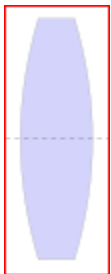




the Viewfinder

Why Aspheric?

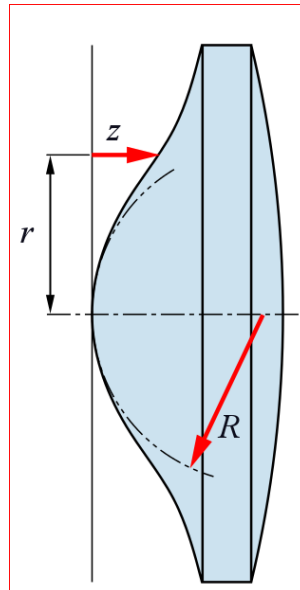
Lens makers have always tried to produce optics with minimal distortions and aberrations. To do so meant engineering a combination of lens elements to correct the distortions inherent in a simple lens without introducing new ones or compromising sharpness. In that quest, designers have been successful, albeit at a rather high price in most cases. Both spherical and chromatic aberration can be minimized through the use of one or more aspheric elements in the lens group as well as the use of some exotic formulations of high refractive index glass.



A 'normal' simple lens can be thought of as a section of a sphere with a constant radius. An aspheric lens on the other hand can have a combination of parabolic, hyperbolic and spherical forms. A single aspheric lens element can sometimes replace a more complex multi-lens system. The resulting lens is smaller and lighter than the equivalent multi-element design.

Although the use of aspheric elements can physically simplify lens design, the engineering considerations are indeed complex. It is surprising therefore, to discover that the principle of the aspheric lens dates back to before the dawn of photography. The earliest attempt at making an aspheric lens to correct spherical aberration appears to be by Rene Descartes in the 1620s. The profile of lens devised by Descartes is known as a Cartesian Oval. The first high quality lens containing aspheric elements was designed by Francis Smethwick who made a telescope with three aspheric elements and presented it the Royal Society in 1667. It was not until 1956, when the world's first commercial, mass-produced aspheric lens element was manufactured by Elgeet for use in the Golden Navitar 12 mm $f/1.2$ wide angle lens for use on 16 mm movie cameras.

Are they better? Given the hype, one would assume that a new lens containing one or more aspherical elements will always outperform an older lens with no aspherical elements. While this is the case most of the time, it depends on the quality of the older lens. There are many lenses of traditional design that are absolutely as good, but they will be larger and heavier. Interestingly, with modern



Question: What was the first aspheric lens for an SLR?

Answer: Canon FD 55mm $f1.2$.

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computer aided design and manufacture, a lens optimized through the use of aspheric elements can actually be made less expensively in some cases, but don't hold your breath waiting for the price to come down.

Neutral Density Filters; What and Why

The purpose of a neutral density (ND) filter is to reduce the intensity of light reaching the sensor of your camera. Why would you want to do that? In order to either increase exposure time or to reduce depth of field by allowing a larger aperture. This is very helpful for example, when rendering moving water as smooth texture or when utilizing a large aperture in very bright light for reduced depth of field.

They are called neutral density filters because they effect all wavelengths of light equally and therefore, will not cause a color shift.

A normal ND filter reduces light uniformly, but there are a number of specialized ones. The most common, is the split neutral density which is most commonly used to equalize the exposure between sky and land. This allows the capture of highlights and shadows without over or under exposure in any part of the image. Split NDs come in various densities and transitions (hard split and soft split).



A convenient way to use ND filters is with the square format system offered by Cokin and others. This gives the advantage of being able to use one size filter with various diameter lenses. Perhaps more importantly, it allows the positioning of the split in a split ND to coincide with the horizon or other demarcation in the frame of the image.

Another type is the variable ND, which allows you to dial the amount density on a scale along the bezel of the filter. These are made by combing two polarizing elements which when rotated, one in front of the other, block the light to varying degrees as a result of opposite polarizations. A word of caution- a good variable ND filter is expensive. If you see a bargain, check the reviews. A cheaply made filter can degrade both sharpness and color balance. Unless you will be using it extensively, it's probably better to stick with a single density filter.



