

In Camera

The Newsletter of the Hawkesbury Camera Club Inc.

FROM THE CHAIR

Greetings Members

Congratulations to Dale Irving on being elected vice president. Dale is a valuable addition to our club executive. The first month is behind us and already it is evident that we are in for a very successful year. Mike Smyth got the ball rolling with very good presentation on black and white photography.

The HAG's night was also big success with above average attendance. Presenters Dale Irving and Alan Aldrich did an outstanding job. The HAG's night continues to go from strength to strength.

The first competition was an open comp with large member participation. It was pleasing to see there were large number of entries that showed creativity and imagination.

The membership continues to grow, which is a very positive sign for the club. One new member after only attending three meetings has already received a merit and credit for her work.

After long deliberation and much soul searching I have decided to tender my resignation as president. I make this decision with a great deal of sadness, but I am confident considering the strong executive, which we have that the club is in good hands. I would like to thank the committee and the membership for their constant support.

Cheers Geoff.

We have been saddened at the news that Geoff Pfister has tendered his resignation as President of our Camera Club.

Geoff has been involved in photography in a professional way for many years.

He has been involved in the camera club for approximately 10 years with the last year and this year up to now as President.



OFFICE BEARERS

President:	Geoff Pfister 9626 7537
Vice President:	Dale Irving 4579 6899
Secretary:	Charles Sutton 4577 2284
Treasurer:	Ian Cambourne 4577 5148
Comp Manager:	Kim Duproy & Alan Sadleir
Publicity:	David Duproy
Activities Coordinator	Denise Newton
Newsletter Editor	Alan Aldrich 9627 4225

THIS MONTH

Feb 2 Guest Speaker "Black & White techniques in a digital age." Mike Smyth

MARCH 9 Digital Group Keeping track of your digital files

MARCH 16 Comp – Monochrome

March 30 Members' Presentation

His enthusiasm and humour from the front will be missed by all.

He has a personality, which allows him to know each person by name and has made himself known to everyone, which is much appreciated.

Geoff has a love for photography, which is unmatched and is always willing to impart his knowledge to anyone.

Geoff we appreciate you and wish you well.

I am sure that everyone would want to express their love for you and wish you and your family the very best as you deal with the consequences of your illness.

We look forward to your constructive contributions at our meetings in the future.

Speaking personally I have the highest regard for you and will be praying for you and your family.

Keep on keeping on and we will be seeing you and that great smile often I am sure.

Dale Irving

Vice President

HAGS Digital Group meeting

March 9

Members are reminded to bring a memory card from their camera loaded with at least 10 images recently taken that have not been uploaded to your laptop. You will need a card reader or the USB cable that connects your camera to your computer so that the images may be uploaded.

Topics that will be discussed during the night will include:

- Maintaining an orderly filing system.
- The addition of keywords to your image files.
- Searching and retrieving past images.

The two software packages that will be used are Adobe Bridge and Lightroom.

If time permits the often-mentioned topics of removing that unwanted element from an image and the addition of an element that occurs in one photograph and adding it to another will be discussed. (IE copying and pasting). There are a multitude of methods to do these tasks in PhotoShop so it may be necessary to let this topic run over to next month as well.

This will lead to the following months coverage of layers and layer masks, perhaps the very basis of understanding PhotoShop and Photoshop Elements.

Questions are always welcomed from members who are having troubles with features of image editing software. If you are stuck lets us know and we'll find someone to answer or guide you through a method to overcome your difficulty.

Develop a Black and White Portfolio.

At the last meeting of our Digital Group, referred to as HAGS the subject of a competition for the group was discussed. The idea of competition and portfolio in the same sentence to so is like trying to rationalise contradictory ideas. The thoughts of the Guru Des Crawley were distributed to guide members who attempt this project. In his guide to establishing a portfolio he itemised the following principles.

The Key Characteristics of the Portfolio

The following offered in point form highlight the fundamental drivers in the creation of a portfolio, as suggested by Prof. Des Crawley.

1. This is not a competition. Be egocentric. Personal goals have priority.
2. There are no rules and if you discover any ignore them, break them.
3. It is unconstrained. No subject, no content is excluded.
4. The basic building block is an idea or concept selected for its power.
5. Presentation is self-selected.
6. The portfolio will have a unity – it is a panel of some 5 - 8 pieces unified by a combination of form of presentation, its aesthetic and its content*

7. Use Level 3 language – expressive composition see Table 3 in the original.
8. Demonstrate you know the difference between:
 - Novelty and creativity
 - Subject and content (subject matter)
 - Document – picture – art in photography
 - Meaning – representation – intention
9. Experiment and make mistakes
10. Time manage so that you can edit ruthlessly.
11. Enjoy.

