

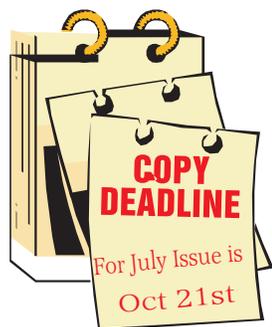
PANORAMA



CONTENTS

PRESIDENT'S MESSAGE	3	3D MOVIE MAKING BOOK REVIEW	9
Fred Briggs FSCCA		John Cook	
CLUB NEWS	4	3D TV & 2D CINEMA BOOK REVIEW	11
Thom Speechley FSCCA		John Cook	
THE BRAIN THAT CHANGES ITSELF	7	PHOTOS TO CARTOONS	14
Fred Briggs FSCCA		Fred Briggs FSCCA	

Front Cover
1812 Re-enactor
Fred Briggs
See Page 14



Editorial Board

Fred Briggs

Layout, Design
 Fred Briggs

Distribution
 Fred Briggs

2004 ISSN 1187-28207

NOTE

VACANCY!

ANY

VOLUNTEERS?

Executive Panel

Honorary President
 Christopher Chapman, C.M.

President
 Fred Briggs, FSCCA
 3 Wardrope Ave. S.
 Stoney Creek, Ontario L8G 1R9
 (905) 662-4406
Pres@sccaonline.ca

Past President
 Jon Soyka, Hon. SCCA
 119 Tyrone Drive
 Hamilton, Ontario L9C 2M9
 (905) 388-5840
jonsoyka@shaw.ca

Eastern Vice President
 Ben Andrews, Hon. SCCA
 Box 10 Main Station
 Barrie, Ontario L4M 5E1
 (705) 737-2729
EasternVP@sccaonline.ca

Western Vice-President
 David Fuller
 5328 Arbour Lane
 Nanaimo, British Columbia V9T 6E5
 (250) 751-0142
WesternVP@sccaonline.ca

Secretary
 Joan Jacquemain
 10 Westgate Circle
 Brantford, Ontario N3R 5W5
 (519) 756-3314
Secrty@sccaonline.ca

Treasurer
 Rick Doelle
 257 Athena Drive
 Stoney Creek, Ontario L8J 1T6
 (905) 578-0456
Treas@sccaonline.ca

Contest Chairman
 Keith Gloster, ASCCA
 10 Seneca Cres.
 Brantford, Ontario N3R 1K2
 (519) 752-5745
ContestChair@sccaonline.ca

Membership Chairman
 Jim Town
 540 Ingersoll Avenue.
 Woodstock, Ontario N4S 4Y2
 (519) 537-2014
Membership@sccaonline.ca

Publicity Officer
 Fred Briggs FSCCA
 3 Wardrope Ave. S.
 Stoney Creek, Ontario L8G 1R9
 (905) 662-4406
Pres@sccaonline.ca

Film & Music Library
 Fred Briggs FSCCA
 3 Wardrope Ave. S.
 Stoney Creek, Ontario L8G 1R9
 (905) 662-4406
Pres@sccaonline.ca

Honours Chairman
 Thom Speechley, FSCCA
 #19 - 295 Wilkins St.
 London, Ontario N6C 5C1
 (519) 685-6197
HonoursChair@sccaonline.ca

PANORAMA Editor
 Fred Briggs FSCCA
 3 Wardrope Ave. S.
 Stoney Creek, Ontario L8G 1R9
 (905) 662-4406
PANORAMA@sccaonline.ca

Video Librarian

VACANT

PATRONS

- T.V. Adams*
- Ben Andrews
- Jan Bekooy §
- Joan & Joe Bochsler
- Carolyn & Fred Briggs
- Ron Chappell §
- Frances Crutcher *
- Rose Dabbs*
- Elke Englicht §
- Lois* & Gordon Fowler §
- Keith Gloster
- Agnes & Adam Houston
- Stella Magic §
- Lilian McKibbin*
- Robert Moutrie §
- Betty Peterson*
- Bill Ripley §
- Jack Ruddell*
- Jim Small
- Linda Smith*
- A. Somerville §
- Thom Speechley
- Grace & Neil* Upshall
- Corporate
- BC Hydro
- Noranda Mines Ltd.

* Deceased

§ No Longer Members

PRESIDENTS MESSAGE



Photo by JosephBochsler Jr.

Fred Briggs, FSCCA

Well, here we are again, getting the May Issue out as September draws to a close! It's not for lack of trying. There are two separate things that repeatedly postpone PANORAMA. One is the many different things that continually rise up and demand my time. As a member of several historical societies, and an occasional visitor to several others, there are a large number of evenings out of the house during the months in "season". And then comes the summer "break", or rather spring, summer and fall, with all the yard work that entails.

The other is the need for articles to fill the pages. Contributors, like string, can't be pushed and they suffer the same problems I do.

My own contributions can't be pushed either: I need something to write about, and I have to wait for an event, an idea, an inspiration, something that arises from somewhere to get me going.

Last night I completed the article on *Photos To Cartoons*, but I wrote the article about *The Brain That Changes Itself* very soon after publishing the March Issue. I suggested you keep an eye peeled for a rerun of the documentary of that name that inspired that article, but last evening I noticed that that episode of *The Nature Of Things* will be screened again in September and now I'm pushing hard to get this into your hands (and onto your computer) in time for you to catch it!

I mentioned contributors. They have the same problems with other events in their lives, and recently there have been only two: Thom Speechley and John Cook.

John is a farmer, and therefore, a slave to the weather; when something has to be done, and can be done, he has to do it!

Thom has reluctantly informed me that he will have to give up his column, *Club News*, with his last report in this issue. Just when I was about to inform him that he and I each need to provide up-to-date portraits!

The clubs (who rarely meet in the summer) mail or email their Club Newsletter, or a personal letter, to Thom, and he also receives the courtesy copy of Film & Video Maker from the IAC in England six times a year. This is well worth the work entailed as Editor of Club News, as I pay £37.50 (about C\$60) every year to get my own copy!

Please consider whether you are able to take on this little job (little while we're trying to get you onboard, and big when we thank you for your service later) six times a year. We will arrange for each of the clubs to send their info to you instead of Thom, and ask the IAC to send the SCCA Copy to your address. I look after all the layout – you just have to write it and email it to me, along with any pix that the clubs may send to you.

And of course, we're always looking for people who will submit articles, rarely or regularly, once a month, once a year, or once! We don't assign subjects; you write about whatever you want to, what interests you and you think will interest others. If you have pictures, or web links, fine. If not, I'll try to get them from the internet.

Enough of the sales pitch.

Things are going well with the SCCA. I recently received the Auditor's Report on our finances, and it will be presented to the members present at the Annual General Meeting on October 14th. Before that the Charity Report will be delivered to Revenue Canada.

The AGM will again be held at 777 Highway 8 in the Council Chamber of the "old" Stoney Creek City Hall, now called the Stoney Creek Municipal Service Centre, that includes a Policing Centre, an RCMP Detachment, and a branch of the Hamilton Public Library, so watch for the signage in front of the building.

We aren't printing a map again this year because (1) most of those who will attend will have attended before, and (2) they're very difficult to construct every year. You can view maps and pictures of the building on Pages 14-16 of the September 2010 PANORAMA. Or you can use Google Maps and look for 777 Highway 8, Stoney Creek, ON. There you can vary the magnification and surroundings so you can see the highways that will most easily bring you closest to the Council Chamber. And as you

approach the building it will be handy to know that it's at the intersection with Jones Road!

No Advance Registration is necessary. Admission will be \$5 for non Members, but FREE for SCCA Members. Unpaid Membership Fees can be paid at the door.

Doors will open at 10:00 AM and coffee will be available in the Saltfleet Room adjacent to the Council Chamber.

The Program Schedule is flexible, so be there for it all. The AGM will be in the morning, and we have two Speakers: Thom Speechley will give us a demo of a free computer program that allows you to pan and zoom on your photos, and George Gerula will demonstrate HD Blue-Ray 3D he has shot himself with his own HD 3D Camcorder (with a glassless 3D viewfinder, yet). He will present some of the footage on his 3D television, viewed with shutter glasses in the Saltfleet Room, and some of it projected in the Council Chamber and viewed with the new amber/blue anaglyph glasses!

The 2011 SCCA Competition Videos will be screened in the Council Chamber, and the Awards will be presented to the Winners.

