August 2012

Camera Clips

Bi monthly publication

From the Editor

James Allan

We have passed the winters solctice. The days are getting longer, although the weather is getting colder. We have had the interclub competition with Edwardstown, where we trumped them by 1 point in the colour prints. In the rest of the competition we had the same result as previous years. The club competitions, "someone elses Art" and "Detail" have been energetic with some sxcellent images and there is a sample presented in the photogallery on page 2.

This month we have an article on photographing the sun. This follows the transit of venus and reflects a conversation I had with Peter Maunder a club member who has had some experience with the South Australian Astronomy club. You can see that the banner this month portrays the shadow of venus as it moves across the visage of the sun. This image was taken using a pair of bird watching binoculars. It has quite a degree of chromatic aberration. This prompted me to do a little research on this phenomenon, and you can find an article on page 4.

My father in his retirement has enjoyed attending a philosophy discussion group at the University of Adelaide. Each week the members present a topic of interest. I was intrigued to hear that the topic for discussion last month was Aesthetics and the philosophy of photography. After a discussion with my father, I have made a one page summary of the main arguments that were discussed in a short article on page 6. I looked long and hard for a catchy quote from Immanuel Kant, but unfortunately his writing is so dense and convoluted it is best left for philosophers to read. If any one has studied this field, I would be interested to hear their views on the philosophy of photography. I have only touched the surface of this subject. I'm sure much more could be said about the ethics of photography. Perhaps a topic for another discussion.

Lastly I have produced an article on squaring up or rectifying an image in photoshop. This technique was mentioned briefly by Jeremy Watson as a possible workshop idea. I have outlined my technique in the hope that it might be helpful. I find it particularly useful when I am photographing art work. It allows me to stand to one side of a painting to reduce reflection from the flash, but then reconfigure the art work without the distortion created by the point of view / perspective. I had hoped to have an article about off camera flash, but unfortunately the author has been delayed in getting this to me. I hope you enjoy this months offings.

Photographing the sun -

Peter Maunder / James Allan

As a kid I remember focusing the rays of the sun onto unsuspecting ants walking in a line across the concrete. A little whiff of smoke redolent of formic acid would indicate ignition. At the end of the afternoon the kid next door and I would have to scrub the black marks off the concrete, It is not surprising that the same thing happens to the back of our eye when we look at the sun. The focussed rays of light burn a hole in the retina at the back of the eye. Unfortunately the damage is done to the very sensitive macular, the part of the retina with which we read and identify faces etc. Without the macular we would have only low resolution peripheral vision. In 1970 140 cases of solar retinopathy were reported in USA during an eclipse of the sun. It's not only a problem for our eyes, but also to our cameras if we want to take photographs of the sun.

On 6th of June this year Venus travelled across the face of the sun, starting around 8am and finishing around 2.30. The so called transit of Venus was first observed by William Crabtree in 1639. The transit occurs in a weird cycle. There are two transits 8 years apart followed by a gap of 105.5 years,

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Contacting a member from the club; This month Mark & Jenny Pedlar :mnjpedlar@biqpond.com

Upcoming Events

AUGUST

2. **Workshop: How to make an Audio Visual**

16. Competition: Water with movement

Both water and motion

30. Guest Speaker: **Antarctica**

A guest speaker will present the story of their visit to the frozen continent.

Notes:

SEPTEMBER

13. **Annual General Meeting**

Elect your committee! All positions are open!

This will be followed by the *Disposable Camera Competition*

Note: *Bring a plate.*

27. Competition : Low Light

These images must be taken using only the light available at the scene. The fact that light was limiting must be obvious.

Note: *Start preparing entries for Annual Exhibition – forms available (physcially and online)*

OCTOBER

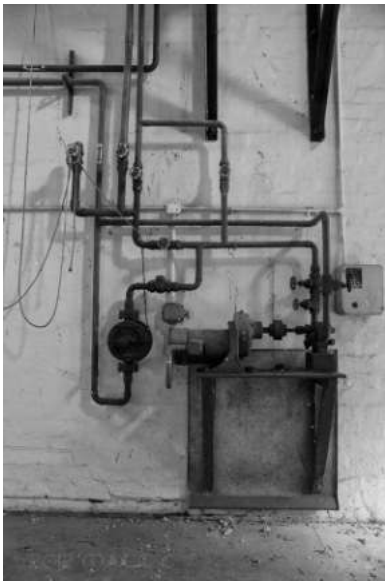
29-Sep to 1-Oct. **Labour Day Weekend—Outing—Robe**

stay away overnight event

11. BPC Images Quiz Night

Images captured by club mem-

Picture Gallery—Photography as Art



Images taken by Club Members that I would be happy to hang as art. Perhaps the reason I chose these images is for the power with which the photograph transforms everyday objects into something else.