To extend the meaning of the principles is the idea to present by the end of the year a selection of 5 to 8 images using your interpretation of the theme "OLD" to link the images.

When asked for a definition of OLD, Google immediately extends the minds definition of the word.

Google suggests:

- (Used especially of persons) having lived for a relatively long time or attained a specific age; "his mother is very old"; "a ripe old age"; "how old are you?"
- Of long duration; not new; "old tradition"; "old house"; "old wine"; "old country"; "old friendships"; "old money"
- Old (a): (used for emphasis) very familiar; "good old boy"; "same old story"
- Skilled through long experience; "an old offender"; "the older soldiers"
- Erstwhile (a): belonging to some prior time; "erstwhile friend"; "our former glory"; "the once capital of the state"; "her quondam lover"
- Honest-to-god: (used informally especially for emphasis); "a real honest-to-god live cowboy"; "had us a high old time"; "went upriver to look at a sure-enough fish wheel"
- Of a very early stage in development; "Old English is also called Anglo Saxon"; "Old High German is High German from the middle of the 9th to the end of the 11th century"
- Past times (especially in the phrase 'in days of old')
- Previous (a): just preceding something else in time or order; "the previous owner"; "my old house was larger"

In other words let the mind run free and use your chosen variant to link your photographs. Previously it was suggested to use 5 to 8 images to illustrate the theme. However using rule 2 of Des's suggestions, change the quantity. Please bear in mind the last rule of portfolio creation, ENJOY.

It's all about enjoying your form of photography and compete with yourself to create better images, be very self-critical and improve yourself.

The Richard Green Exhibition

At The Regional Gallery

300 George Street

Windsor

A few of us went to the opening of the Richard Green's Exhibition a few weeks ago. The first impression was the number of people in the audience, well over 200. They had come to hear from the photographer himself.

Richard is no fly-by-night operator, he has been associated in one form or another with photography since his teens. After a eminent university career in the early days of digital imaging software he was able to retire on his comfortable "Motsa" ask Phillip Adams of the ABC described his superannuation.

Richard then amalgamated his emerging love of aviation of the rotary winged type with his continuing love of photography.

His Robins Helicopter now transports his wife, his Canon equipment and himself to the most distant points in Australia to take images that most of us only dream of taking.

He then selects a dozen images that have been carefully exposed to capture specific elements of the scene and merges them into panoramas of breathtaking beauty. Using PhotoShop he amalgamates these panoramas to give lifelike qualities to sky, background and foreground.

This is one exhibition not to miss and it's on in our own backyard.

PS, Whilst at the exhibition a committee meeting was hurriedly convened and a decision was made to by the Club's library a copy of Richard Green's book of panoramic images.

(AA)

And now for Jo's perspective,

Last Sunday I was amongst a crowd of more than 200 people who gathered for the well publicised event of Richard

Green's talk and the opening of his landscape photography exhibition at Hawkesbury Regional Gallery. I should have sat in the front row to be able to see and hear all that was said and shown, but was able to understand enough to know that what Richard Green does in terms of photographing Australian Landscapes is well beyond the resources of time, money and equipment of most people, to be able to follow in his footsteps. Richard explained that he was able to "sell his business for a motza" and retire quite a few years ago, and follow his passion of photography. Investing in a helicopter, he is able to travel to out of the way places and land wherever he is inclined, and take photographs in the wild. His camera equipment was equally funded. The photographs tell their own story of places in the wilderness regions of Australia that might be viewed in a book, but in terms of the exhibition's large prints, we are invited to enter the landscape. We are there, standing on a mountaintop, wading through the mangroves, walking through a tangle of bushes and scrub, looking across a cavernous valley, and in the depths of a forest. The intensity of colours and minute details in the photos mean that Richard Green has top quality camera gear - during his talk he zoomed in on various images and revealed amazing detail up close in the vast landscapes. His artistry is in recreating the scene captured digitally. He wants us to be there looking at the scene he saw. The beauty of the landscape is apparent in every scene. Nonetheless, he explained it wasn't just a matter of point and shoot... Richard showed us the multiple images of one scene that he took in order to recreate the scene as a photograph. I think that it was 12 shots as he explained it, which are taken of a scene in order to stitch them into a panorama, and also at different exposures in order to capture shadow detail to highlight detail, all then merged and worked on in the computer to come up with a stunning image. He said he spends 10 hours on each photograph to come up with the final result. And then it has to be printed.

