina Ismaili. The remainder of the meeting was devoted to the judging of seven videos submitted by members as part of the annual competition. Contributors were Connie Nozzolillo, Helen Gruber, Bob Bayne, Ian Firth, Reinhard Beuhling and Wayne Schaler. A panel of judges was selected from non-participating members. Of the seven shown, the feature, "Mediterranean Cruise" by Bob Bayne took the top award.

VIEWFINDERS DIGITAL VIDEO CLUB OF CUPERTINO CA.

"Newsletter" editor Brian Lucas

At the club's February meeting, Frank Swanson showed six selected films from two North American international competitions: Four from the 2005 CIAFF and two from AIFVS. In the current issue of the "Newsletter", Frank Swanson also contributes the helpful article, "Technical Tips". The brief article covers everything from basic rules of composition to the frequently neglected subject of selecting a suitable background. For instance, this helpful advice:

"***6. Room to Move***: From a static position of a person, anticipate all possible movements whether it's a sudden lean forward (or backward), a turn their head or shift of their weight. Will critical parts of them be out of the frame? Give a comfortable border around people to allow for slight motions without having to re-frame the shot." I can identify with a similar situation. I was asked to tape the dedication of a public monument and by first assuming I knew what was going to happen, I discovered after the ceremony had begun and much to my dismay, that I had located myself 180 degrees from all the action! Everything was happening on the other side of the monument!

WINNIPEG AMATEUR MOVIE MAKERS

"Bulletin" editors, Wallace and Jeanette Robertson

The "Bulletin" is now being e-mailed to select members and other recipients. SCCA is pleased to be on their list.

The first member's video shown at the January meeting was of a two day African safari by Louis Villa. The 18-minute production included helpful commentary and descriptions of the nature subjects shown. Unfortunately due to time constraints only a portion of a video by Debbie Degryse Clark could be shown that night. The rest will be featured at the February meeting. This is a very sincere telling of her family's story using slides and old stills with appropriate music from the early forties through the later years. To close the evening, Norm Frederickson continued his showing of a commercial documentary of the many features of Las Vegas.

The February issue records the passing of three notable public figures who were former club members. Annette Treble became the first Canadian officer in the British Information Office in Winnipeg. Queen Elizabeth awarded her the MBE. Perhaps a more familiar figure to Canadians was Ken Davey, for many years the official photographer for the Winnipeg Blue Bombers. David Ritchie, the uncle of club President Al Ross was also among those remembered. He served in the RCAF and was commended by the Commonwealth Air Museum for his wartime contributions at the Rivers Air Base.

The March meeting included a further viewing of the two-disk set of family memories lovingly prepared by Debbie Degryse Clark. The satisfaction that all viewers felt while watching Debbie's presentations prompted the editor of the Bulletin to point out the value of this kind of production in preserving family history. The advantages of the video format with appropriate commentary and music is certainly a great improvement over the dusty old family album. That evening John Charrette showed a video of a portion of the trip he and his wife Caroline made to Hawaii and the South Pacific. The production includes a slide show of much of the culture of the islands and their people. While introducing his work, John told an amusing anecdote about apparent confusion with the dates while editing his video footage. He then realized that the clock in the camera makes no automatic allowance for crossing the International Date Line in mid-ocean. You gain or lose a day at that point. ■

2011

SCCA ANNUAL COMPETITION

ENTRY RULES – CLASSES - AWARDS

1. Open to all Canadians. Open to nonCanadians who are members of the SCCA or of an SCCAaffiliated club.
2. Only **amateur** film/videos are eligible. A film/video is considered amateur when the producer has no financial or commercial object in making the film/video, and when it has not been the subject of any sale or rental agreement prior to entering the competition. Also there must be no direct professional help except for the use of professional services which do not affect the creative values of the film/video such as conversion to DVD, etc.
3. **The use of unauthorized copyright material for public performance is prohibited by law. The clearance for use of all submitted materials is the sole responsibility of the maker of an entry,** and shall not be the responsibility of the Executive and/or Officers of the SCCA, the Contest Chairperson, or the Judges.
4. Films/videos may not exceed 30 minutes in length.
5. Nonmembers shall pay an entry fee of $15.00 for each film/video entered. Individual members and clubs shall pay a fee of $10.00 per film. An individual may submit up to three films if the individual is the creator of each.
6. Competition entry forms must reach the contest officer not later than June 15th. The entry fee, made payable to "Society of Canadian Cine Amateurs", must accompany the entry form. Please ensure that your entry form(s) are completed with all appropriate information and accurately identified, to avoid your entry being misplaced into an erroneous category.
7. Videos should be sent by registered or insured mail courier.
8. Entries may be submitted on VHS Tape, miniDV Tape, or DVD.
9. It is a condition of entry that award winners will consent to have the film/video screened at the SCCA Annual Convention and other SCCAsponsored screenings.
10. The best possible care will be given by the Society to all entries. The S.C.C.A. and Contest Officer bear no responsibility for the loss or damage to films/videos, either during judging or subsequent showing. The films/ videos are entered entirely at the entrant's and/or owner's risk.