Usually we present the winning CIAFF videos in the evening, but as there was no CIAFF this year, we have an opportunity to screen a selection of some of the best films from the CIAFF archives. Longstanding SCCA Members will have seen some of them, but will doubtless enjoy seeing them again, and this will be the first opportunity our newer members have had.

Coffee breaks and Lunch will be in the Saltfleet Room beside the Council Chamber, and for Supper you will have an opportunity to revisit either the Memphis Fire BBQ that we visited in 2010 (1091 Hwy 8), or the Stoney Restaurant in the plaza at Dewitt Road that we visited in earlier years.

We will have to cut it short this year because we must all be out by 9:00 PM, an hour earlier than past years, so we hope no one will have to start home early. ■

**"THE BRAIN
THAT CHANGES ITSELF"
WILL BE SHOWN
IN RERUN ON
"THE NATURE OF THINGS"
CBC
THURS., SEPT. 29TH
10:00 PM**

CLUB NEWS

By Thom Speechley FSCCA



Club Website

In June, members received an interesting offer from the "Squeaky Wheel" Regional Artists Access Residency. This would provide an opportunity for up to four club members to have full use of this artists-run media facility. The club's regular meetings ended for the year in June, however there were informal sessions planned for both July and August. The plans for July included a casual lunch at the "Old Man River" restaurant and possible picture taking at the adjoining park. Suggested activity for an August get together was to be a trip on the historic Great Lakes cruise ship "Miss Buffalo II."



HAMILTON VIDEO/FILM MAKERS

"Reel News", editor Dave Stewart

The June newsletter contained a complete list of projected club activities out to December 2011. Highlights on the list are the annual banquet on June 2 and a harbour-cruise lunch in August. The "waterfront" outing will also include visits to other notable attractions such as the famous WW2 destroyer HMCS Haida. The regular club meeting will follow the day's activities.

The July issue featured coverage of the Annual Banquet and Awards Night. Winners included Alex Szatmary, the Halmar Award for "Eviction Notice"; First Place plaque in the General Advanced section was presented to Johnathan Garfield for his "Fred's Film Room". In a slight change-of-pace, members were invited to submit their personal preferences. The results differed slightly: The Halmar Award went to Alex Szatmary but Rick Doelle was awarded third place in

the "general" section for his "Cuddle's Travels" and Alex Szatmary received the first place position for his "Angels of Death". The Bunny Upton Award for service to the club was again presented to Manfred Ernst. One other notable event of the evening was the celebration of the ninetieth birthday of Adam Houston.

The August newsletter is devoted to further updating of the coming club schedule. In addition, President Jon Soyka pleads once again for more member participation. He requires a new club 'reporter', to record details of each meeting in order to provide the editor of the newsletter with fresh material. He also repeated his hope that more members will step forward and act as MC's for future meetings. Finally, he would like to appoint someone to act as backup for the equipment coordinator, Jim Small.



INSTITUTE OF AMATEUR CINEMATOGRAPHERS (IAC)

Film and Videomaker editor, Garth Hope

The August issue is devoted mainly to reviews of the many general and local competitions held recently. Several interesting articles feature stories about "the making of..." some of the successful productions in this year's BIAFF international competition. It helps to see the films first in order to appreciate the background offered. You can go to the IAC web site, above, open "Movies" and watch 'trailers' or full length videos of the major winners.

Also in this issue, Tom Hardwick writes a fascinating comparison of his twenty year old Canon EOS100 film camera and the current digital Canon EOS 60D. Tom's purpose in making this study is to try and answer the questions: "Have we really come that far?" and "Would I ever go back to film?" He shot a series of photos with ISO 200 colour negative in the older camera and used the same interchangeable lenses on both cameras. The results very sharply showed the differences between technologies. The film was 'warmer' but the digital picture has no grain. In any case, digital technology also allows more manipulation after the picture is taken. In the end, Tom concludes that, all

things considered, the 60D is the more versatile, economical alternative.

Howard Gregory's article this issue, deals with audio capabilities of computer sound cards. He points out that most cards are designed for minimum gain, assuming that users will frequently overload the circuit with loud inputs. He does not believe that any 'consumer' type microphone has sufficient output to record to a computer without picking up hiss and other noises. As he puts it, "the inside of a computer is electrically hostile". Small signals are easily overwhelmed by stray radiation from the exposed computer circuits. Howard offers two possible solutions, other than buying a professional level mic with higher output. A 'low noise' microphone preamplifier would be his first choice. An alternative method is to first record the sound on a digital recording device, and then feed it into the computer input. Digital signals ignore the type of interference to which microphones are subjected. He warns however that the results will also depend on the quality of the built-in mic on the recorder and recommends that cheap voice recorders be avoided.

SACRAMENTO AMATEUR MOVIE MAKERS

From Correspondence

Bad weather and health issues marred this summer's activities. Further filming of the production, "Midas Sack of Flour" had to be postponed. In addition, the server for the club's web site has arbitrarily shut down the site and webmaster Bernie Scoville is scrambling to find another suitable web service. Club meetings resume September 8th.

[The Link above is their temporary communication portal. Ed]



LONDON VIDEOGRAPHY CLUB

From the web site

In June, the club wrapped up it's regular season in the traditional party fashion, and with the showing of many members' more recent work. The feature of the evening was a slide show of stills of Lake Tahoe by Rob Wright.

The election of officers was held, with most of the present executives agreeing to serve for an additional year.



Shots & Angles

A publication of the Toronto Film and Video Club

TORONTO FILM AND VIDEO CLUB

Newsletter: Josephine Black - President



Guest speaker at the most recent meeting was Sal Greco, who teaches a Moviemaking course at Ryerson University. Sal was planning a public celebration of the 100th birthday of noted Canadian philosopher and scholar Marshall McLuhan. As part of the celebration, the club has submitted for showing at various venues, three of its more notable productions, recently rendered into DVD format. They are, "The 1939 Royal Visit", Jack Ruddell's "The Settlers" and, "The Highwayman". Another important production considered for submission was a mid-70's documentary about Toronto by Richard Vielrose, but the DVD transfer was not considered of sufficient quality to properly display Richard's skills as a moviemaker. In addition to the productions mentioned, also shown at this meeting was one of John Goodfellow's favourite travel films, a trip on the Trans Labrador Highway from Baie Comeau to Goose Bay. The newsletter included a copy of the remaining scheduled events for 2011.



VIEWFINDERS DIGITAL VIDEO CLUB OF CUPERTINO

"Newsletter" editor Brian Lucas

The June issue of newsletter reports on the fifth annual cooperative venture between the Viewfinders Club and the 3rd grade students of the Nimitz Elementary School. This unique event allowed students to show thirteen original productions ranging in subject from "Houdini's Life" to "How the Earth Was Made" and "About Tornadoes" and "Volcanoes". All these videos were made using chroma key effects, which was another unique feature for children's productions.

In this issue, Vice President Bill Mannion reviews the many modes presently used to promote club membership. Local Public Cable and newspaper ads are producing no results. Bill concludes that 'word-of-mouth' advertising is most effective and reminds members to consider the many opportunities they may have on a daily basis or by introducing a friend at the next meeting.

Frank Swanson's monthly offering of tips is devoted to travel video shooting. He highlights the use of external mics for improved sound, dedicated use of a tripod wherever possible and catching shots of features which identify your location, such as road signs. He offers additional tips about what to do even before you leave home to safeguarding your precious equipment while on the road. A diaper bag or grungy gym bag are often more valuable than an expensive Gucci-chic camera bag.

The June meeting as reported in the July newsletter featured the showing of nine productions by members. Some of the videos were devoted to preserving family memories, such as Sal Trufo's family trip to their home country, Italy, and a short documentary of their own lives, made by Reg and Betty Pickett. What makes the last production especially valuable is that the couple made it during Reg's final year of life.

VP Bill Mannion reports that in his ongoing efforts to promote the club, he was successful in getting two local newspapers, the Sunnyvale Sun and the Cupertino Courier to cover the May meeting, which featured the Nimitz School pupils' videos. The article can be read in the [online version of the paper](#).

Brian Lucas prepared a valuable article explaining the differences between regular and high-speed 'flash' memory cards. Few people are familiar with this new technology and assume that cards only differ in capacity. Brian points out that high definition video recording, on either DSLR still cameras or hi-def camcorders requires the newer, faster Class 6 or higher performance. Users should consult their equipment manuals to insure their cameras require or can even accommodate the newer cards. Frank Swanson's column this time is a continuation of his series of tips for the amateur. Here he describes the four basic camera angles, stressing how important their application can be to a more successful production.