Yvonne Sears—Anna—This is such an unusual portrait with the alternating bands of dark and light

Matt Carr—Pipework—A wonderful geometric design reminiscent of a Mondrian abstract

Chris Schultz—Frosty Morning—beautiful textures in the ice crystals. Macro photography really takes us into another world.

Jo Tabe—Birtch tree—the fish eye lens creates a wonderful distortion

John Vidgeon—Bird in wood—a very clever montage of a bird onto a textured wooden surface

Carolyn Becket—Rainforest Conservatory—Great use of angled lines and simple compositional elements to tell a different story

Hillary Fran—Port Adelaide Lighthouse—an ice crystal like kaleidoscope treatment transforms this familiar landmark into a very intricate abstract.

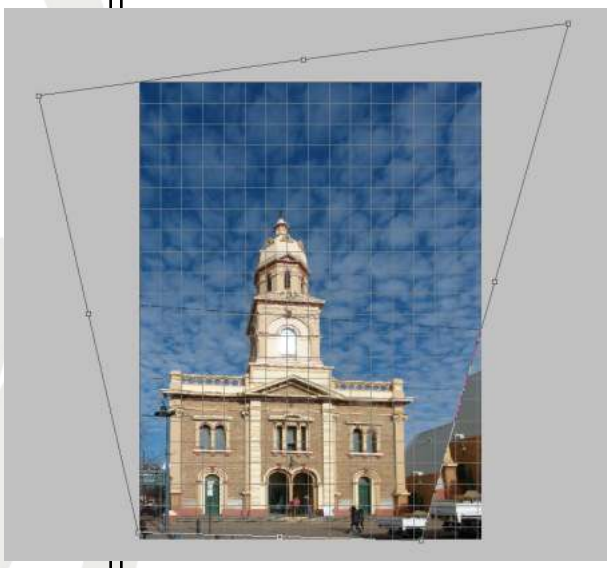
Photoshop—Rectifying an Image

James Allan

I was walking along Jetty road in Glenelg when I spied the Glenelg Congregational church. From the opposite footpath the view was obscured by trams, traffic, parked cars, street trees and wires. The only place from which I could get an uncluttered view was standing on the same side of the street. From this side of the street the church towers above me, the lines converging to a vanishing point almost directly above me. With a wide angle lens I can capture the view but the church is distorted by perspective. It looks like the church is leaning backwards. A tilt shift lens is a wonderful thing. By tilting the lens you can straighten the vertical perspective and give the illusion of standing 100 yards away from the building. Unfortunately , unlike Ray Goulter, I don't have a tilt shift lens.

Jeremy Watson however at his recent meeting told us that you can straighten the image in photoshop. This article describes how it is done:

1. Display a grid. I find the grid very useful to show me the true verticals and horizontals in the picture. Go to the View menu and scroll down the dialogue to "Show" and within the show dialogue select Grid. When I first displayed the grid, the lines were so close together I could no longer see the detail in the picture. This can be easily fixed. You have to go to the Edit menu and select the last item, "Preferences" and from that dialogue select "Guides, Grid & Slices ….". In the window that appears I changed the "Gridline every:" box to 200 pixels. That seemed to work OK for the 18Mpx images that I was working with.
2. Duplicate the background layer. This is necessary as Photoshop does not let you use transform tools on the background layer. If you have the layers palette on view, you can right click on the background layer and select "duplicate layer" from the context sensitive menu. Alternatively you can go to the Layer menu and select "Duplicate Layer"