DO NOT SEND YOUR ORIGINAL COPIES OF FILMS/VIDEOS

NO ENTRIES WILL BE RETURNED!

DIVISIONS OF THE COMPETITION

Class "A" (Advanced) –The Betty Peterson Memorial Trophy is awarded for the best film/video submitted in the competition at the advanced level. Rules 1 – 10 apply – there are no further restrictions in the competition.

Class "B" (Intermediate) – The Toronto Film and Video Trophy is open to individuals or groups of individuals who have not won an award in a class higher than "Intermediate" in this or any other competition, and have won no more than two first place awards in an Intermediate class of a competition other than club contests. An award in a competition without class levels, such as the CIAFF, will be considered to be an award above the Intermediate level.

Class "C" (Novice) – The Eumig Trophy is open to individuals or groups of individuals who have not won first place in the Novice class of this competition or an award in a class higher than Novice in this or other competitions, other than club contests.

Class "D"– The Garlick Trophy This award is given for the best groupeffort produced video, involving three or more participants, from either an SCCA Club, or a nonaffiliated group. Each group may submit one entry. An individual may not submit a film/video him/herself, but the film/video entered by the club/group may be an individual's film, a group film/video, or a club's film/video, preferably the winner of the club's annual contest or the best film/video shown at a club meeting during the year. **It is required that the submission be produced within the organization, represents the work of three or more members, and has been completed within two years prior to the closing date of the competition**. The names of each participation shall appear in the "credits" of the submitted entry.

Class "E" – The InterCity Trophy is open to individuals or groups. The theme or title selected for this competition is **COMPULSORY**. Film/video length may not exceed **10** minutes. An entry in this class is not admissible in another SCCA class in the same year, with the exception of the Garlick Trophy, but will be eligible in another year. The themes are published each year in PANORAMA. For the year 2011, the theme is "***THE WAY IT SHOULD HAVE BEEN***".

Best Film/Video of the Contest — donated by Ben V. W. Andrews and to be known as the BEN ANDREWS TROPHY, this award is for the film/video that in the opinion of the judges is the most outstanding film/video in the contest.

OPTIONAL CERTIFICATES

The following award categories are OPTIONAL CERTIFICATES and shall be awarded recognition if deemed by the judges to demonstrate appropriate features for the award.

"Most Humorous Film" — The SCCA Trophy for Humour will be awarded if, in the opinion of the judges, an entry in Class "A", "B", or "C" merits recognition for its amusing content.

"Best Visual Special Effects" —The SCCA Trophy for Visual Special Effects will be available to all classes if the judges find that an entry merits this special recognition.

"Best Cinemaltography" – The SCCA Trophy for Cinematography is available to all classes, and it will only be awarded by the judges if an entry merits it because of its technical and artistic qualities.

"Best Use of Sound" – The SCCA Trophy for Best Use of Sound is presented for the entry which, in the opinion of the judges, has the quality and choice of sound which contributes the most to the success of an entry in classes "A", "B", or "C". (Note that commercially or professionally recorded music is not eligible for judging for this award, even when cleared to comply with Rule 3.)

"Best Editing" –The SCCA Trophy for Editing is awarded for editing in classes "A", "B", and "C" if, in the opinion of the judges, the editing makes a significant contribution to the interpretation of the theme.

"Best Teenage Production" – The SCCA Trophy for Best Teenage Production is attainable by persons under twenty years of age. It will be awarded if, in the opinion of the judges, the entry demonstrates the film/videomaking potential of the young entrant by its construction, originality, technical qualities, awareness and observance of recognized filmmaking rules. It should have a clear theme or message and hold the attention of the viewers.

"Best Scenario Video" – The SCCA Trophy for Best Scenario is available to all classes, and is awarded for the best Scenario film/video, which demonstrates, in the opinion of the judges, a superior scenario production, (a film/video with a preplanned and prescripted story or plot).

"Most Original Movie" – The SCCA Trophy for Originality may be awarded for an entry that, in the opinion of the judges, has the most original treatment.

SCCA ANNUAL COMPETITION 2011

Entrants **Name** _____

Address _____

City _____ **Prov./State** _____

Postal/Zip Code _____ **Phone** (____) _____ -_____

Country _____ **FAX** (____) _____ -_____

Age [ ] under 20 [ ] 20 or over **Email** _____
(There is a special award for entrants under 20.)

Title of Entry _____
(Include an English or French translation if necessary)

Class REQUIRED – INDICATE THE CLASS FOR YOUR SUBMISSION!
[1] Advanced (A) [2] Intermediate (B) [3] Novice (C)
[4] Garlick - Club (D) [5] Compulsory Subject (E)

Format Information VHS _____ MiniDV _____ DVD _____

Public Presentation
NOTE RULE 9. It is a condition of entry that award winners will consent to have the film/video screened at the SCCA Annual Convention and other SCCA sponsored screenings.