The feature article in the August issue is a very thorough coverage of handling low light situations. From anticipating poor lighting conditions to identifying means of improving available light or, carrying appropriate accessories are covered in this helpful article. Each camera feature/control that affects light gathering is described. A companion article in this issue by Gordon Peterson explains "lux" ratings for camcorders, dealing with light balance and selecting the appropriate ISO value to maximize exposure and minimize grain. He advises getting familiar with the limitations of your camera's 'automatic' settings, so you can anticipate if manual settings may be required for a given situation.

Brian Lucas had a chance this summer to revisit a part of his past. Recalling his days in service with the RAF in Germany, he persuaded his brother in England to join him in a trip on the Rhine and Mosel rivers. Their trip was successful in allowing Brian to once again see the sites, which he now admits, are faded memories. But he makes a very good

observation that his challenge now, is to take three-plus hours of video and stills of beautiful, interesting but in some ways, repetitive scenes, and produce a finished product which in the end doesn't simply bore. He is looking for an angle. This is a challenge we might all have to face from time to time.

Frank Swanson's tips this month explain the effective control and application of depth-of-field. Several factors are discussed regarding selective focus, such as aperture, shutter speed and, finding the right compromise with aids such as neutral density filters.



WINNIPEG AMATEUR MOVIE & VIDEO CLUB
A member of the Society of Canadian Cine Amateurs Founded November 27, 1935

WINNIPEG AMATEUR MOVIE MAKERS

"Bulletin" editors, Wallace and Jeanette Robertson

The June meeting was devoted entirely to the viewing and judging of twelve productions submitted by the Ottawa Video and Film Makers. These were part of an exchange program in which each club has agreed to critique and comment on the others' efforts. Most of the videos were personal productions but three were group efforts by various club members. All three were written by B. Baynor. Travel subjects ranged from a trip through the Panama Canal to the 'Skewink Trail' in Newfoundland. The scenario productions included "Catatonia", a mystery involving abduction and a missing heir. "A Matter of Blood" is a romantic vampire story and "Friends - The Way it Should Have Been" is about two ladies reminiscing about their former friends and past marriages. All the videos were well received and viewers' ratings and opinions have been sent to the Ottawa club. ■

WANTED!

VOLUNTEER
TO RECEIVE
AND REPORT
CLUB NEWS

APPLY WITHIN

THE BRAIN THAT CHANGES ITSELF

by Fred Briggs

Now and again I bring to your attention a video, almost always a documentary, I've seen on TV. Usually the program contained something special (cinematography, editing, etc.) that I feel you might want to adapt for your own use, but I have recently stumbled on a program I want to tip you to because of some astonishing information, a revolutionary development, that you might be able to apply in a new way. Now that I have your attention (I hope), here goes!

I expect that you're aware that I record many excellent documentaries from television, mainly from Discovery Canada, National Geographic Channel, PBS, and TVO, but sometimes from the standard networks like ABC, CBC, CTV, Global, NBC – wherever good programming, worth saving, is screened. Every Sunday morning I go over the schedules for all my favourite channels and select the programs coming up over the next week that I think I will want to keep, and program them all for recording on the recorder of the cable box. (Our American friends call this TIVO!) The recordings will be made even if I'm out that evening with the television turned off, or if I'm home but watching something else that warrants immediate viewing, but not recording, like News Programming.

Each morning I copy to DVD the programs recorded the previous evening, and then erase them from my cable box to clear space for future recordings. I also make an identifying disk cover and "front cover" for the plastic box in which I store the DVD. I frequently do something else in another room, or even outside, while the program is being burned to disk, so I don't see it in its entirety, but I have it for future viewing someday, when I want to see that particular program either for its content (like history) or techniques, (like graphics, animations, etc.) so I also have to store these many DVD's in sort of a "filing system" dependant not on the title, but on the category of the content, putting like videos together.



After recording to the cable box, but before burning the DVD, I often take a peek to see if this program is indeed new to me, or if I might have recorded it to DVD earlier, and occasionally I find that I already have it in my (large) collection, but sometimes I miss it and end up with two copies.

Recently I saw a promo for an upcoming program on WNED, the local PBS station from Buffalo, and what it showed really, really, piqued my interest. But the title seemed somewhat familiar, so I looked for it in my collection. I finally found it, but it was a copy of an old *Nature of Things, with David Suzuki* program, with the same title. That's a CBC program! How can it be coming up soon on a local American PBS station? I've never known *Nature of Things* to be shown on PBS! So I put the DVD in my player to see if it looks like it includes the bit WNED showed in its teaser, and it wasn't very long before I saw that clip in the DVD program. I'm sure that I never saw this program before, but it was so interesting, so compelling, that I had to watch it right through.

Because of the subject matter, I knew very quickly that I wanted all of you to see it, but you have already missed it so you'll just have to watch for it to come up again, as a rerun of the CBC program *Nature of Things* in Canada, or possibly on your local PBS station if you are in the States! Most *Nature of Things* programs are made by the CBC and feature David Suzuki throughout, but occasionally he introduces a program produced by someone else, returning again after the intermission to reintroduce it. The version on WBEN was released by Op-

topixx Worldwide Distribution, and was produced by 90th Parallel Productions in association with ARTE France and CBC Television. Scattered through the opening shots were a few of the credits, including "Directed by Mike Sheerin" and following the closing credits were the Financial Credits to Canada and Ontario we're so used to seeing here.

However, I've just seen "*Nature of Things*" programming announced for the future on the PBS Network, so this show may occur there under that rubric sometime soon.

STOP THE PRESSES! You can see it without waiting for a year or two for the rerun. You can [see it in full here](#). There are a couple of commercials before the video starts, but that's less than on television! The video was based on a book of the same name written by Norman Doidge, who appears in the video and has [his own web site](#)

I don't want to give away too much of this program, but it shows many examples of the brain changing to allow it to do things in ways that we would normally think impossible: to mention just a few, a man blind for forty years and apparently without eyes, walks through a large room with a video camera on his forehead and a device on his tongue, and is able to follow a path painted on the floor, without any errors! A girl, was born without normal development of one hemisphere of her brain, who while still suffering some handicaps, is able to function with the good hemisphere taking on many of the tasks normally controlled by the other hemisphere. There were many astounding "experiments", including a man with a phantom arm who is helped with therapy that depends on illusions, but the one that made me jump up and say "I have to let the SCCA Members know about this!" was the girl whose sense of balance had been destroyed by an illness as a child, who was miraculously helped by a device on her tongue similar to the blind man. Turn on the signals and she is suddenly able to stand without wobbling, but turn it off

and she can't stand upright! But the "eureka moment" for me was when I learned that after some use of the device, she maintained her sense of balance even when it was removed, for a while, and the longer she used it the longer she could go without it, following its removal!!!

So what's that got to do with us? It throws light on some problems regarding 3D that I've been struggling with for years!

I've had many conversations and heated discussion with one of our members whose name I'd prefer not to use, but simply tell you that he is a retired engineer with a great confidence in physics and mathematics, and who delves deeply into this new science of Stereographic 3D. As I said, I'd prefer not to use his name, but those who know him will probably recognize that his name is John Cook. While I don't dismiss the geometry, I consider 3D to be as much an art as a science, and while there is certainly considerable science to it, I've always thought much of it was irrelevant because it's also an art.

I won't go into the details of all these little points, but on several occasions, I have pointed out to him the experiments in which someone is fitted with prism glasses that turns the whole world up-side-down, and finds it very difficult to walk around. After a few days the prism glasses are removed and again he can't navigate without falling over. After another few days without them he returns to normal. This was the only experiment of which I had any knowledge, that seems to prove that our brain can learn to adapt, and change our perception of space and our mobility control.

The current proliferation of 3D Systems seems to have greatly complicated the subject, with over-under, side-by-side, interlaced, checker board format, shutter glasses, screen activated shutter glasses, polarized glasses, circular polarized glasses, and now even new colour systems for the old anaglyphs. Is it any wonder that I keep longing for the simplicity of the Pulfrich System – one camera, one lens, presentation on a regular television (4:3, 16:9, HD, and several ever increasing resolutions) or projection by a movie projector of any format (even including

film from 8mm to IMAX) or a simple earlier generation video projector?