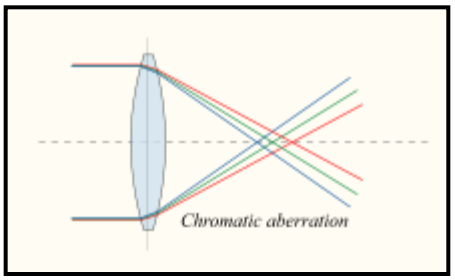
3. Skew the image. With the duplicated layer selected go to the Edit menu and select the "Transform" dialogue and select "Skew". A dark line will appear around the image with 8 handles (small squares) at the corners and midpoints of the rectangle. I move the 4 corner handles, one at a time so that I can line up the top and sides of the building with the grid lines. This may take a bit of practice, but it should be possible to get all 4 sides of the building perfectly aligned to the grid. Don't worry too much if the building is rendered too fat or too skinny. We will correct that later. When the building is aligned accept the changes by clicking on the "tick " above and to the right in the options bar (just under the menu tool bar)
4. Free Transform the Image to correct aspect ratio of the building. There is a free transform icon in the tool palatte, or it can be accessed through the Edit menu as follows: Edit / Transform / Free Transform. The same blackline and 8 handles appear about the object, however they behave differently. This time I grab the midpoint handle at the top and stretch to make the image taller. I stretch until it looks roughly correct. Again I click on the tick at the top right to accept the changes.

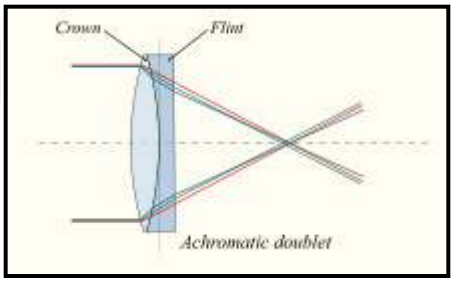
5. Dealing with gaps. In this transformation I have created a triangular gap on either side of the church at the bottom of the image. From a distance these are not too obvious as the underlying layer matches and gives a clone like fill for the gap. However if you wish to hide the gap you have two options. You can either crop the image or use the clone tool to create a convincing cover. Sometimes you could do both.
6. Use the "save as" command and give the image a new title. Do not use "save" command as you will lose the original image.
7. Don't tell your viewers what you have done to the image. Photoshop is a bit like a magic trick. Once you explain the trick to the viewer, they lose that special fondness for the image. Tell them that you have a very fine camera that takes great shots.

I have also used this technique to straighten stained glass windows and art works hanging on walls. Sometimes I might decide to only rectify the image halfway in order to give a sense of realism while removing the worst of the distortion. Feel free to give it a go. You can always phone me if you get stuck.

Chromatic Aberration — James Allan

There are many ways to get a bad image. Poor contrast, lack of focus, colour cast, lens flare, noise. Another to add to the list is chromatic aberration. It is sometimes referred to as purple fringing. It tends to occur where the contrast is highest, often worst at the corners of the image, especially when the image is enlarged. I didn't have to look far to find an example. In this picture taken at Jupiter creek in 2004 you can see that the dark limbs have a purple edge on one side and a green edge on the opposite. The problem arises as different colours are bent to different degrees by the glass of the lens. The same effect that causes a rainbow to be created by a prism. You will note the marked chromatic aberration in my transit of Venus photo (Photoclips banner). There are two main manifestations. One is the purple fringing mentioned above where there is a lateral displacement of the image in each of the differing colours. This can be corrected by post processing to realign the different colours. The other is a vertical displacement (above or below the image plane) of the different colours resulting in overall blurring and inability to get a sharp image. This cannot be corrected and causes problems even if you use black and white film.





Sir Isaac Newton realised that he could reduce this phenomenon by using lenses with long focal lengths. As a result he was able to build the first telescopes and microscopes that were able to give sharp images at great magnification. (This is why telescopes are so long). Subsequent lens manufacturers have gone to a lot of trouble to minimise this chromatic effect. Glass that contains fluorite often has less of a chromatic effect than other glasses. Another technique is to use multi-component lenses. If two types of glass, with different chromatic properties (crown glass and flint glass) are used to create a lens element, then the red and blue ends of the spectrum can be bent to similar degrees. This set up is called a doublet. In such a lens one element must be a divergent lens, even though the overall effect will be to converge the light rays. Another alternative is to use a curved mirror to create the image, as there is no chromatic effect with reflection.

Some digital cameras (Nikon, Panasonic) have algorithms in the camera that will correct the lateral chromatic shift according to the known properties of the lens. This takes place before the data is written on the card. There is also post production software that will do the same thing, reading the lens data imbedded in the file. The Nikon and Cannon software will do this, and there is a third party product PTLens.