DO NOT SUBMIT YOUR ORIGINAL COPY. NO MATERIAL WILL BE RETURNED

Amount of entry fees submitted $ _____

All entry forms and fees **MUST** reach the chairman by the 15th of June! The films or videos must be sent AIRMAIL or PARCEL POST, NOT air cargo, PREPAID to BRANTFORD, Ontario, Canada, and reach the Contest Chairman by June 15th.

Address: Mr. K. Gloster
10 Seneca Cr.
Brantford, ONTARIO 1-(519) 752-5745
CANADA N3R 1K2 Email: *keithgloster1@rogers.com*

I have read the rules of the SCCA Annual Film and Script Competition and agree to be bound by them. I enclose my entry fee which I understand is non-refundable.

Date: _____ Signed: _____

3D or Not 3D

By John Cook

INTRODUCTION

Interest in 3D is surging again. It's a fascinating and complex field. This article weighs the different options found surfing the Internet from the standpoint of the photographer. How can we get to play with 3D, without a major financial hit? Every approach has significant disadvantages detracting from the 3D experience. Which approach has the least pain? Taking the time to master shooting and viewing 3D stills makes sense before shooting 3D video.

In this article I'm going to cover viewers, cameras, 3D theory and the software that lets you put it all together. The 3D theory will tell you what you need to know to get good 3D without the eye strain and headaches. Making it look real is an illusive goal.

The 3D fad of the 1850s means 3D is almost as old as photography itself. If we discount the portraits, the format of the U.S. Archive photos of the American Civil War is more than a staggering 50% in 3D! You might well say that 3D has gone downhill ever since. People back in those days didn't mind going out of their way to experience 3D, while today, people can't stand being inconvenienced in the slightest way.

Why Not?

Trying to select which method to *Shoot* 3D is challenging because the equipment and services of the many existing equipment "standards" lie scattered like wrecks about the world.

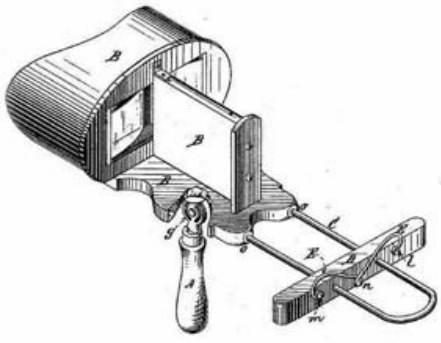
The Internet certainly eases our quest. While a couple of major 3D Internet sales sites are unresponsive, I've found most of the functional ones are one-man bands. The advantage is that you get to talk to the experts. The disadvantage is you don't know when the vendor will get around to completing your order and shipping it. There's still no sign of an order I placed three months ago with a "next week" shipping promise.

It seems the do-it-yourself generations are dying off.

Shooting good 3D is a major technical challenge, with more pitfalls than you can imagine.

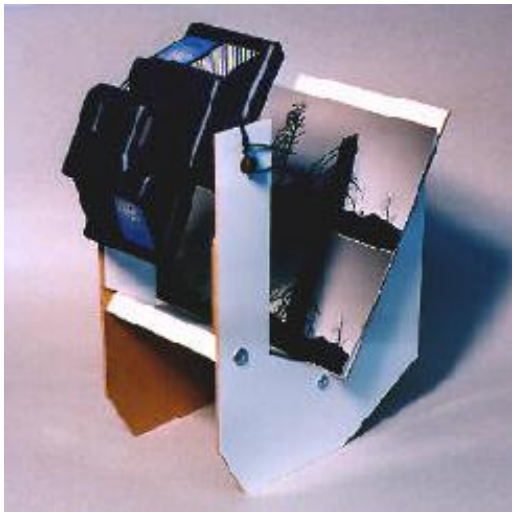
VIEWERS

The earliest popular 3D viewer is the 1861 *Holmes*. It's still the most popular standard of the print viewers. The cards are 3.5" x 7" with 2 images side by side, and they are viewed through a prismatic lens. The lens would bring the pictures into focus and the prism would converge the images into one. The glass lens varieties, always done in fine wood, sell for over $300. Cheap cardboard and plastic lens versions are available. In use, as a 3D photographer, you'll be trimming and trying to align prints and gluing them onto cardboard -- inconvenient.



You can also view Holmes prints using your bare eyes, called *free-viewing*. The trick is to look straight ahead (at infinity) to keep each eye seeing its respective image, while focusing a foot away. One instinctively focuses at infinity when looking straight ahead, so it's a challenge for most people. If you are short sighted and the furthest you can focus is about a foot, it's a piece of cake without your glasses, as when you wear glasses and your eyes are looking at infinity, you actually focus at a foot away – perfect. A pair of reading glasses from the dollar store allows you to view from a closer distance and really get into the virtual reality. Get at least a 3 diopter.

Another viewer approach is the *ViewMagic* ($50), which uses front surface mirrors to do the convergence like a pair of opposing periscopes. Its pair of pictures are placed one above the other, allowing heights of 5" and widths of 10" per image. Unfortunately, the seller doesn't respond, and another vendor doesn't expect delivery till April – limit one per customer.



The Pokescope ($40) uses a pair of prisms, simply to adjust convergence on side-by-side images. It can be used to view side-by-side prints, slides or video images. I guess 3D pokes you in the eye -- hence Pokescope. After 3 months, I'm still awaiting the arrival of my pair.