Quoting myself in the September 2010 PANORAMA in the article 3D - Breaking Out In All Directions! on page 13 "But there is another way – the Pulfrich Effect -- that requires absolutely nothing special at the shooting stage, and not very much at the viewing stage. I believe it, but for some reason I don't seem to be able to convince other people of it. I've demonstrated it at club meetings, and even to a very large audience at the '93 Convention, but very few people seem to be as excited about it as I am! It doesn't require a stereo pair for each frame – just two eyes to see it. Stereo is in the mind of the beholder! It depends on a time shift in the brain between the picture presented to the left eye and the right eye. The Pulfrich Effect depends on showing the exact same frame to each eye, one through a darkening filter so the mind perceives that frame later with one eye than with the other. "

To be sure, the engineers have stuck their noses into that method too, with an elaborate set of "best practices" so they can command big bucks for a short 3D presentation during the Halftime Show of the Superbowl. The camera must track horizontally! The subject must move horizontally! And I won't even try to get into all their other rules of a mathematical nature.

Quoting myself again in the March 2010 PANORAMA article DUCK! IT'S COMIN' ATCHYA! on page 14 "I found that a darker filter was more effective than a lighter filter, and there didn't seem to me to be any difference whether it was over the right eye or the left eye, and it didn't matter whether the movement on the screen was from left to right or vice versa, regardless of which eye was filtered. Camera panning was very effective because everything was moving (even the distant background) as opposed to one object or subject moving. Panning in addition to onscreen motion was most effective.

Surprisingly, even with a very stable camera on a newscaster seated at a desk, what you see is three dimensional because the newscaster moves his head a tiny bit, and that's enough!"

It's so easy! And so cheap!! Go to the Dollar Store and buy two pairs of identical sunglasses. Choose glasses that are without colour, ie not blue, or green, or rose coloured. You don't want them to be "anti-glare. You don't want them to be polarized, dark but not very dark, nor very light. If you normally wear glasses to watch television, or video at the video club, make sure that the glasses you buy will fit over your regular glasses.

Take them home, wrap one lens in an old towel or rag, and smash one lens with a hammer. The cloth will protect you and make it easier to deposit all the broken glass, shards and all, into a can for disposal in the garbage. Do the same with the second pair, but this time break the opposite lens, so you end up with one pair with the left lens missing, and one with the right lens absent.

Put one of the glasses on (over your regular glasses, if you wear them) and watch television for an hour. The reason you bought two was in case, in your case, one eye works better for this than the other one does, so try them both ways – with the left eye darker or the right eye darker.

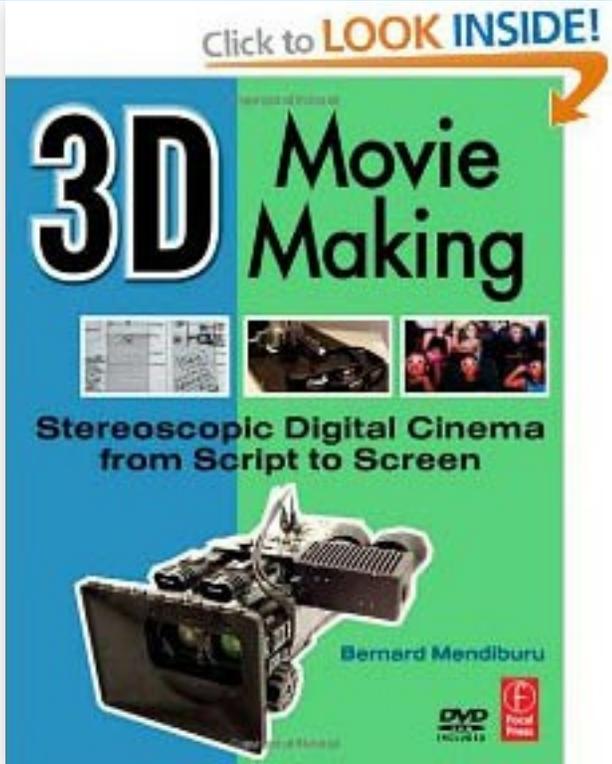
My experience was that an hour a day quickly trained my eyes so that I immediately saw 3D when watching TV with them, and after some time (days?, weeks?) you will find that you see 3D even without wearing the Pulfrich Glass! Remember, I finally got to be able to see 3D in a black and white photograph in a magazine! (See Continuation of Duck! It's Comin' Atcha! on Page 3 of March 2010 PANORAMA.) Apparently, my brain learned to make even better use of the 3D clues like lighting, perspective, and relative size, as detailed in the January 2010 PANORAMA in the admittedly difficult article on Depth Perception that begins on Page 9.

Don't worry, the transition isn't permanent, and will gradually disappear some time after you stop "training" with the Pulfrich Glasses.

It's been my experience that most people will read this and forget it. "Briggs is nuts!" But I hope that you will remember to read this again after you see *The Brain That Changes Itself*, and before you plunk down a big wad to buy a 3D TV, 3D Camcorder, 3D glasses for your family, new editing software, and then find out that the newest kit is even better, and cheaper! ■

3D Movie Making

**A Review
By John Cook**



Visit Amazon.ca and Click this Image to See Chapter 1 & Index

The 2009 book entitled 3D Movie Making by Bernard Mendiburu with a cover price of \$49.95 is available from Amazon.ca for just under \$40. The same author's book entitled 3D TV and 3D Cinema: Tools and Processes for Creative Stereoscropy has just been released - June 17, 2011 - \$44.88 at Amazon.ca. This second book doesn't make the first obsolete. 3D Movie Making covers 3D theory and its earlier (2009) application, while 3D TV and Cinema covers current (2011) best practice applications of 3D theory.

Pre-Amble

There is no question that the world of 3D video is advancing rapidly and much of any book's content on the subject will be obsolete the day it is printed, at least as it relates to equipment. For information in general, the Internet, of course, is the media of choice, and I've spent many an hour researching 3D on it. But it's like trying to take a sip from a fire-hose. First there's the sheer volume of information and then there's trying to separate the grain from the chaff. My article in 2011 January's Panorama, traced my journey through the Internet 3D world trying to get a handle on 3D before I jumped into it. To my satisfaction many of my favourite links were also mentioned in this book.

Why a Book?

I found the book a far less hectic way of learning about 3D than searching the Internet, filling a 3" thick binder full of printouts of what seemed like good articles and then perusing the items and selecting the good ones. Most Internet information concerns equipment and theory. As far as practice is concerned, the mantra is try it yourself and experiment. So getting a grip on 3D theory is one thing - applying it is another. Bernard Mendiburu, the author, has been involved in 3D movie production for the last 10 years and has worked his way up to lead stereographer at Dreamworks Animation as well as being an active member of most of the standards organizations involved with 3D. The point of view of an expert at making 3D theatre movies is what the book is all about. Not only does he explain 3D theory with his back of the napkin sketches, but his emphasis is on making 3D movies that firstly do not strain the eyes and secondly are as realistic as possible.

First the Bad News for 3D

Did I learn anything that wasn't already in the articles I'd gotten from the Internet? A big YES to that question. The earth shattering news to me is that a 3D video that is perfectly watchable on your 3D camcorder's 3 1/2" LCD 3D screen, is probably unwatchable on your 22" PC screen. Ditto for your 50" 3D HDTV for your 3D video carefully edited on your 22" PC 3D screen. And a 3D video watchable on a 50" screen is probably unwatchable on a movie theatre screen! This is horrible news! It does explain why most 3D releases are computer animation. To look realistic, a 3D movie for the theatre needs a totally reshot version for its 3D release on BluRay. We're talking different camera lens spacing, different convergence settings, different effective focal lengths of the lenses and different camera distances. For an animated movie, this can all be done by changing the virtual camera settings in the computer. (The author covers this in the chapter on 3D animation). For live action 3D, it would require a different camera setup for each 3D viewing screen, from cellphone to PC to HDTV to club screen projection to movie theatre screen projection. While computer spreadsheets are available for calculating a range of camera settings to make the 3D viewable without eyestrain, making the 3D realistic requires viewing on a full size theatre screen at a specific viewer distance. So for realistic 3D, Hollywood needs a full size theatre on the movie shooting site just to set up the cameras for the scene! If you're only shooting for a 50" HDTV, you need the HDTV there to set up your 3D shot. By extrapolation, if you're shooting for your club's 10 foot screen, you'll need the screen on site!

If all you do is a proper setup for the big screen, the results will be watchable on smaller screens but will lack depth and objects will appear miniature.