In photoshop there are a couple of sliders that allow you to adjust red/cyan and blue /yellow fringing. (Filter/Distort/Lens correction) I used these sliders on my image above, but I was unable to create a satisfactory result. Part of the problem is that we are now dealing with rgb channels whereas the original problem was created by the separation of light according to frequency. (a subtle but important difference) Other fringing solutions I have seen include—desaturation, selection of the fringe colour then colour adjustment and as a last resort cloning . None of these are ideal.

In summary—chromatic aberration is created by the lenses in the camera. Better quality lenses have less effect. When you are buying equipment it is important to look for chromatic aberration as it is a hallmark of a poorer quality product. Software can help, however it is better not to rely on software to correct a problem in the lens.

Photographing the sun - Peter Maunder / James Allan

From page 1

another 2 transits 8 years apart and then another gap of 121.5 years. (this is remarkably less common that a lunar eclipse of the sun, which will occur another 4 times this decade) I recall from primary school history lessons that Captain Cook travelled to the South Pacific (Tahiti) explicitly to observe and time the transit of Venus. The Royal Society had commissioned the journey, so that the distance of the earth from the sun could be calculated. It appears that the transit of Venus in a historical sense has special significance to us Australians. Accordingly I was keen to observe and if possible photograph the phenomenon.

I tried to build a pinhole camera, which disappointingly gave very poor resolution. I suspect that the hole was not regular and perhaps too large. My second attempt was with a cardboard box and a pair of binoculars. I focussed the suns rays on the bottom of the box in the same way that I had focussed the sun's rays onto ants. I placed a piece of white paper on the bottom of my box. To the right is an image of the appearance inside the box, showing the sun and the branches from the trees. Amazingly I got a clear image that I was able to photograph. When the clouds eventually cleared at around 11am I was able to watch the transit until it finished at around 2.30. You can see my image at the top of this newsletter—displayed as the banner. Of course it is not a very sharp image due to chromatic aberration in the binoculars.

At the next club meeting I was surprised to discover that one of our members, Peter Mauder has also photographed the transit. Peter photographed the transit through his telescope 8 years previously. He protected the optics of the telescope and camera using Baader Film. I will let Peter tell the rest of the story:

The Baader film is a safety film for solar observation. It is made for the construction of high-quality objective-filters for observing the sun with telescopes, binoculars, camera or video-lenses. This foil is CE-tested and reduces the intensity of sunlight by 99.999% (optical density 5.0). The image of the sun is extremely contrasty and of almost neutral colour.

This film is cheap and easily available and is mounted on the telescope or camera "objective lens". The film goes right at the front of the telescope between the sun and this first lens. It is a very safe method, as the light reduction occurs before any optics, which will magnify the suns energy. On the other hand if the sun filter is placed after the prime/objective lens it might heat up, burn and crack suddenly. If this happens the macular and hence the eye can be destroyed in a fraction of second.

As can be seen by my images the Baader Film produces a rather flat uninteresting view of the sun because it merely reduces light intensity at all wavelengths.

The second of my images, at greater magnification shows the "teardrop" effect as the planet appears to merge with the edge of the suns disc. (This phenomenon caused Captain Cook particular problems in deciding when the transit had started and finished. Despite these problems the 1770 calculation of the distance to the sun was remarkably accurate.)

A better method, but substantially more expensive, is to use a dedicated solar telescope as has Paul Haese, a fellow member of ASSA (Astronomical Society of SA). This method uses a narrow bandwidth filter at 0.5 angstroms wavelength, to highlight the interesting parts of the visible spectrum.

The following image from Paul Haese could be copyrighted and so should not be widely distributed – I have Paul's permission for publishing it in the newsletter providing it is published with acknowledgements to Paul Haese.

Cropped selection from image by Paul Haaese using a dedicated solar telescope with 0.5angstrom narrow bandwidth filter

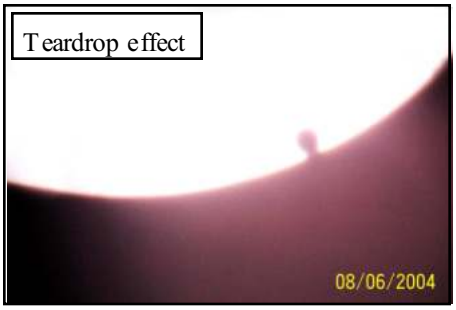
Binoculars and cardboard Box setup

View inside the box

Baader film

Telescope—8 inch F4 Optex Newtonian Reflector. Focal length 800mm: eyepiece 25mm with Baader film—Camera—Kodak 6340 Digital Camera using eyepiece projection