There's also a whole slew of cardboard cheap viewers using plastic lenses for all manner of formats.

Transparency viewers are available for everything from tiny *ViewMaster* to 120 (2 1/4" square) formats. Again, you'll be doing a lot of trimming and sticking to mount your images. You can even duct tape together a couple of slide

viewers to see pairs of 3D shots taken with your 35mm film camera.

Projectors. The most common approach is for a pair of carousels ($25 at the flea markets) and 35mm slides shot from 2 cameras. Unfortunately, 120 projectors are still very expensive.

Polarization is typically +/- 45 degrees. Decent glasses are $8. Projector polarizers are $15 for a pair of 3x3, $25 for a pair of 4x4. The catch is heat absorbing glass to protect the polarizers ($200 for 3x3, $300 for 4x4). I think you could rip some out of old darkroom enlargers, but I don't know if they'd be flat enough. Maybe a cooling fan would cool down the filters enough.

You also need a metallic reflective screen to preserve the polarization. I tried spraying a lenticular screen with aluminum paint once, but the finish was very spotty.

See Berezin Stereo Photographic Products for all types of 3D glasses and polarizers.

Viewing 3D on Digital Displays

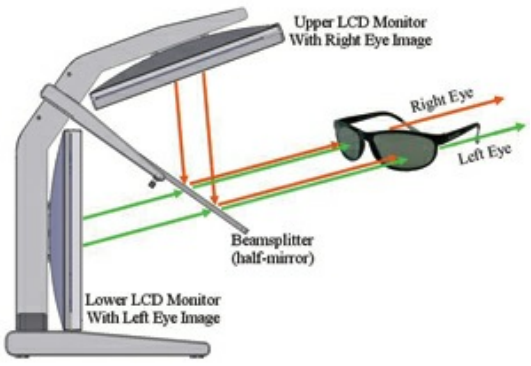
Shutter Glasses are used in the recent LED and Plasma 3D HDTVs as well as DLP based 3D projector systems. They have major compatibility issues. Well over $100 a pair is typical, though I saw the Saturday Star mention a $35 unit some months back. You can wait a while for the issues to be ironed out. Of course, by then 3D may be a dead duck.

Anaglyph, which uses two-colour glasses, is poor 3D for the poor man. The colour rendition badly suffers and the dominant red or blue hue is hard to ignore. But it does use the full screen as many people insist. Red/Blue is readily available as output from 3D software programs.

Polarized Digital 3D colour displays have been available for computers for some time. (Tektronix had them over 30 years ago). They have remained expensive because of their low volume. Their advantage is the low cost of the Polaroid viewing glasses. This is the technology common in digital 3D movie theatres as well as the Disney World 3D films. Polarized viewing glasses technology 3D HDTVs are scheduled to splash down in the consumer market this spring.

Side by Side, the dominant 3D print format through the ages is readily adaptable to computer and HDTVl Displays and readily viewed with a Pokesope type viewer. If viewed on a 16:9 screen, each image will have a near square 8:9 format. Remember to adjust your position for the best effect.

There are various approaches for using two identical monitors.



Some use front surface mirrors so each eye sees the appropriate monitor. Beam splitters can be used so the viewer is less position sensitive.

Another approach is to use two identical monitors facing each other. The idea is to locate two 45 degrees mirrors between them so you view each with only one eye. Front surface mirrors would be desirable.

The 3D PC monitors with shutter glasses and 3D video cards that came out last summer have all but disappeared from the marketplace. You may have better luck finding 3D laptops.

CAMERAS

Single Camera 3D

Whether film or digital, you can shoot 3D stills with a minimum of one camera, not less. Take your first shot, move to the side and take your second shot. If you do it hand held, you typically shift your weight from one foot to the other. This technique is commonly referred to as the “Cha Cha” method. If you use a tripod, you’ll need a rig to move your camera side to side. A couple of pieces of stable Baltic Birch plywood and 1/4-20 bolts and Tee nuts will do the trick. Single camera 3D suffers from any motion in the scene in the time it takes to shoot the shots. Even leaves, or a tree branch moving in the wind, ghosts the 3D image.

Twinning Still Film Cameras

You need two identical cameras to start. Film based 35mm SLRs sell for as little as $20 these days at the flea markets. Fabricate a mount with adjustable inter-lens spacing. A tripod is desirable. Twinned cable releases are available but they’re priced over $100. If you want to shoot with flash, darken the room, open shutters, dump flash and close shutters. You could go off on a wild goose chase by making up a rig that uses a gun hammer-type mechanism to actuate two cable releases. You may be able to synch electronic flash at reasonable shutter speeds after fine tuning it with an oscilloscope. You could do that.

Twinning Digital Still Cameras

Ditto for camera mounts as above. A remote allows you to fire somewhat simultaneously. Remember how unreasonably the trigger delay varies from shot to shot with many digital cameras. DSLRs are better in this regard. I’m playing with 2 HD camcorders that have 6 Mega pixel still capabilities and firing them both with a single remote. Flash is a lot more challenging as you need to illuminate both images from the same light source. The two built-in flashes will make different shadows in each image - not natural.