Hollywood Shooting 3D of Live Actors

So shooting 3D with real actors and scenes presents a major dilemma for Hollywood. Disney's workaround is to use green screen for everything. Each layer of distance is shot separately and then blended together with different settings to look realistic for the different 3D viewing screens.

But Why?

Watchability:

First let's consider watchability.

First there's the convergence capabilities of your eyes. When you look straight ahead at infinity, the line of sight of each eye is straight ahead. When you look at an object 6" in front of your nose, your eyes angle in or converge on the subject. If the 2 images you are trying to focus on are further apart than your eyes, you will try to diverge your eyes which causes strain and headaches in most people. Average eyeball spacing is 2.5". So we can converge images 2.5" apart on a cellphone, 2.5" apart on a 22" PC screen, 2.5" apart on a 50" HDTV and 2.5" apart on a 30 foot theatre screen. If the images are any further apart on the respective screens, we will be forced to diverge our eyes - not pleasant for most of us.

Secondly if the cameras are not perfectly parallel, and the lenses not perfectly matched you will get keystone effects. If the cameras are angled into the subject, the image of an object at the left of the scene will appear larger in the left lens than in the right lens. As you look up and down the object at the side of the screen, you will need to diverge your eyes at a vertical angle. Not something that we normally do.

Thirdly, if an object is out of focus, when we look at it, our eyes will hunt trying to bring it into focus, without satisfaction. So in 3D videos we should avoid framing near objects that are out of focus. Shallow depth of field is a NO NO for 3D. This also presents a dilemma for Hollywood's camera technology, with its large image sensors and long focal length fast lenses. To maintain depth of field with long focal length lenses and small f stops requires very

powerful lighting indeed. This is not so much a problem with the small image sensors used on consumer 3D camcorders.

Realism in 3D

Aye there's the rub! Let us assume we have our 3D images shot with perfectly aligned lenses and none of the images diverge more than 2.5" on the viewing screen and converge more than a couple of feet in front of our nose. We will then be able to view 3D images in comfort. Unfortunately that doesn't mean that the images will look realistic. It just means our eyes won't strain. Have you noticed that much of the 3D on HDTV doesn't look real sized, it looks like miniature models? What's going on here?

Say you have a 3D image of a 17 foot car, shot from 30 feet, projected as a 17 foot image on your 30 foot theatre screen. Since the car will be at the same plane as the screen, the images of both sides will be superimposed. All is well - the car will look real. If we now are looking at the same image of our 17 foot car on our 50" screen the images will still be superimposed, again putting our car on the plane of our screen where it will look like a 28" long model. To make it look like a 17 foot car, we would have to adjust the convergence of the images to the convergence of our eyes looking at an object 30 feet away - well behind the plane of the screen. In other words, the perceived size of an object we view depends not only on the size of the image, but on the proper convergence for the distance AND our distance from the screen.

Our location relative to the screen has a major effect on 3D realism. An image of a cube that looks like a cube at 8 feet, will appear to double its depth when that same image is viewed at 16 feet, double the distance away from the screen! Next time you look at a 3D HDTV, walk well back from the screen and you will see the depth get quite exaggerated. Walk up close and the depth will be reduced. Walk off well to the side and objects will distort, pulling towards you. Here's a hint - the next time you go to a 3D movie in a theatre, sit dead centre and 1/3 way back.

That's the location the 3D image has been optimized for, for reality.

To Shoot 3D or Not?

If one were to get a 3D camcorder like the Sony HDR-TD10, one could readily shoot comfortably viewable 3D if one kept to the suggested constraints of minimum distance from subjects at the various focal lengths and avoided framing objects too close. In order to keep the images comfortably viewable, one should set the convergence of the two images on the 3D video editing program by viewing the picture on the final viewing screen, whether it be a 3D HDTV or a projection screen at normal viewing distance. The major problem here is the maximum divergence of 2.5" at infinity on the viewing screen. Unfortunately, none of the 3D HDTVs that I've investigated has adjustable divergence for the two images. (Fred - I'll check with Optima to see if their 3D projectors have adjustable convergence). So you'd have to make two versions, one for your HDTV and another for a projected screen, if you wanted realistic 3D for both.

The first challenge is to make 3D images that don't strain the eyes of the audience. The second challenge is to make them look realistic. While you may very well be able to train your eyes to converge the 3D images even if you break the rules, your audience will suffer. Hollywood has the problem that staff who work on 3D have well exercised eye convergence muscles and can comfortably view scenes that the general public find very uncomfortable.

Your 3D realism will improve if you really work at it. Every new technology has its challenges. 3D has more than its fair share. Good luck!

Included DVD

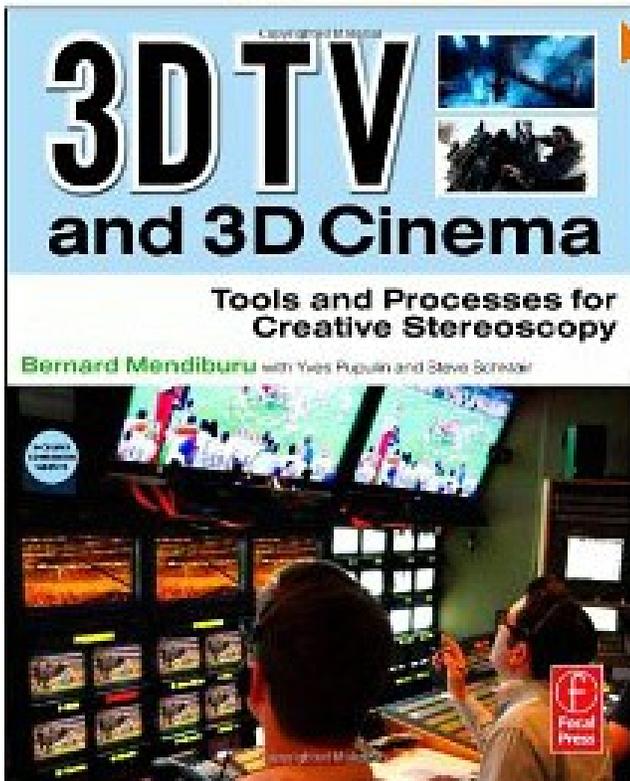
There's also a DVD included in the book, which turned out to be a total waste of time. There's only a couple of anaglyphic (red blue) scenes that you can watch on your PC with the included glasses, but the majority are over/under 3D format, unwatchable in 3D, at least on my PC. The 3D snippets were from demo scenes as opposed to professional productions. ■

3D TV & 3D CINEMA

Tools and Processes for Creative Stereoscropy

A Review By John Cook

Click to **LOOK INSIDE!**



Visit [Amazon.ca](#) & Click This Image to See Chapter 1, Chapter A-Z and Index

This recent book by the same author as the 2009 *3D Movie Making* book is not a revision of his first book, but rather, a continuation. *3D Movie Making* covers 3D theory and its 2009 application, while *3D TV* covers current practices in the application of the theory.

Chapter 1

3D Production in the 2010's

3D has rapidly advanced since the 2009 *3D Cinema* book in equipment, practices and available content. Creators of 3D content are starting to define best practices. For example, absolute values for sustainable retinal rivalry (unnatural 3D image convergence) that won't make viewers sick have been suggested as <math><0.8\%</math> Vertical, <math><0.8\%</math> Rotational and <math><1.2\%</math> Zoom. 3D technology will not rescue poor content, but 3D technology can be used artistically to enhance the cinematic art form.

The author strongly believes that future 3D TVs should have a re-convergence control and eventually a depth-enhancing mode that changes the IOD (InterOcular Distance) to adjust the 3D effect for the particular viewing screen and viewer position.

Chapter 2

The Stereoscopic Camera Unit

Modular 3D camera rigs using semitransparent mirrors dominate the professional world. The main reason professionals use these complex rigs is that they allow variable interocular spacing right down to zero (zero allows close matching of the cameras during alignment). The author's first book went over the importance of perfectly matched cameras, lenses and meticulous alignment that could take days. Alignment tolerances are about 6 microns, even for the relatively large image sensors. Because setups that take hours or days are simply not acceptable on a movie set or 3D TV program, there have been great advances in automation and computer control in this regard so each camera has its own computer. You simply aim it a calibration target and motors built into the camera rig adjust IOD, convergence, camera alignment and create a Z-LUT (Zoom look up table). No two zoom lenses track the same. Not only don't the focal lengths track, but the centre of the image moves around during the zoom. The Z-LUT is used by the computer during the shoot to dynamically adjust zoom and image alignment to keep things running true. All this mechanical movement on the fly would upset the camera rig's balance on a steady cam, so they even have to counterbalance all the correction motion. Once all the mechanical alignment is done, the images still need to be adjusted by software that corrects them down to the sub-pixel level. This is necessary not only for comfortable prolonged viewing but also to eliminate the noise our brains generate in the images we perceive caused by image discrepancies.