The Camera Club Committee members who were present thought Richard Green's book which was for sale at the exhibition, would be a good investment to inspire our members, adding it to our library. At \$140 it will be tagged with a GPS Tracking device to know who has it in their possession. We had to come up with the cash for the purchase between us, and when I opened my wallet to make a

contribution I had a \$5 note, and also a \$5 BILLION DOLLAR note from Zimbabwe. Before you decide you'll mug me for my wallet, let it be known that it's worth \$0 since the currency in Zimbabwe is now \$US dollars. In another time and universe, though, maybe I might have had a motza to retire and spend on a helicopter and travel around Australia taking beautiful landscape photos. Dreaming. :) Josephine

What else is on in Sydney?

Wildlife Photographer of the Year 2010

Closes: 13 March 2011

Location: Australian Museum

Crm Park & College Street Sydney

Level G, Special Exhibition Space

See some of the world's most spectacular wildlife and nature. From frolicking pelicans to oxen braced for a blizzard, through to signs of first snow on treetops and birds in flight, these photographic images offer an extraordinary insight into the beauty, drama and diversity of the natural world.

With thousands of competition entries from around the world by talented amateur and professional photographers, this is a unique opportunity to experience over 100 candid photographs highlighting nature's precious wildlife.

Take your virtual journey into the wilderness

Photography categories include:

- Eric Hosking Award
- Nature in Black and White
- Animals in Their Environment
- Wild Places
- The Underwater World
- Animal Portraits
- Urban Wildlife
- Creative Visions of Nature
- Gerald Durrell Award for Endangered Wildlife
- Wildlife Photojournalist of the Year Award
- 10 years and under
- 11-14 years
- 15-17 years

My Photo Studio

Bring your own camera into the Australian Museum and take shots like pro in this fully equipped interactive studio space:

- Photograph live spiders, snails and insects

- Get up close with micro and macro shots
 - Practise your still-life photography on a selection of animal specimens from the Museum's collections
- Sharpen your skills and get more from your camera with My Photo Studio. Discover the amazing world that we live in – only at the Australian Museum, Sydney for a limited time. Don't forget – BYO camera!

Admission prices

(Wildlife Photographer of the Year exhibition and My Photo Studio includes general Museum entry):

- \$17 - Adult
- \$12 - Concession
- \$9 - Child (5 to 15 yrs)
- \$43 - Family (2 adults and 2 children)
- \$26 - Family (1 adult and 2 children)
- \$6 - extra child
- \$3 - Australian Government DVA Gold Cardholders and 'Blue' Pensioner Concession Cardholders

Photography & place Australian landscape photography 1970s until now

Unlike politically and conceptually informed landscape photography in Australia in the 1970s, which was a tentative exploration of the idea of place and reclamation, some recent photographic work can be seen to explore the idea of place in dynamic relation to culture, despite the specificities of location.

This exhibition looks at the earlier work and compares and contrasts intention and effect in relation to more recent photography and examines works that present very specific views of locations and what that location or place can be taken to represent. Includes 18 artists from Jon Rhodes, Lynn Silverman, Simryn Gill, Ricky Maynard, Rosemary Laing to Paul Ogier. Ingeborg Tyssen

16 Mar - 29 May 2011

Free admission

Art Gallery of New South Wales

Art Gallery Rd,
The Domain
Sydney

Next Month

APR 6 Night Photography
Des Crawley

APR 13 HAGS Masks & Layers

APR 20 Comp Candlelight

Dale Irving posed the following problem and thoughtfully added the answer.

I for one wonder from time to time if the judges who talk about 'The Rule of Thirds' would do themselves a favour and explain why!

Maybe it is just me, but I do like to know why there is such a rule, whether to keep it or chuck it out!

I do not want to sound too technical but the Fibonacci explanation makes a lot of sense to me.

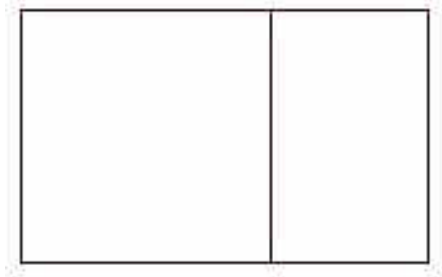
Attached is an extract from an article that i researched many moons ago.