Rob Crockett has designed controllers that plug into the LANC socket of select Sony digital still cameras and camcorders. There is also a version for select DSLRs. These devices synch the two cameras to within 1 msec, with an output to fire an external flash unit. The synch offset is displayed on the unit. If it drifts off, you simply hit the resynch

button (a common power button). These units also control the zoom of both cameras synchronously. The $[486 Sheppard Controller for Sony cameras] is available now.

Twinning Video Camcorders

It's claimed you can shoot synchronized video picture and synchronized zoom HD 3D video on two Sony camcorders with the $486 Sheppard LANC Controller device! Don't forget to clap as you start each scene. [Magix Movie Edit Pro 17 Plus] can accept a two camera input for 3D (SD & HD) and output most 3D video formats.

Beam Splitters

As well as being used for overlaying displays, beamsplitters allow for the closest effective inter-ocular distances, regardless of the camera sizes. In the illustration, one Red Cam is shooting horizontally through the half-mirror, while the other, looking down, sees the scene via the half-mirror reflection. [Technica3D.com] supplies these $$$ devices to Hollywood and 3D broadcasters.

3D Film Cameras

Good 3D film still cameras run $3K and up.

There are the cheap Russian, Ukrainian and Chinese 3D film cameras that all suffer from lazy shutters, lousy lenses and light leaking bodies. Here's a site that explains [how to fix up the Sputnik].

Antiques are risky – the ViewMasters, the Reveres, the Kodaks etc. The good ones sell for antique prices and have questionable reliability.

3D Lenses for SLRs and DSLRs

[Loreo] lists a family of stereo lenses available for select film and digital SLRs. These assemblies, used in place of your usual lenses, consist of periscope type front surface mirrors feeding the horizontally displaced images to two plastic lenses which then form the two side-by-side images on the film/sensor. f stops are limited to f11,16 and 22. Maximum depth of field is necessary for realistic 3D (see 3D theory below). Focus is via a slider from 1.5 m to infinity. Macro versions with closer inter-ocular spacing are also available. Prices range in the $100 to $150 area. See what's available [here].

3D Digital Cameras

The **Fuji W3** at $500 shoots 10 Mpixel 3D stills and 720p 24fps 3D video. In still mode it allows you to take one side first, then ghosts it's image on the screen so you can line up the other side at a wider distance. It also allows you to shoot each side simultaneously with independent settings (shutter speeds, exposure, digital effects etc.) I found its lenticular 3D screen to be, a bit of a joke – bad. The camera has no image stabilization. You cannot zoom while shooting video. The small battery has very limited life. The 3X zoom is limited. You're still stuck like everybody else with how to view your pictures and unless you have a $4k 3D HD TV, how to view your video. You can get lenticular prints from Fuji, but they're also a bit of a novelty item. The whole sales team at Henrys felt let down by this camera. Its best sales are off the Internet, sight unseen.

Sony apparently also has a 3D still camera, but it's out of stock. There are also the usual bunch of cheap 3D video/still cameras available - I'm sure casual photographers would think them just fine and then forget about them.

For video you have the Panasonic 3D HD camcorder for $1500. You can remove the detachable 3D lens (no zoom in 3D) and shoot normal HD with zoom - probably expected to be the more popular default. Good luck finding one, or even a review of one.

Film to Digital Conversion

Film 3D is finicky, in that you'll have to do your own trimming aligning and mounting, a major do-it-yourself enterprise, with no end of pitfalls. With digital, *StereoPhoto Maker* does that all for you automatically!

If you're using film cameras, you can always digitize the film images with a scanner or digital camera with a slide copy attachment. Then you can take advantage of the convenient 3D processing software and digital viewing to improve your 3D photography skills.

IMAGE QUALITY ISSUES FOR 3D

I've been playing with 3D using my twin Sony HD camcorders taking 6 Mpixel stills, and triggering with the remote. I viewed my 3x3 colour laser prints using the free-viewing technique. I was surprised that 3D is a lot more sensitive to picture quality. While the individual prints look good to the eye, in 3D there is a lot of noise visible. 3D free-viewed on the PC monitor is really noisy. I've read that ink-jet, laser or offset printing are not of acceptable quality for 3D. Photographic prints are superior to printers, and transparencies are significantly superior to photographic prints. The best quality is from 120 transparencies - the equivalent of 120 Mpixel digital images - and is significantly superior to 35 mm film slides.

Fortunately, video, because of its motion, tends to mask its poor individual frame quality.

SOFTWARE

The Freeware software *StereoPhoto Maker* appears to be the benchmark for 3D still images. It appears to originate from the academic research crowd, as it does everything and more. It's obviously written by really, really good programmers as the complex program is only 700 KB. The help file is 22 MB. PC only - it's science, not art. There's also an extended family of FREE 3D software available such as StereoMovie Maker etc.