Remember the [spread sheet](#) I mentioned in my January 3D article correlating image sensor size, lens focal length, subject distance, display size and viewing distance to keep the picture comfortable? That's also incorporated in the camera control computer to make sure the scene is comfortably viewable. The engineers are trying hard to make it idiot proof.

The \$5,000 half-mirror is a very weak link in the professional rig. The spectral responses of the through image versus the reflected image do not match. In addition the ~50% reflective coating presents some polarization effects. As a result, one camera will see a reflection and the other won't. So you need to use polarizing filters on both cameras all the time and of course watch their rotational alignment. The mismatch between through and reflected brightness also means you have to compensate with fractional f stop ND filters, as f stops will change the depth of field on one side versus the other - not desirable. In the end you're down more than 3 f stops, so you need lots of light to maintain the depth of field desired for 3D. (The Panasonic HDC-SDT750 sensitivity drops from 1 lux to 28 lux with

its 3D lens). Mirrors also add undesirable reflections, so you need to shield them all around from undesired light. On a close-up of an actor, the mirror can reflect undesirable light into the actor's face, making back-lighting a problem. In addition, IR can get in there and unbalance the picture, so IR filters are also used.

For the camera facing the mirror downwards, as a mirror flips the image, the current rolling shutters common to many image sensors give headaches as one sensor ends up scanning from top to bottom while the other scans from bottom to top. Where action is involved, one camera will see a moving ball almost one full frame after the other. This will badly mess up your ability to visualize the ball location.

So why the emphasis on these unwieldy and complex component camera rigs? Statistics from the control computers show that *the vast majority of interocular distances settings used range from 5mm to 20mm*. (average distance between human eyeballs is 65mm). The larger interocular distance of the average all-in-one 3D camera will usually cause exaggerated 3D effects unless shooting layouts are done carefully. To get acceptable 3D from an all-in-one 3D camera, you'll have to work within far greater restrictions of subject depth layout, subject distances and camera focal lengths. In other words, you will have to adapt the shot to the camera by staying away from near plane objects and keeping the background close enough.

Sony are betting on a different design approach to 3D cameras as they demonstrated at the FIFA worlds in South Africa. Sony tries to minimize the fine machining required for micro precision alignment motors by making everything rigid and doing as many corrections as possible in the image processing. Of course they still have focus, zoom and interocular motors. They utilize existing optical image stabilization mechanism technology acting on the sensor (not in the lens) to handle misalignments. So their camera mechanisms aren't much different from 2D. You still end up with a Z-LUT to get the zooms to track. With 3D you have the added worry of both your OIS's (optical image stabilizers) tracking when your

camera is bouncing. Another reason for a very stable camera platform for 3D.

The development aim is for computers to eliminate the stereo techies, with the director of photography having two knobs - one for IOD and one for convergence which of course he can program to change throughout the shot. Of course, he needs a good 3D monitor to get the effects he needs. The author insists every time he can get it into the text - "watch your 3D, every time you can, and on a BIG screen." There are a handful of directors who brag they can get it right on a smaller screen but even their occasional mess-ups result in very costly reshoots.

Chapter 3

Image Processing and Monitoring

Computer technology isn't good enough yet to properly analyse actual 3D images. So quality control is a must. Interestingly, the main tool is a standard 2D monitor. Superimposed images or anaglyph without glasses, allow one to readily gauge image offsets. There are also computer programs to display differences of the two sides. Using superimposed images, IOD can be seen as well as vertical alignment, keystone, rotation, focal length match, focus match, action desynchronization and rolling shutter effects. In side by side monitoring on a 2D screen, depth of field mismatch, colour and brightness mismatch also can be readily seen. For smaller monitors (as opposed to 40 ft. screens) Panasonic Plasmas are the favourite as "the stereo separation is great, with no ghosting or sweet spot effect."

The remainder of Chapter 3 goes into the Stereoscopic Analysis Software being developed.

Did you know that many countries regulate the ratio of screen size to viewing distance for audience seating layouts in theatres? In France the ratio must be between 0.6 and 2.9. This means that in France, the seating arrangement we have for the HV/FM club meetings would be illegal for anyone past the first couple of rows. That law translates for a 50" HDTV the viewing distance to be between 30" and 12 feet - ideal 3D distance for 3D realism would be 1/3 way back at 5 1/2 feet.

Chapter 4

Shooting 3D for Broadcast or Editing.

While the majority of 3D camera rigs use complex semitransparent mirrors, the author longs for the day of simple 3D cameras in the future. Murphy's Law rears its ugly head for connection colour codes. In the U.S.A. it's "red for right", in Europe it's "rouge est gauche". Did you realize that the colour of running lights for ships reverse sides in Europe?

Magnification factor is the ratio of screen size to viewing distance and varies from movie theatre to HDTV to PC to cellphone.

The different formats for cramming 3D into 2D formats are covered - SBS (side by side) TAB (top and bottom) advanced FCF (quincunx, or checkerboard or mesh) and proprietary approaches.

Live TV makes very great demands. The legal departments want to avoid eyestrain at all costs. There's software that monitors if the picture gets beyond the comfort zone and automatically switches to 2D. There's a convergence puller person monitoring and controlling each camera.

Since the optical alignment of 3D cameras drifts with time and temperature, computer aided alignment routines are done several times an hour to maintain 3D quality.

Live sports is particularly challenging. Close-ups of play yield 3D WOW shots, but distract from following the game. Care is required with scoreboards and other graphics. Where graphics are located in depth is important. If it's far back, conflicts are created if part of the live scene is in front of the graphics but isn't blocking it. It's easiest to locate graphics in the sky where conflicts are less likely to occur, or on a plane well in front as in *Avatar*. Moving graphics also tend to appear to shift depth. Unless the live picture is perfect, the literally perfect graphics will make the live picture seem quite poor, creating another crying need for 3D image correction software. Too close foreground objects present problems in 3D. This makes 3D camera locations critical to avoid nearby fans in the edge of the picture or blocking the action.

When recording is done, the process starts with flash cards that are

downloaded to RAID hard drives. The data is then transferred to tape for its much higher capacity and reliability compared to hard drives. "If you plan to shoot for hours and hours, don't rely on hard drives: you'll soon need a truck to move them." Oh the irony - one step forward, two steps back. How to go tapeless: go flash card to hard drive and then to tape.

As you may have noticed, sound tends to get out of sync too often.

It was also interesting to find that there is an official BluRay standard for full HD 3D. The side-by-side and top-and-bottom format are an "informal" way to get 3D onto 2D disks. These "informal" standards are also used to get 3D into the 2D bandwidth for cable, satellite and on air. So full HD 3D Blu-Ray is in the future just like full 1920 x 1080 full HD was in the future for many years. Just to confuse the issue, Set Top Boxes have their future 3D standard as 1344 x 768i and 960 x 544p.

Because of the scarcity of expensive digital 3D movie theatres, there is great competition for these as more and more releases come out in 3D. This is causing a bottleneck for Hollywood 3D cash flow. Hollywood's solution is to release 3D on 35mm film and modify the existing film projectors in movie theatres. The problem is that the old standard of above and below could yield inverted 3D if a frame was skipped inadvertently or because of a splice. There is a new standard proposed with side by side to avoid this. Again, the old one step forward and two steps back. The trouble with film is that there is more and more inter frame jitter as the film sprocket holes wear, negating all the precise optical correction done to the digital source, and we're back to viewer fatigue.

Chapter 5

Stereoscopic Experiences from the Front Lines

Lessons learned from three 3D shoots are described. The first a "film", the second a surfing competition and the third a music concert.

Glossy and shiny surfaces, as well as specular lights must be avoided. Similarly, bright colours and high contrast should also be avoided, to reduce ghosting and unbalanced camera response. Having the steadiest camera

platform possible is the rule. Any camera vibration greatly deteriorates the 3D experience. "Slow motion shots in 3D are the best shots."

Chapter 6

Opinions on Creative Stereoscapy- This chapter has articles by the technology leaders in 3D.