Attached is the web link so that you can see that I am not dreaming.

Proportion - Golden Ratio and Rule of Thirds

© R. Berdan 20/01/2004. Published with permission of the author

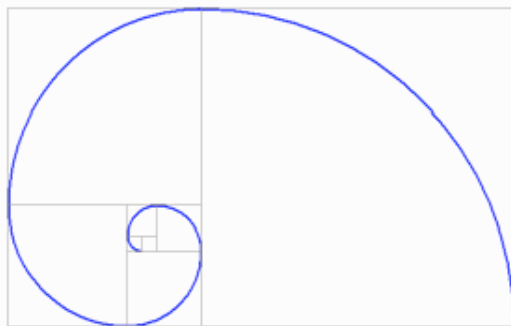
Proportion is the relationship of visual elements to each other and to the whole picture. One of the reasons proportion is often considered important in composition is that viewers respond to it emotionally. Proportion in art has been examined for hundreds of years, long before photography was invented. One proportion that is often cited as occurring frequently in design is the Golden mean or Golden ratio.



Golden Ratio: 1, 1, 2, 3, 5, 8, 13, 21, 34 etc. Each succeeding number after 1 is equal to the sum of the two preceding numbers. The Ratio formed 1:1.618 is called the golden mean - the ratio of bc to ab is the same as ab to ac. If you divide each smaller window again with the same ratio and joining their corners you end up with a logarithmic spiral. This spiral is a motif found frequently throughout nature in shells, horns and flowers (and my Science & Art logo).

The Golden Mean or Phi occurs frequently in nature and it may be that humans are genetically programmed to recognize the ratio as being pleasing. Studies of top fashion models revealed that their faces have an abundance of the 1.618 ratio.

tlc.discovery.com/convergence/humanface/articles/mask.html



Many photographers and artists are aware of the rule of thirds, where a picture is divided into three sections vertically and horizontally and lines and points of intersection represent places to position important visual elements. The golden ratio and its application are similar although the golden ratio is not as well known and its' points of intersection are closer together. Moving a horizon in a landscape to the position of one third

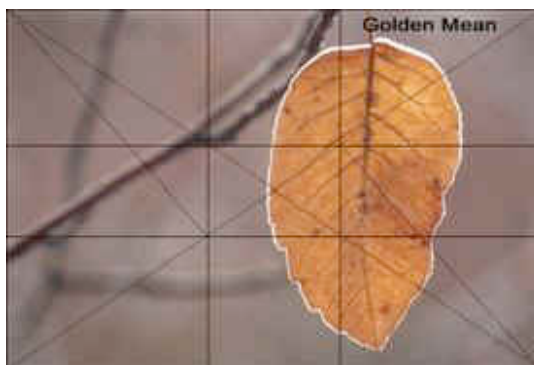
is often more effective than placing it in the middle, but it could also be placed near the bottom one quarter or sixth. There is nothing obligatory about applying the rule of thirds. In placing visual elements for effective composition, one must assess many factors including colour, dominance, size and balance together with proportion. Often a certain amount of imbalance or tension can make an image more effective. This is where we come to the artists' intuition and feelings about their subject. Each of us is

unique and we should strive to preserve those feelings and impressions about our chosen subject that are different.



Rule of thirds grid applied to a landscape

Golden mean grid applied a simple composition



On analysing some of my favourite photographs by laying down grids (thirds or golden ratio in Adobe Photoshop) I find that some of my images do indeed seem to correspond to the rule of thirds and to a lesser extent the golden ratio, however many do not. I suspect an analysis of other photographers' images would have similar results. There are a few web