StereoPhoto Maker allows you to combine two images to make a stereo image in any of the formats. Besides the usual

Photoshop tools, it will also correct distortions caused by out-of-square and poorly aimed cameras, lens distortions and produces clean window frames. Batch processing is supported and the corrections can be done fully automatically, if desired. This automatic feature is especially attractive if you don't know what you're doing when you're starting. There are many how-to-guides available, but I recommend you start with John Hart's – see below.

Pokescope sells an entry 3D software package for $10 when you buy a Pokescope, but otherwise charges $100 for their full feature "professional version".

For 3D video editing, Magix Movie Edit Pro Plus will accept most 3D inputs, including individual cameras and output most 3D formats. At $40 when on sale at Staples, it is an exceptional deal.

HOW-TO-GUIDE

An excellent guide: *GETTING STARTED IN DIGITAL TWO-IMAGE 3D PHOTOGRAPHY* by John Hart of the Program in Atmospheric and Oceanic Sciences at the University of Colorado Boulder, CO 80302, is available at this link.

John shoots with a pair of Sony digital cameras synchronized with a Sheppard controller. He shows his home constructed camera mount. He gives some basic pointers on shooting, and an excellent introductory tutorial on using the powerful *StereoPhoto Maker* Freeware. There are, of course, samples of his work.

3D THEORY

Much conflicting information on 3D is available on the Internet. The best site I've found was from a reference on Wikipedia from the Durham Visualization Laboratory.

I found basic 3D science clearly and accurately explained there. They also use *StereoPhoto Maker*.

3D has more technical requirements than proper exposure and composition. Firstly, the images should not fatigue the eyes and produce headaches. Then it would be nice if the image was realistic. Eye, there's the rub, as viewing distances and angles affect the realism of the image.

EYE COMFORT CONSIDERATIONS

1. Real World vs. 3D Images

In the real world, our eye focus and convergence are locked together. When we look at something close, our eyes focus close and converge to superimpose the image. When we view a 3D image we need to always focus on the same display plane, while at the same time converge our eyes independently of focus for every object.

In the real world, our eyes examine the scene and focus and converge on every item in it, seeing each item clearly. In a 3D image, we tend to do the same, trying to examine each object. If there is an out of focus object we converge on it and then we will try to focus on it to no avail, causing eye strain. So it is important to try to keep all objects in your 3D image in focus by maximizing the depth of field.

2. Camera Convergence a NO NO

When we look at an object, both eyes aim at it. The logical extension of this fact is to aim both cameras at the subject. Surprisingly the resultant 3D image produces eye fatigue, because there is a fundamental difference in the construction of the eye and a camera. The eye has a spherical retina, while a camera's sensor/film is flat. If the cameras are both tilted towards the subject, perspective will cause opposing, side to side keystone distortion of both images. The heights of objects to the side will not be the same for both eyes. This will result in eye strain in all off centre areas of the scene. So the first rule is to keep the cameras parallel and ignore camera convergence advice.

The figures represent a close-up setup for illustration of the problem.

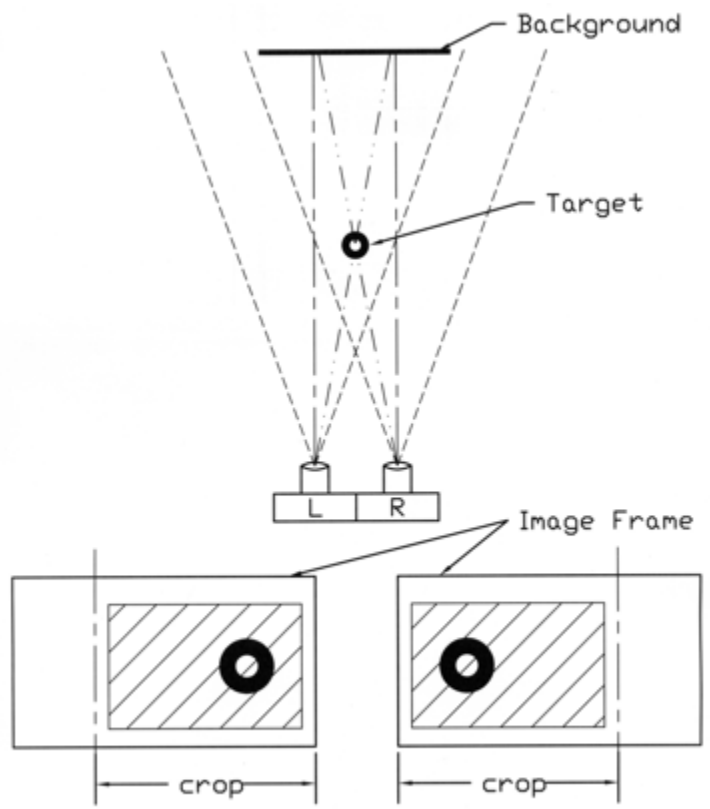


Figure 1 – Cameras Parallel

Figure 1 illustrates the cameras set up parallel. Because they are parallel, the background rectangle remains a rectangle in both images. The target shows significant convergence - you'd be crossing your eyes somewhat to see it. If the images are cropped as shown, the background would appear at screen depth with the target in front. For least eyestrain, the background would be set up offset at eyeball spacing so it would appear at infinity, and thus the target would not require as much eye convergence (cross-eyedness).