[Ray Zone](#) gives a short history of 3D cinema and how to use 3D artistically.

Yves Pupulind started making 3D film in France in the '80's. He did 3D theory studies and 3D automated camera design as well as delved into 3D animation. He relates 3D cinema to existing art forms like relief and monument sculpturing, and 2D cinema. 3D had to go to digital in order to be able to correct the errors caused by **optical alignment down to the individual pixel**. He talks about the importance of the point of view (camera location, lens focal length and the **concept of the volume you are shooting**). The Frame is covered as in 3D it should act like a window into the world. One must be very careful that foreground objects are within the pyramid, with the viewer at its apex and the screen extremities as its corners. The frame can be effectively manipulated to seem to tilt and even curve. Surprisingly, if 3D is changed to 2D, the viewer will still see 3D for a while, so this technique can be used to cover a few seconds of disparity. Shallow depth of field can be an issue as the viewers strain to focus, though it has been used effectively when used artistically and sparingly.

Motion can cause problems in that it causes the illusion of a depth shift. Actors entering the scene in the foreground cause a 3D disparity. False perspective sets don't work in 3D. 2D conversions to 3D don't work, not only because the subject seems like cardboard, but also because a movie shot for 3D is differently shot than a movie for 2D.

Steve Schklair has been the driving force for the current resurgence of 3D in movies and live TV. He started in 3D making 15 minute films for theme parks. Cameras sometimes took two or three weeks to set up, as results couldn't be seen until after the film was developed. The 15 minute limit was caused by the strain of 3D disparities of the available technology. Steve worked

for Grundig when they developed image correction techniques and spun off the division as his own company. He automated camera alignment and colour correction so his cameras are now self-aligning. He's currently working on automating the job of the convergence pullers - one per camera. Steve converted 2D OB trucks to 3D OB trucks. His rule of thumb is a 4% depth budget: 2% negative parallax and 2% positive parallax - maximum. He encourages monitoring without glasses for better 3D quality control. *Transitions should be done over about 2 seconds and convergence should be pulled to match during the transition. He discusses the art of cinematic depth. The George Lucas Editing School teaches to hold a shot only until it has imparted all its information. 3D has more information so the shots have to be held longer. It's important that you don't change your centre of attention during a transition.*

Vincent Pace, the techie behind James Cameron, emphasizes pleasant views - a little 3D goes a long way. He avoids poke-it-in-your-face effects. Properly done, modest 3D translates well to all the various screen formats. Most of the action in *Avatar* is close to screen depth and mostly behind it.

The author then discusses examples of 3D films, where some of the basic 3D rules are broken for artistic effect.

The last chapter is entitled **3D A to Z** and explains 3D terminology.

Summary

While there is a lot of information on the Information Highway, the vast majority of it is about equipment with some articles on shooting 3D by avid amateurs. The two books by Bernard Mendiburu are written from the viewpoint of professionals who have been making 3D films and TV for years. Reading his books puts the world of making 3D in proper perspective.

Are We There Yet?

I'm very enthusiastic about the ability of 3D camcorders like the Sony HDR-TD10 (1920 x 1080 for each side) to make 3D movies approaching the quality of today's 3D digital theatre movies.

Most current films are shot in 2K and the vast majority of digital movie theatres use 2K projectors. The definition of 2K is 2048 pixels wide by whatever the height ratio determines. For example, Academy ratio (4:3) - 2048 x 1536, HDTV (16:9) = 2048 x 1152, while Panavision ratio (2.39:1) would be 2048 x 856. Can you believe that a consumer 3D camcorder would have more pixels (1920 x 1080 = 2.07 Mpixels) than a 2K Panavision picture (2048 x 856 = 1.75 Mpixels)? Similarly, 4K is 4096 x height ratio. Even though some films are being shot in 4K most digital 3D theatres have 2K projector systems. In fact the vast majority of 3D movie theatres will be using modified 35mm film projectors significantly reducing the quality of the original digital images.

When it comes to home theatre screens, Optoma's model HD33 does a full 1920 x 1080p in 3D, and complete with built-in 3D format conversion will be available in October for about \$1500. The DLP technology that it uses is the DLP technology used in digital movie theatres. Mind you the Optoma uses a spinning colour wheel like other affordable DLP projectors as opposed to the separate RGB light sources of some commercial 3D DLP movie theatre projectors..

PC software is also coming together with many editing suites from Sony's Vegas to Magix Movie Edit Pro supporting 3D. In addition, the free download [StereoMovie Magic](#) not only is a versatile 3D movie editor, but also incorporates stereo image correction down to the pixel, a must have for relaxed 3D viewing. This program also supports viewing 3D movies in full colour on your PC monitor or HDTV using only a 5"x5" front surface mirror (such as a car's rear view mirror) and the program's "Stereo/Side-by-side/Mirror left" menu selection.

If you want to get started in 3D on a minimal budget, I would suggest a couple of digital still cameras mounted on a bar and Stereo Photo Maker from the same above web site to correctly align your images for proper virtual windows and relaxed 3D viewing. An automatic 3D correction function will correct a whole batch of pictures for you automatically. This site also has links to excellent tutorials on using the various programs. ■

PHOTOS TO CARTOON

By Fred Briggs

Over the years I've brought to your attention several programs that I thought you might want to use to improve or augment photos you would like to add to your video. All these programs have been easy to use, and most have been inexpensive. (See Fall 2007 Pg 17, Spring 2008 Pg 11, September 2008 Pg 6, January 2009 Pg 7, AND November 2009 Pg 6.)

Recently I was offered an opportunity to download a free trial for a program that promised to be "intuitive and easy to use" and I thought it might be good for easily adding artistic touches to the products of those programs that relieve you of all the work, but also may leave you wanting more options for your own talent.

Most programs are good at something, but not at everything, and you might want to paint-out, or paint-in, some details that were missing in your original photograph, so I downloaded the trial.



[ArtRage](#) is advertised as "ArtRage is a stylish, intuitive painting and drawing package that makes it easy to produce natural looking artwork on your computer. Its wide range of artistic tools lets you get right down to the creative process without forcing you to learn complex or technical controls."

"ArtRage 2 has a set of familiar painting and drawing tools like oil paints and pencils, and features like tracing images that make it easy for anyone to get into painting. It's **ideal for kids, teaching art, and artists who want to dabble with painting.**"

And so it is. ArtRage2 costs only \$20, but the company also offers Art Rage Studio, on sale currently for \$30 (knocked down from \$40) "ArtRage Studio has a large set of natural painting tools such as oil paints and watercolours, along with utilities to make painting easier like layers, and tracing images. It's ideal for anyone who wants to paint or draw on their computer, **regardless of skill level.**"

Sounds good, doesn't it! But those last four words are wishful thinking. It might

seem true to those *with* artistic talent, but they don't realize the importance of that talent!



ArtRage Studio Pro 3.5 is the program version (\$60, knocked down from \$80) I downloaded, and indeed, it seems to have every tool that I could dream of: oil brush, watercolour, palette knife, air-brush, ink pen, pencil, paint roller, felt pen, glop pen, sticker spray, crayon, chalk, eraser, paint tube, and glitter tube, and all are every bit as easy to use as they claim! You can choose to paint on canvas, paper, art paper, blackboard, gold foil, tin foil, and many other materials, all with controls that let you adjust the texture, roughness, etc. You can even adjust the lighting on the "canvas"!

Colour picking is a dream – drag a "picker" around a colour circle and when you get the right colour in the box inside the circle, just click on the spot in the square with the darkness from black to white and from full saturation to grey that meets your need. And selecting the tool is just as easy, with very clear drawings of each, and once you click on your selection you can adjust the width of the brush, the sharpness of the pencil, or the amount of paint that comes out of the tube, etc.

The colouring media behave like they do in real life: the first stoke of oil paint is partly transparent and successive strokes build up the opacity of the paint, great gobs of paint from the tubes can be mixed on your canvas with the palette knife, etc.

The painting can be done on layers so corrections can be made without undoing things you don't want to undo, just like working with layers in programs like Photoshop, and you can vary the opacity of each layer to see what was underneath it, and then restore it again. I expect that I could learn to use these tools, but changing the visibility and opacity of each layer would be very time consuming for a person like me who couldn't paint over the photo without constantly uncovering it to see what should be painted next.

The program includes another facility to handle this problem. You can “pin up” a smaller version of your photo on your canvas (and move it around out of the way) to refer to as you paint. I didn’t even try this, because I soon saw how hopeless I was as an artist!