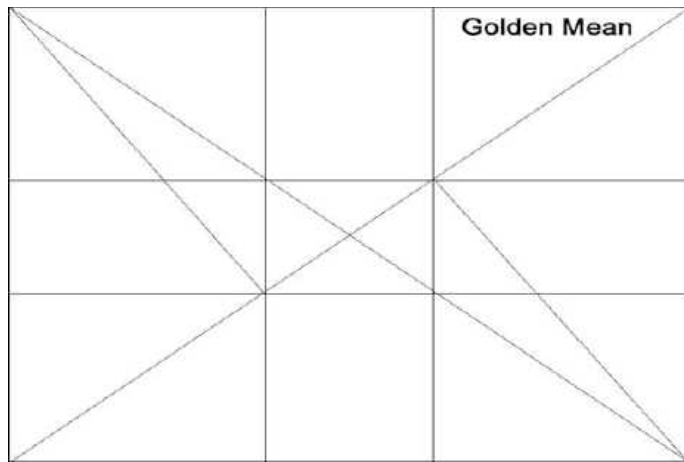
sites and references to scientific studies that have studied proportion in art and photography but I have not come across any systematic studies that quantified their results- maybe I just need to look harder (see link for more information about the use of the golden ratio:

http://photoinf.com/Golden_Mean/).

In summary, proportion is an element of design you should always be aware of but you must also realize that other design factors along with your own unique sensitivity about the subject dictates where you should place items in the viewfinder. Understanding proportion and various elements of design are guidelines only and you should always follow your instincts combined with your knowledge.



Never be afraid to experiment and try something drastically different, and learn from both your successes and failures. Also try to be open minded about new ways of taking pictures, new techniques, ideas - surround yourself with others that share an open mind and enthusiasm and you will improve your compositional skills quickly.



35 mm film has the dimensions 36 mm by 24 mm (3:2 ratio) - golden mean ration of 1.6 to 1 Points of intersection are recommended as places to position important elements in your picture.

Note: The above segment is part of the article COMPOSITION & the ELEMENTS of VISUAL DESIGN by Robert Berdan (<http://www.scienceandart.org/>)

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The entire article can be found here (PDF):

<http://www.scienceandart.org/photography/elementsofdesign.pdf>











Thanks Dale (AA)

For Sale

Prices negotiable

Marian Paap

0402 116670

			<p>Lowepro camera bag – Flipside 200 –Backpack (Red) [Brand new] \$70.00</p> <p>Capacity: 1 DSLR with 80-200mm attached + 1 -3 additional lenses or flash units Size [exterior]: 8.6w x 6.2D x 16.5" H in. Weight: 1 kg</p>
			<p>Lowepro SLR Camera Case/Bag Topload Zoom Mini-Red [Brand New] \$25.00</p> <p>Capacity: small SLR with short lens attached, or APS and film and accessories Size(Interior): 5.9W X 3.9D X 6.5H in./15 X 10 X 16.5 cm Size(Exterior): 7.5W X 5.9D X 7.5H in./19 X 15 X 19 cm Outer fabric: water-resistant Weight: 0.57lbs/0.26kg</p>
			<p>Leather backpack- Genuine Leather by Just Leather Melbourne \$100</p> <p><i>[used once – in excellent condition]</i> Space for laptop and loads of compartments</p>
			<p>Camera Bag – SONY LCS-SC20 for the D-SLR Camera - [Brand new] \$50.00</p> <p>For D-SLR Camera System Light weight Pockets for various accessories Integrated silver coloured protective rain jacket Dimensions (W x H x D) 400 x 300 x 210mm</p>

		<p>Video camera bag – GLANZ \$15.00 [Brand New]</p> <p>Dimensions: 22 x 12 x 11.5cm</p>
		<p>Camera Bag – Kata \$25 [Brand New]</p>
		<p>Glanz – small camera bag \$5 [Brand New]</p>
		<p>Glanz – large camera bag \$20 [Brand New]</p>

CAMERA FLASH: APPEARANCE

Using a camera flash can both broaden the scope and enhance the appearance of your photographic subjects. However, flash is also one of the most confusing and misused of all photographic tools. In fact, the best flash photo is often the one where you cannot even tell a flash was used. This tutorial aims to overcome all the technical terminology in order to focus on the real essence of flash photography: how to control your light and subsequently achieve the desired exposure.