Figure 2 illustrates the cameras set up angled towards the target. The first problem we notice is that the target will now appear at the plane of the screen, while the background will appear so far behind as to require our eyeballs to diverge. Major strain for most people. The second problem is the cameras are now not parallel to the background and thus the background will be smaller the further away it is (keystone). The further we get off the centre axis, the greater the height difference of the two images of the background, defying

our brain's attempts to superimpose the two images. Our eyes and brain are not used to trying to reconcile this image distortion. We will either get a headache trying to converge the images of the background, or one eye system will simply turn off and we will see a two dimensional image. The cropping required will also be more severe in the figure 2 setup. In figure 1, the amount of cropping of the background required will be the camera lens spacing distance, which will be very little on a background 100 feet away.

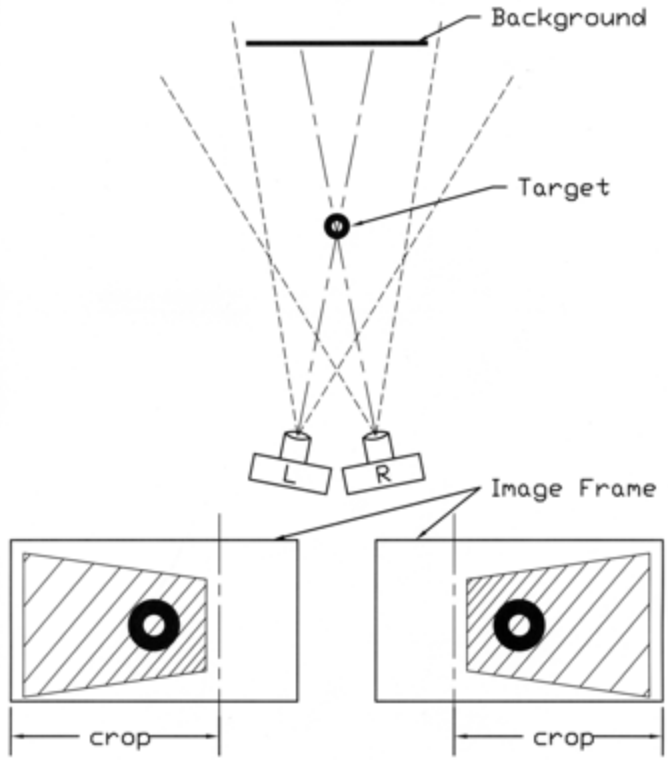


Figure 2 - Cameras Angled

In figure 2 the camera angles significantly increases the cropping required.

3. Display Restraints

There are limits to how far a viewer can converge and diverge his eyes. Most people find it very uncomfortable to diverge their eyes beyond parallel and there is also a limit of comfort for how far they can cross them. The closer they are to a display, the more convergence and divergence will be required for the same 3D image. For example, for a 26" HD display viewed at 1.4 meters, a viewer can readily converge images 12 cm in front of and behind the display. At a distance of 2.8 meters, he would be able to converge images of ±24 cm. Good luck figuring out the restraints for 3D optical viewers for slides and prints.

4. Subject and Camera Restraints

So for a known display and viewing distance, the first rule is to keep the subject matter within the comfortable limits of the viewer. Unfortunately, besides the distance of the subjects relative to the camera, there are other parameters that directly affect this display range. The divergence is affected by subject distance spread, closeness of subjects, lens focal length, with film/sensor size and with camera spacing.

5. Controlling Divergence

There is a spreadsheet available for calculating the maximum camera spacing allowed for eye-comfortable viewing after we input all the relevant display (diagonal and viewing distance) , subject (distances from camera) and camera information (lens focal length and sensor/film size). The web page gives user instructions, download instructions and a link to the research paper. We can calculate the maximum lens spacing, but how do we determine the ideal spacing to use for realistic 3D images?

6. Image Distortion

In the real world, the images of any two lenses will not coincide as well as they should, and the image distortion and keystone effects throughout the image will strain the eyes. Programs like *StereoPhoto Maker* can automatically correct this distortion.

ACHIEVING REAL LOOKING 3D

1. Lens Spacing Considerations

How do we get the most natural 3D image possible? A good reference setup would be to shoot a scene with our eyeball spacing used to space the standard 55 mm lenses of our 35 mm slide cameras. To view the image, we would project the slides with 55 mm projector lenses with the same lens spacing between the projector lenses as we shot. If we stood right at the projectors, we would expect the same 3D image as photographed. Right off the bat, 55 mm slide projector lenses are very hard to come by, and it's a rare projector, let alone camera body that allows 6.5 cm lens spacing. So our reference setup is difficult to say the least. Besides, only the projectionist is expected to be right beside the projector.

For average distances of 3 to 4 meters, most people think that, as normal eye spacing is 6.5 cm, we should start with that camera lens spacing. But we know that the focal lengths and film/sensor size affects the 3D image. Besides, the display parameters and viewer distance also directly affect the 3D image perceived. The problem boggles the mind.