The nomenclature used in describing ND filters can result in confusion because several concepts are used to describe the same property. For example, if you reduce the amount of light by a factor of four (4X), you would require two f-stops more exposure which is equivalent to an exposure increase of $1 \times 10^{0.6}$ or 0.6 ND ($\log(4)=0.602$). In other words, the ND scale is the common logarithm of the light reduction factor.

Still confused? Who wouldn't be. Try it this way. You want to reduce the light to 1/8 of the current reading in order to increase the exposure 8 times; say from 1/25 sec to 1/3 sec. That is the same as closing the aperture down by 3 f-stops (2, 4, 8). The log of 8 is 0.9 or 0.9ND.

Fortunately, you need not concern yourself with the math. Just set your camera for aperture priority and let autoexposure take care of the shutter.

Strength (in f-stops)	Light Reduction	Density
	2	4X
3	8X	0.9 ND
10	1,000X	3.0 ND
13	10,000X	4.0 ND
20	1,000,000X	6.0 ND

For Sale

Nikon D300 with all accessories including two batteries and original box. If interested, contact bg1958@live.com

Heavy Lifting

Participation in club competitions roughly follows the 80/20 rule, in other words, about 80% of the entries are provided by about 20% of the members. Of course these are the members who will benefit from the current scoring system which applies a “participation penalty” (or lack of) when calculating the year to date cumulative averages (the penalty disappears after 18 entries in a category).

Entries	Adj
1.0	4.0
8.0	1.0
10.0	0.8
12.0	0.5
18	0.0

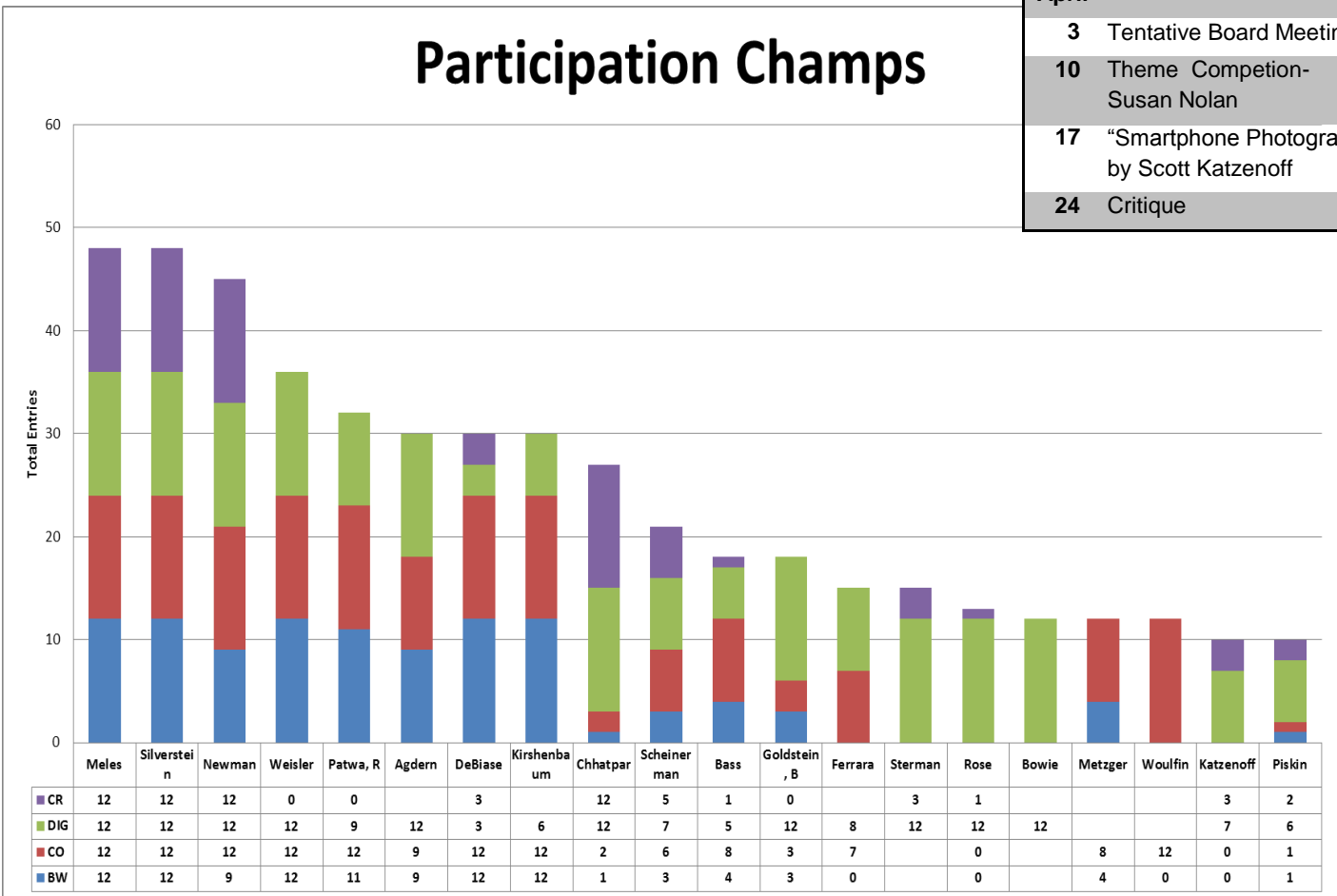
While still in the majority, print entries have been losing out to projection. The total number of prints, color and black and white combined has been 235 through December.