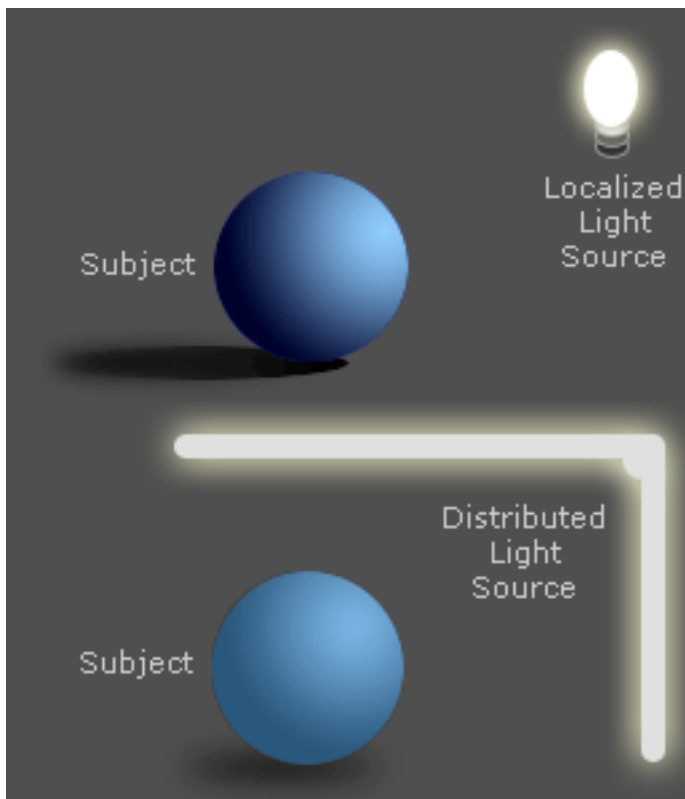
FLASH LIGHTING INTRODUCTION

Using a flash is fundamentally different from taking a normal camera exposure because your subject is being lit by two light sources: your flash, which you have some control over, and the ambient light, which is likely beyond your control. While this fact may seem simple and obvious, its consequences are probably not:

1. **A flash photograph can vary the appearance of a subject by controlling the intensity, position and distribution of light coming from a flash.** With ordinary ambient light photos, one can only affect the appearance of a subject by changing exposure and depth of field.
2. Unlike with ambient light photography, **one cannot see how their camera flash will affect the scene prior to taking the photograph**, since a flash emits within milliseconds or less. Further, a flash is so quick that even after the shot it's nearly impossible to tell what it looked like without checking your camera.

It's therefore critical to develop a good intuition for how the position and distribution of your camera's flash influences the appearance of your subject. These qualitative aspects will be the focus of the first part of this tutorial; the second part will concentrate on camera settings

for achieving the desired flash exposure.



LIGHT DISTRIBUTION: BOUNCED FLASH & DIFFUSERS

An important concept in flash photography is the following: for a given subject, the distribution of the light source determines how much contrast this subject will have.

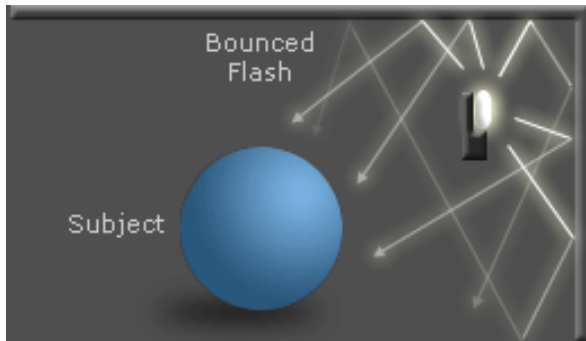
Contrast describes the brightness difference between the lightest and darkest portions of a subject. When light is more localized (left), one face of the sphere receives intense direct light, while the opposing side is nearly black because it only receives what little light had bounced off the walls, ceiling and floor. When light is more distributed (right), shadows and highlights appear softer and less intense because this light is hitting the sphere from a wider angle. Photographers often describe light, which scatters substantially or originates from a

large area as being "**soft light**," and more concentrated and directional light as being "**hard light**."

What does this all mean in practice? Generally, photographs of people will appear more appealing if they are captured using less contrast. Contrast tends to over-exaggerate facial features due to deep shadows being cast across the face. Further, if the sphere in the above

example had texture, then its texture would have been greatly emphasized in high contrast lighting. For a photo of a person, this would be analogous to giving skin a rougher and often less desirable texture.

The big problem is that a camera flash is by its very nature a localised light source. **A good flash photographer therefore knows how to make their flash appear as if it had originated from a much larger and more evenly distributed light source.** Two ways to achieve this are by using either a flash diffuser or a bounced flash.



While it may at first sound counterintuitive, aiming your flash *away* from your subject can actually enhance their appearance. This causes the incident light from your flash to originate from a greater area, and is why portraits are usually taken with a flash that first bounces off a large umbrella.