Teardrop effect



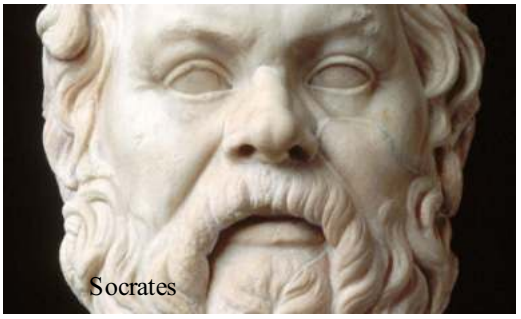
Aesthetics—(Is that art?)-in a single page

James Allan

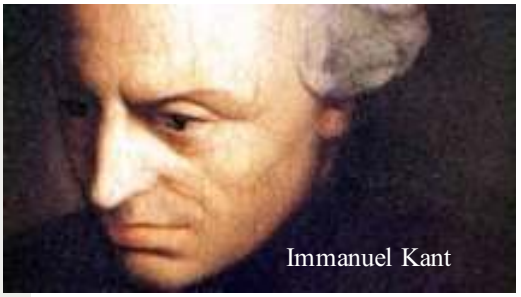
The Philosopher Socrates would ask a young novice to describe the attributes of beauty. Once he had drawn out and clarified a logical answer from the novice, to their utter frustration, he would then quote endless examples of beautiful objects that stood outside their definition and ugly objects that stood within. It was a standard philosophical party trick that eventually lead to questions like—"what is art?" and the whole field of aesthetics.

There is a relativist answer to this conundrum that suggests beauty or art is not a set of criteria but a group of objects that I have selected. This makes sense, and explains the fact that different people have different tastes in art. However it's not enough. You could ask why it is that some objects are almost universally seen as attractive? Why can we sell a Van Gough for millions? What is it that gives it worth? Kant suggested that universal validity occurs because we are all human. He argues that our appreciation of art is not dictated by our education but is intuitive. In the 19th centaury the art academies prescribed exact formulations to describe art in terms of line, form, texture, composition, theme, tone and colour. At the time this was almost universally accepted. In the early 20th centaury however each of these precepts were abandoned by successive movements of art. We are familiar with the impressionists, the expressionists, cubists, abstract art, Dadaists and so forth. Currently there are no precepts that can be used to describe the attributes of art other than that it is recognised by the public as being art. As one artist expressed it—"Well if it isn't art, What the hell is it doing in an art gallery and why are people coming to look at it?" (Tracey Emin) She was making the point that perhaps art is deemed as art by the experts. Perhaps we've asked that same question more in the sense of—"Blow the experts—how much did they pay for that rubbish."

The purpose for this discussion is to ask the question, " Is photography art?" Some would say that it is merely a slavish reproduction of reality and shows no creative genius. The other day I was interested to hear the opposing point of view from a historian. He argued that you could not take photographs as evidence of historic events as they are crafted by the photographer to deceive us to see what he intends us to see. Susan Sontag wrote a book, "on photography" where she discusses these questions. She observes that photography which was initially a very restricted pursuit, has become available to the masses through the box brownie, the instamatic camera and more recently the compact point and shoot. There has been such a proliferation of photographs that they now outnumber all other images on the planet. Susan argues that such a proliferation of images changes the balance of political power. It could be noted that they are not all good images. There are some very skilled craftsmen producing superior images. Ansel Adams takes the view that "You don't take a photograph, you make it". This suggests that photography is an art form, at least for Ansell Adams. But are some photographers artists while others merely take photos? Is the intention of the photographer important? This can't be true as there are obvious exceptions on each side of the argument. Some very poor photos were intentioned as art and some good ones were not. Rather than ask the question—"Is it art?", perhaps we should ask, —"Is it good art?"


Socrates

"I think that's what art is: art is communication made in the hope that interesting miscommunications will arise." — Misha Glouberman


Immanuel Kant

Art is an invention of aesthetics, which in turn is an invention of philosophers.... What we call art is a game. - Octavio Pez


Susan Sontag

"Rules of taste enforce structures of power." — Susan Sontag