The number of digital projection entries was 171 and appears to be on the ascent.

The Cell Phone category is still very new and still experimental, but there have been an average of 7 individuals participating. Our newest member, a teenager, scored three 8’s in the last competition. With smartphones being the largest segment of cameras in the country and the weapon of choice for newbies, we expect this to grow as well.

Meeting Schedule	
January	
9	Competition- Art Inselsberger
16	Lightroom – Presented by Alan Agdern
23	Critique
February	
13	Competition- Dick Hunt
20	Lecture- TBD
27	Critique
March	
13	Competition- Laura Eppig
20	“Brushes and Masks” by Donna Crinnian
27	Critique
April	
3	Tentative Board Meeting
10	Theme Competition- Susan Nolan
17	“Smartphone Photography” by Scott Katzenoff
24	Critique

Participation Champs



FYI

The club computer has been upgraded with additional memory and Lightroom 5 has been installed on it. This

will enable easy access to Lightroom for future tutorials, such as this Thursday's presentation by Alan Agdern.

SCC Scores														From 1/9/2014 To 1/9/2014		
	Black White			POM Score	Color			POM Score	Projection			POM Score	Creative			POM Score
Agdem, Alan 1/9/2014	9	8	9	9.0	8.5	8.5	10.0	8.0	8.5	9.0						
Bass, Vivian 1/9/2014	9			9.0	9.0		10.0	7.0	7.5	7.5						
Bowie, Bill 1/9/2014								8.0	8.0	8.5						
Chhatpar, Sunil 1/9/2014								8.0	9.0	9.0		8.0	8.5	9.0		
DeBiase, Valerie 1/9/2014	9	8	8	9.0	8.0	8.0		7.0	8.0	8.0		8.0	8.0	8.5		
Ferrara, Chris 1/9/2014				8.0	9.0			8.5	8.5	9.0						
Goldstein, Barry 1/9/2014								7.5	8.0	9.0						
Herbst, Al 1/9/2014				8.0	8.0	8.0										
Katzenoff, Scott 1/9/2014								8.0	8.0	8.0	9.0					
Meles, Mordechai 1/9/2014	8	8	9	10.0	8.0	8.5	7.5	8.0	8.5	9.0		8.0	8.5	8.5		
Patwa, Ramesh 1/9/2014	9	8	8	9.0	8.0	8.5		8.0	8.0	9.0						
Piskin, Lorraine 1/9/2014								8.0	8.5			8.0				
Rose, Doreen 1/9/2014								8.0	8.0	8.5						
Scheinerman, Ira 1/9/2014								8.0	9.0		1.0					
Silverstein, Marty 1/9/2014	9	9		10.0	8.5	9.0		8.5	9.0	9.0	10.0	7.5	9.0		10.0	
Starling, Eddie 1/9/2014				9.0	8.0	9.0	10.0									
Stermann, Fred 1/9/2014								7.5	8.0	9.0		8.0	8.0	8.0		
Weisler, Jules 1/9/2014	8	8	8	7.5	8.0	7.5		7.5	8.0	8.0		8.0	8.0	9.0		
Woulfin, Gerald 1/9/2014								8.0	8.0	8.0						