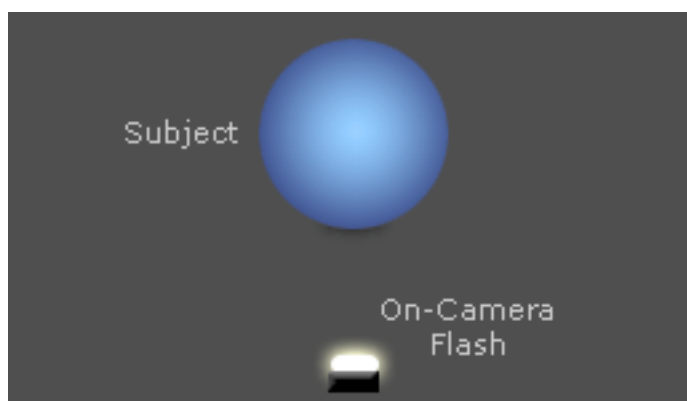
However, bouncing a flash greatly reduces its intensity, so you will need to have a much stronger flash in order to achieve the same exposure. Additionally, bouncing a flash is often

unrealistic for outdoor photographs of people since they are no longer in a contained environment.

Similarly, a **flash diffuser** is usually just a simple piece of translucent plastic, which fastens over your flash, acting to scatter outgoing light. For outdoor photos this will make very little difference, but for photographs taken indoors this will soften the lighting on your subject, since some of the scattered light from your flash will first bounce off of other objects before hitting your subject. However, just as with a bounced flash, be aware that using a flash diffuser can greatly increase the necessary flash intensity.

As with anything though, too much can be a bad thing. Light which is overly diffuse can cause the subject to look flat and two-dimensional. Landscape photographers understand this well, as it's the flat look created by light, which is emitted evenly across the sky on an overcast day. However, overly diffuse light is rarely a problem with flash photography.

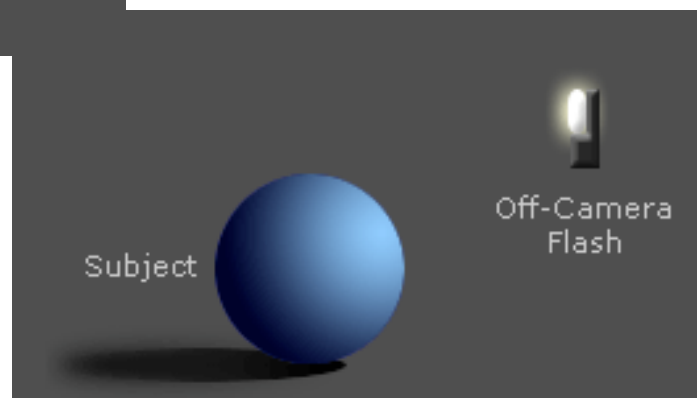
LIGHT POSITION: ON-CAMERA & OFF-CAMERA FLASH



The position of the light source relative to the viewer also affects the appearance of your subject. Whereas the localization of light affects contrast, light source position affects the visibility of a subject's shadows and highlights: The subject with head-on lighting (left) looks less three-dimensional than the subject shown using off-angle flash (right), which is exactly

the difference one sees when using an on-camera versus off-camera flash, respectively. With on-camera flash, the side of the subject, which receives all the light, is also the side of the subject the camera sees. Resulting in shadows that are barely visible, and a bright and harshly-lit subject.

Overall, subjects generally look best when the light source is neither head-on, as with on-camera flash, nor directly overhead, as



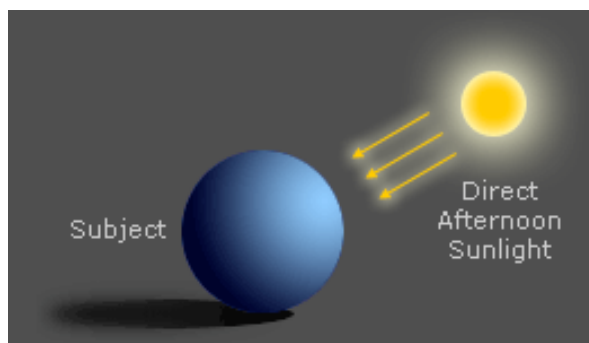
is often the case with indoor lighting. In real-world photographs, using an on-camera flash can often give a "deer in the headlights" appearance to subjects, such as in the example of the well-known subject to the left.