What we do know, is that if we spread the cameras more, we will exaggerate the 3D effect (convergence), and the image will seem more like a miniature model rather than the real thing. This is called the Lilliputian effect (from the miniature people in Gulliver's travels). Gulliver had very wide eyeball spacing compared to the Lilliputian's world. Wide lens spacing is deliberately used to advantage in aerial photography to better see ground contours. Often the aerial survey photographs are taken a mile apart and you can make out the smallest molehill through a stereoscopic viewer. You may have noticed that from in airliner at 30,000 feet, the ground looks relatively flat. A scale model of anything, because of your relatively wide eye spacing looks like a model, not like the real thing.

So what is a 3D videographer with a 20:1 zoom lens to do? To do it right, he should first define the viewing parameters. He would need adjustable lens spacing, which he would vary with focal length and focus distance. Everything should be

controlled with a computer, if he only knew the formulae and the display specifications.

It's small wonder that 3D Avatar was shown in controlled IMAX theatres and for good measure was of an imaginary world with imaginary creatures and plants. It's the only way to get people to say "It looked so real!" as they have little familiarity with what they were seeing.

2. Window/Cropping Effects

3D presents us with a boundary condition, unless we have a large IMAX wrap around screen and cannot see where the image ends. So we compromise and make the image appear as if **framed by a window**. We can then make subjects appear within controlled distances behind and in front of the window. We don't want one edge of the image for one eye to extend past the image for the other eye. Persistent Ghost images around the images edges are undesirable to most viewers as they are unreal. Creating the window by cropping off the ghost edges is not all that straightforward, but again *StereoPhoto Maker* comes to the rescue.

The boundary problem is even more unreal when we use **side-by-side** viewing, as one eye will see the other eye's view and we will see three distinct images, the centre one being 3D. The 1861 Holmes viewer addressed this problem by using a "septum" which was a divider that divided the space between the two images so each eye saw only its intended image - no triple view. Incorporating such a black wall going from the centre of the display to the centre of our Pokescope viewer to view a side by side 3D image on a PC monitor or HDTV is rather terribly inconvenient in this day and age, so we accept the unreality of this predicament of triple images.

LONG TERM PROSPECTS FOR 3D

All does not bode well for the future of amateur 3D because of its inherent complexities. Once the novelty of first seeing 3D images gets overwhelmed by eyestrain, enthusiasm wanes. Even with good 3D, some people will complain that it's just a gimmick, doesn't look real and just adds a distraction to the story – just not worth the bother. I fear amateur 3D will be left to a small group of 3D fanatics, never again achieving its roaring popularity of the 1860's.

If we look at the history of storytelling, we start by the fire at nighttime listening to stories of mythical creatures that lurk in the shadows. Our imaginations run wild. Man progresses to reading books and many times pauses, looks away from the distraction of the written word and off in the distance, pictures what he has just read. He progresses from drawings to photographs to movies. Every step of the way he complains that the next step was not as good as the ones preceding, because it stifles the imagination and isn't the picture he envisioned when reading the book. 3D is just another step along this path.

Nevertheless 3D has great potential as another tool in the artist's tool bag. It is as major a step as from paintings to sculptures. It is a very powerful tool for the imaginative and creative artist. Getting good at it requires at least as much effort as getting good at sculpting, but sculpture has had a head start of millennia. ■

WHAT WE LEARN FROM HOLLYWOOD

ANONYMOUS

1. When they are alone, all foreigners prefer to speak English to each other.
2. If you are being chased through town, you can usually take cover in a passing parade - at any time of year.
3. All beds have special L-shaped cover sheets which reach up to the armpit level on a woman but only to the waist level on the man lying beside her.
4. The Chief of Police will almost always suspend his star detective - or give him 48 hours to finish the job.
5. All grocery bags contain at least one stick of French Bread.
6. It's easy for anyone to land a plane providing there is someone to talk you down.
7. The ventilation system of any building is the perfect hiding place - no one will ever think of looking for you in there and you can travel to any other part of the building undetected.
8. Police departments give their officers personality tests to make sure they are deliberately assigned to a partner who is their polar opposite.
9. The Eiffel Tower can be seen from any window in Paris.
10. All bombs are fitted with electronic timing devices with large red readouts so you know exactly when they are going to go off.
11. If you need to reload your gun, you will always have more ammunition, even if you haven't been carrying any before now.
12. You are very likely to survive any battle in any war unless you make the mistake of showing someone a picture of your sweetheart back home.
13. Should you wish to pass yourself off as a German officer, it will not be necessary to speak the language - a German accent will do.
14. If your town is threatened by an imminent natural disaster or killer beast, the mayor's first concern will be the tourist trade or his forthcoming art exhibition.
15. A man will show no pain while taking the most ferocious beating but will wince when a woman tries to clean his wounds.
16. When paying for a taxi, don't look at your wallet as you take out a bill - just grab one at random and hand it over. It will always be the exact fare.
17. Should you decide to defuse a bomb, don't worry about which wire to cut. You will always choose the right one. ■