Smartphone Point and Shoot Killers

When it comes to cell phone cameras, the iPhone has been the undisputed champ. Two new entries in the field however, are challenging the iPhone for the title of best phone in a pocket. The Nokia Lumia 1020 and the Sony Xperia XL. The Nokia features a back-illuminated sensor that is 1/1.5 inches and a Zeiss lens, not to mention a 41-megapixel sensor. That's right- 41 MP. The 1020 also has an app that lets you adjust





shutter speed, white balance and ISO sensitivity.

Sony's Xperia Z1 Android is no slouch either, with a 20.7-megapixel, 1/ 2.3 inch sensor and a Sony G Lens. The Z1 falls a bit short against the Nokia 1020 in terms of raw specs., but they match those of Cyber-shot point-and-shoot models, including a similar-sized sensor, Bionz image processor for improved noise reduction, fast autofocus, digital zoom, 5-inch display, and image stabilization. The Lens is f/2

Not enjoying those Ribbons?

If you no longer wish to receive competition ribbons please let me know.... *Barry*

PFLI Scores for January 2014

Color A

26	Marty Silverstein	'Raptor Watch'
24	Alan Agdern	'Woodpecker 4'
24	Peter Metzger	'Blue Jay 1427'
23	Edward Starling	'New York Lights'
23	Ramesh Patwah	'Yellowston Nat Park'
23	Ira Scheinerman	'Metro North Silver'
23	Valerie Debiase	'Deannas Sunset'
21	Mordechai Meles	'Blossoming'
21	Chris Ferrara	'Finger Lakes Farm'
21	Peter Newman	'Sunset Shadows'
20	Jules Weisler	'Leaf'
19	Barry Goldstein	'Leaves'

Digital A

25	Marty Silverstein	'Boiler'
24	Lorraine Piskin	'Palouses Lonely Tree.jpg'
23	Bill Bowie	'Up Up And Away 4'
23	Sunil Chhatpa	'Dahlia 32'
23	Doreen Rose	'Turbaned Man'
23	Jules Weisler	'White Daisies'
23	Ira Scheinerman	'Buddies'
23	Marc Bellow	'Caught Again'
23	Mordechai Meles	'Red Attracts Brown'
23	Alan Agdern	'Cuckoo Bird'
22	Gerald Woulfin	'Tree Tunnel To Gate'
22	Chris Ferrara	'Soaring Osprey'
21	Barry Goldstein	'Abandoned'
21	Peter Newman	'Nubble At Dusk'
21	Fred Stermann	'Remote Lighthouse'

Color B

22	Vivian Bass	'Tiny Bird'
22	Frank Kirschenbaum	'Lily 295'
21	Alan Herbst	'New York At Dusk'

Digital B

25	Scott Katzenoff	'Baboon'
21	Vivian Bass	'Casting'
21	Frank Kirshenbaum	'Lily 283'
19	Jie Huang	'Library1'
18	Valerie Debiase	'De Bees'

BW A

25	Alan Agdern	'Snow Leopard'
23	Valerie Debiase	'West Side Snow Scene'
22	Peter Newman	'Black Astor'
21	Peter Metzger	'Cheetah'
21	Vivian Bass	'Gatsbys Eagle'
21	Barry Goldstein	'Two Tulips'
20	Frank Kirschenbaum	'Day Lily 568'
20	Ramesh Patwah	'Camel Caravan'
20	Jules Weisler	'Old Barn'

Creative

22	Mordechai Meles	'Sleeping Butterfly'
22	Lorraine Piskin	'He's My Brother'
21	Ira Scheinerman	'Fleur De Jour'
21	Mordechai Meles	'Melting Down'
20	Peter Newman	'Lift The Lid'

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