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## Back to basics: Rules of vision – part II

AUGUST 15, 2019 BY [MING THEIN](#)

Upside down, or?

Judging from the correspondence and comments flying around recently, it's about time we did a refresher course here on the fundamentals of composition and image-making. As usual, there's far too much obsession over hardware and not enough thought about what it's actually being used for. This will be the first of several posts from the archives in this theme. That said, those people are unlikely to read these posts anyway...

Continued from [part I](#) – hopefully the first part has had time to settle and digest; let us press on...

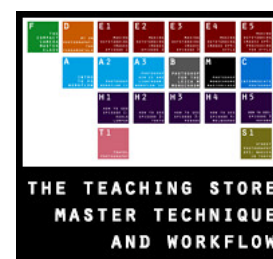
### We draw temporal inferences from direction of shadows

The length and direction of shadows also suggests time of day: this is one of the indelible subconscious rules dating back to the very beginning. It is a consequence of observing sunrises and sunsets and being able to judge approaching darkness accordingly, by both overall luminance of a scene and the shadows cast by the sun. Sadly, for a lot of us, this is somewhat academic as there are far too many offices with hours that extend beyond daylight and further have no natural light whatsoever...

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**We have a general sense of color**

This is a very vague statement, but most people have some aesthetic preferences for color combinations – complementary colors tend to be more attractive simply because they are naturally balanced (they cancel out to neutral when combined additively). We seem to be naturally drawn to images that use these color combinations for reasons I've not been able to find an explanation for; I suspect it has something to do with not leaving some sort of overall imbalance within the composition.

**Photographic implication:** Dominant colors that are complementary can be attractive at an immediately subconscious level.

**We interpret color temperature as an indicator of mood**

This is probably a consequence of the color temperature difference between firelight (warm), twilight (cool) and unfamiliar tints that are not part of the natural repertoire (green-magenta) and thus make us feel somewhat uncomfortable. Combined with luminance, dominant colors create an overall mood or feel to the image – much the same as one might decorate a room.

**Photographic implication:** [The inexact science of color and emotion](#)

**We interpret directional blur as motion**

Persistence of vision is the trick used by our eyes to create continuity and smoothness in motion; it's the same thing used for video when the frame rate is fixed (*I don't believe it is fixed for our eyes, but I do believe that scenes of low motion, or when we stare at something, have much lower fluidity than high-action high-adrenaline scenes where time seems to slow down*). It also means that when we are caught unaware by a moving object, it appears to streak through our vision without ever becoming defined since we never focus or fix on it. However, our brains are still registering the background, which means that there is still a 'sharp' visual anchor present – motion blur by one element in one direction therefore looks like deliberate movement; motion blur of every element in one or more directions just seems, well, sloppy.

**Photographic implication:** Avoid motion blur in multiple directions and/or by multiple objects. Use motion blur to create the *impression* of a subject, but without fully defining it (together with the specificities and limitations that implies) – much the same way in which we can identify something is a human from a silhouette, but not the specific expression or emotion of that person.

**We are all at risk of tunnel vision thanks to our biases**

Think of this as an extension to the recognition of familiar objects: very familiar objects which we encounter *and regularly interact with* will have further emotional attachment to us than a mere generic object of that type; we are therefore more biased than the typical observer of the resulting image. This can result in our fixating on one object in particular and ignoring the rest of the elements – potentially in a way that results in us missing distracting elements that weaken the composition. It is a dangerous thing for two reasons: firstly, the image is then at risk of becoming meaningful to a very limited audience, which is fine so long as exhibition is limited to only that audience; however, we often do not realise this and land up committing the sin of poor [curation](#). Images that are intended to have a wide appeal must move beyond this.

**Photographic implication:** Don't get fixated: try to see every subject and element as an arrangement of shapes, colors and luminance – nothing more, nothing less.

**We make quick judgements**

The human visual sense is the one with the fastest reaction time, partially due to the underlying biology and physics of it, and partially because it has always been our primary warning system to prevent physical harm. However, this also means that the time which we take to evaluate anything visually is almost always quite limited, and frequently not enough to take in all of the details in a scene or photograph. Our job as photographers is to observe more, distill faster, and output a resulting composition that should be immediately attractive and hold attention for long enough to invite further evaluation to appreciate the nuances and details in the image. This means that the image itself must be different enough to break pattern from what is normally casually observed and thus in itself stand out as a whole, but coherent enough to stand up to further scrutiny.