Those who are already skilled artists, may want to buy one of those tablet devices that can be plugged into your computer for drawing or painting. You might already have one!

On the cover of the Spring 2008 PANORAMA I used a photograph of the fountain on my patio that I had converted to a “painting” with Gertrudis MX, and I thought I’d use another shot of that same fountain with the rose bush behind in full bloom, to illustrate this program in the cover of this issue.

There was one other feature that encouraged me to get this program. You can “record a script” that will show every stroke you painted, and can be played back by others as a “lesson”. I thought I could make that file available to our readers so they could watch the process of painting that cover picture.

I didn’t even try this! Why expose my lack of talent even more than I’m doing right now? You can see an example of some of the tools and the way they work by downloading this [Flash tutorial](#) of painting a cartoon.

If you, like me, can’t even draw, you’ll probably not want to look at ArtRage. But for those with graphic arts skills, you may be interested in this [excellent program](#). You can try it for FREE. There doesn’t seem to be a pdf Manual, but there are a large number of [pdf Tutorials](#) you can download. I haven’t examined them all, but one of them, [Paint Roller Cartoons](#), might come in handy in the future! (See below!)

In the November 2010 PANORAMA, on page 11, I described a predicament I had ahead of me to provide the visuals for a recounting of a 1940’s bank robber, highway chase, and violent car crash, and tentatively considered making a comic strip of it. But I told you then that I can’t draw, and considering various ways I might achieve the drawings, I examined a few free programs for cartooning.

Since that time I have photographed the old bank (no longer a bank but the fundamentals are still right), gathered together old maps, photos of the Queen Elizabeth Highway when it was new, handcuffs, period wall phone, teller’s cage, inside view of an old bank vault door, newspaper portraits of the three robbers, transport trucks, vintage motor-

cycles and OPP squad cars, and even managed to get from the OPP Archives



photographs of many of the police who were involved in parts of the story! None of these are properly posed, sized, etc., but they should be useful if converted to line drawings and then sized upward or reduced to match them all to scale, and rotated or turned them and placed them where in the frame I want them.

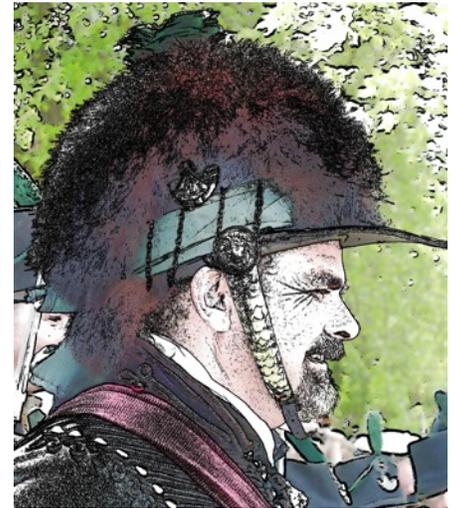
I tried to “trace” some outlines on a layer over the photograph in Photoshop, but it wasn’t as easy as it sounds. I’m bad enough with a pencil, let alone a mouse!

I tried a few filters, and plug-ins that I had installed earlier. Filter – Stylize – Find Edges found many more edges than I would want, but it did a fair job of finding the important edges.

There weren’t any adjustments or sliders available with that filter so it’s just click, click, click and take what you get! You’ll reduce the number of unwanted edges if you first Blur (or Blur More) before you do any of this.

From there I could draw-in to close any gaps and paint-out extraneous busy edges that I didn’t want. If the picture is coloured, it remains coloured, but it isn’t a “cartoon-type” of colouring and I would probably have to tediously remove all the colour (or switch to gray scale mode), or manually paint it all if coloured comics were the goal.

I might be able to do even better with the filters available in Photoshop, or one or more of the other similar programs I have, but [Photo to Color Sketch](#), described in detail in the Spring 2008 PANORAMA on page 13, can do a very creditable job, in either black and white or colour. The program is now up to Version 6.97 and the cost has come down to C\$20.35!



A more recent search has turned up a couple more programs that might do the job.



[IntoCartoon Pro 3.0](#) is a simple but very effective program that doesn’t have a lot of bells and whistles but is able to make black and white or colour cartoons, sketches, illustrations, avatars, icons, and even watercolour versions of your photographs.

There is a Preview Panel where you can change the Image Size, Select Sketch (which provides Adjustment Sliders for Darkness, Detail, Smooth, and Threshold) and Line Drawings. There are three tabs for Colouring Step 1, 2 and 3. In Step 1 you can add or reduce the colour with the Intensity Slider, in Colouring Step 2 you can adjust Saturation, Contrast, Brightness, Smooth, and Border Blur, and in Colouring Step 3 you can adjust the colour balance with sliders for Red, Green, and Blue. (There are Short Cut Tabs for Cartoon, Sketch, Line Drawing, and Canvas, and these will take you directly to the settings you will need, but you can always move back and forth between options.)

You can pan through the picture to see how it will appear when you’re finished, and then you click on OK and the program applies your wishes. Control Z will reset your original picture so you can redo things. Of course, if you are using the Trial Version that you downloaded for free, your picture will have “intocartoon.com” watermarks all over the place, making it hard to see exactly how

your picture will look, but it will only cost you \$30 (\$40 with a CD) for the licence.

Be sure to visit the web site and view the three Tutorials, the Examples, Screen Shots, and the Gallery to see what you can do with this mighty little program.



Cartoon, Sketch and Line all at Default Settings. Can be tweaked!

PhotoS This magic little program is very difficult to find on the internet because Google doesn't distinguish between "PhotoS" and "photos", and do you know how many hits there are for "photos"? (about 10,310,000,000, and growing every day!) In my searches I also looked for "caricatures", and one page features four programs, three of which had no interest for me at this time, and this little gem.

This is simplicity itself! There is a box to Load Photo, a box to Draw Sketch, a box for Help, and a box for Exit. There are two (2) sliders: one marked Lighter - Darker and the other Fewer Details - More Details. It won't take you long to read the entire Help File, and you'll only need to do it once.

When you click on Draw Sketch, a much larger window opens up with the black and white drawing (edges only, no extraneous lines, -- really!) This window features a place to change the size of the image, a Window where you can select the Line Width (1 - 15), a pencil pointing down for drawing in little bits that might have been missed, another pencil pointing up, or should we say with the rubber in operating position, and another Drop Down Box for selecting Eraser Size (1 - 15).



Changing the Line Width quickly changes the width of every line in the image, and also lines you draw in the future with the pencil. There is no restore or back-up feature, but changing the line width back to what it was before will restore the picture to the way *it* was. Making another copy doesn't remove the first copy, so you can easily experiment to find the best settings. If Black and White is what you want, this program, for \$25, will do it better than any

other I have found. If you want colour for your cartoon, you'll want one of the others, or you could colour them with another program - Black Magic comes to mind, and so does the Paint Roller Cartoons demonstration on the Art-Rage Pro web site, as I personally prefer solid colours only, for cartoons. But if you like colour changes within a region without additional black lines, then Photo to Color Sketch or IntoCartoon Pro might be a better choice for you.

In general, all these cartooning programs do a better job with the "character" than with the background, because usually the background has much more small detail so the program finds many more edges. This could easily be cleaned up (removed) by saving your cartoon and opening it again in your photo editing program, but I feel it's better to remove all that background information *first* (by painting it out with white), as you'll want a very different background in your cartoon, or most likely, no background at all!

It's also a good idea to convert all these bitmaps to vector images so they can be blown up or reduced in size to make them fit the cartoon frame and other characters you will be using, and modified by moving a line (to make someone fatter, or thinner, or frown, or smile, for example). Some software that will do all that, will also let you place one image so that it partly overlaps over another meant to be behind, even if that's the larger image. As an example, I have to put two men in a 1937 Packard, handcuffed together, so that when the driver turns the wheel the other man has to move his arm to accommodate the driver. I plan to show this from behind them so the 1939 Queen Elizabeth Highway can be seen through the windshield. (You can see why I'm not going to try to animate this!)

I also have to illustrate a 1940's motorcycle that has been run over by the Packard, and I don't expect to find that in a photo on the internet! It's imperative that the cuffs, can be straightened out, and the motorcycle can be badly bent, and for that, they must be vector images that can be turned, twisted, etc.

I think I have the program I need to do all this, but there isn't space to do it justice in this issue, so it will have to wait for the July issue.