However, it's usually unrealistic to expect that one can have a flash located off of the camera, unless one is in a studio or has a sophisticated setup, as may be the case for a big event like a wedding.

The best and easiest way to achieve the look of an off-camera flash using an on-camera flash is to **bounce the flash off of an object, such as a wall or ceiling**, as discussed previously.

Another option is to **use a flash bracket**, which increases the distance between the flash unit and the front of your camera. Flash brackets create substantial off-angle lighting for close range photos, but appear increasingly similar to an on-camera flash the further they are from your subject. A noticeable improvement is reducing red-eye, because light from the flash no longer bounces straight back to the camera (see red-eye section later). A flash bracket's biggest disadvantage is that they can be quite large, since they need to extend far above or to the side of your camera body in order to achieve their effect.



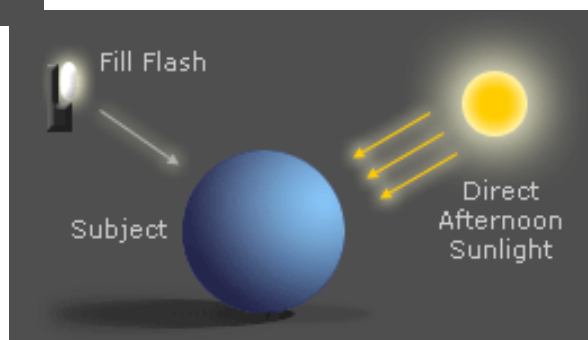
FILL FLASH

The term "fill flash" is used to describe a flash that contributes less to the exposure than does ambient light. Fill flash gets its name because it is effectively "filling in" the shadows of your subject, while not appreciably changing the overall

exposure. A fill flash effectively plays the role of a secondary light source.

A common misconception is that a flash is only used for situations where it's dark. Contrary to this belief, fill flash is most useful under bright ambient lighting, such as when your subject is back-lit, or when the lighting has too much contrast. It can dramatically improve the appearance of people being photographed in otherwise harsh

outdoor lighting, such as in afternoon sunlight on a clear day (example to the right). However, in order to use a fill flash you will need to force your flash to fire; most cameras do not fire a flash in automatic mode unless the scene is rather dimly lit. When there is plenty of ambient light, compact and SLR cameras will default to using their flash as a fill flash when it's activated. Just pay close attention to the charge on your camera's battery since flash can



deplete it much more rapidly than normal. The second half of this tutorial will go into more detail about how to achieve the right amount of fill flash.

FLASH & RED-EYE REDUCTION

A big problem with camera flashes is unnatural red eyes in subjects, caused by a flash, which glares, back from the subject's pupil. The red colour is due to the high density of blood vessels directly behind the pupil at the back of the eye. Red-eye can be most distracting when the subject is looking directly into the camera lens, or when their pupils are fully dilated due to dim ambient light. It is also much more prominent when the flash is very localized and directional ("hard light").



Some camera flashes have a **red-eye reduction mode**, which sends a series of smaller flashes before the exposure so that the subject's pupils are contracted during the actual flash. This does not eliminate red-eye entirely (since the smaller pupils still reflect some light), but it makes red-eye much less prominent since the pupil area is greatly reduced. An alternative method for red-eye reduction would be to just take the photo where it is brighter, or to increase the amount of ambient light — both will naturally contract the pupil.

Another technique is to use **digital red-eye removal**, which works by using image-editing software to select the red pupils and change their hue to match the person's natural eye colour. However, this technique should only be used as a last

resort since it does not address the underlying cause of red-eye, and is difficult to perform so that the eye looks natural in a detailed print. For example, subjects can easily end up not having any pupils at all, or can have portions of their eye that are coloured like a blue iris but still have the texture of a pupil.

The only ways to eliminate red-eye entirely are (i) to have the subject look away from the camera, (ii) to use a flash bracket, an off-camera flash or a bounced flash, or (iii) to avoid using a flash in the first place.



FLASH WHITE BALANCE

External flash units are usually much more powerful than flash units which are built into your camera. Even though an in-camera flash has enough intensity for direct light on nearby people, this type of light can be quite harsh. Often only an external flash unit has enough power to bounce off a distant wall or ceiling and still adequately illuminate the subject. An added benefit is that external flash units are usually easier to modify with diffusers, brackets, reflectors, colour filters and other add-ons. Furthermore, external flashes are also a little further from your lens's line of sight, which

can reduce red-eye and slightly improve light quality.