Note that the list becomes increasingly more conceptual or abstract – I tend to think of these as behavioural rather than autonomous, because to some degree we can condition ourselves not to respond in that way – but you can't ignore something bright red on a black background, no matter how hard you try. None of these are hard and fast rules that must be obeyed with every composition (or risk a crappy picture) – they're simply empirical observations on the way human vision works. If you can detach your rational mind from your subconscious one, you'll quickly see that the way you interpret the world as an *unconscious observer* (i.e. not on the lookout for anything specific) is very much in line with the list above. Being a *conscious* observer is somewhat different, because here we know we are actively evaluating every element in the scene in front of us for something – be it interest or suitability or differentiation from the norm – and we therefore have both our overall sense of observation heightened and somewhat objectified. We notice the small details because we are consciously trying to; sometimes to the point of ignoring the big things.

I think the ideal state of things for a photographer is somewhere between detailed, rational observer and casual audience: this way we don't get caught out by the elephant in the room thanks to our tunnel vision, nor do we miss details that might break the story on closer inspection. The idea is to notice enough to be able to integrate a second and even third layer of detail into a scene to add nuance to a story and reward the audience who has the patience to study your image longer, but at the same time be able to make an image with a gross structure that is still interesting enough to attract and hold attention at a casual and fast glance. MT

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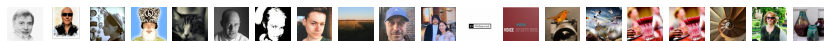
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## Comments

**Kristian Wannebo says:**

August 17, 2019 at 1:04 PM

I just found this  
(through <https://fstoppers.com/education/why-does-vibrancy-slider-feel-so-good-397267>),

I haven't read it, but I thought it might be of interest:

The Science of Art: A Neurological Theory of Aesthetic Experience

Article (PDF Available) in Journal of Consciousness Studies 6(6-7):15-51 · January 1999 ,

[https://www.researchgate.net/publication/233556531\\_The\\_Science\\_of\\_Art\\_A\\_Neurological\\_Theory\\_of\\_Aesthetic\\_Experience](https://www.researchgate.net/publication/233556531_The_Science_of_Art_A_Neurological_Theory_of_Aesthetic_Experience)

**Ming Thein says:**

August 17, 2019 at 8:35 PM

Thanks for the links!

**Andre Y says:**

August 16, 2019 at 11:58 AM

Just a guess on complementary color combos: I suspect it's because it also has maximum color contrast, so when the border between the two colors is judiciously placed in the frame, it can make something stand out more. The classic combo of course is Hollywood's orange highlights/mids and teal shadows. You can also play with colors with strobe photography and gels: some of the more interesting work out there uses 3 colors but there's a lot of nice stuff that uses one dominant color as well (eg. lighting the whole frame red).

**Ming Thein says:**

August 16, 2019 at 12:18 PM

Very true – and if that transition is hard or very inorganic, then it stands out even more still...

**REINALDO N. TOGORES says:**

August 16, 2019 at 7:10 AM

Colors that combine in such a way as to enhance or emphasize the qualities of each other are COMPLEMENTARY, not COMPLIMENTARY.

**Ming Thein** says:

August 16, 2019 at 8:47 AM

Fixed, thanks.

**C.S. Young Jr.** says:

August 16, 2019 at 7:02 AM

Great post, again thank you for sharing your wisdom! Your insight reminds me of a book I read a while back on Contemplative Photography. The premise being, develop the discipline of emptying your mind so you can truly “see” your subject, environment, etc. I need to reread!

**Ming Thein** says:

August 16, 2019 at 8:46 AM

Thanks. I suspect it's not so much emptying one's mind as being receptive or open to opportunities and subjects, and going further – understanding those subjects...

**C.S. Young Jr.** says:

August 16, 2019 at 11:05 PM

Excellent clarification. Perhaps both. You must be open to seeing, but you must also clear your mind of all your biases and other “filters” which distract you from “seeing opportunities”. Cheers!

**Andrew-Bede Allsop** says:

August 15, 2019 at 3:00 PM

Thinking about colour it has always amazed me that in nature no colours ever clash yet in the man-made world, especially fashion, they often do. In photography I never worry about clashing colours if I am shooting landscapes or flowers but do a fashion shoot or a street shot then colour clashing is a consideration.

**Ming Thein** says:

August 15, 2019 at 6:03 PM

Nature has a more limited color palette than the man made world; on top of that, things that stand out tend to get eaten (and thus not survive, proving to be a poor strategy against natural selection...)

**Yves Simon** says:

August 15, 2019 at 11:20 PM

Also, our human brain is trained for tens of thousand of years to consider colors mixed in nature as ‘normal’ and ‘beautiful’; colors in a human-made environment, when similar to what you see in nature, look ‘natural’ and ‘beautiful’, but if never seen in the same combination in nature, colors look ‘weird’ or even ‘ugly’.

**Ming Thein** says:

August 16, 2019 at 8:45 AM

Good point! Not everything natural is beautiful to all though...