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# Beauty of the Night Sky

## Concept, Expression and Contrast In Astrophotography

Adam Block



# Background

1,000 people/year for 20 years = 20,000 people

100 nights/year for 20 years = 2,000 nights

50% of nights relate to astrophotography

800 astrophotographs (significant integration time)

25-50 image processing workshops

400-500 all-night sessions

# Beauty of the Night Sky

- A Concept of Beauty

- Denis Dutton
- Landscapes and Achulean Axes
- Universality of some Aesthetics?

- Beauty of the Night Sky

- Multiplicity against Uniformity
- *Nightfall*
- Ancient Echoes

- Contrast

- Ansel Adams
- David Malin
- HST imagery
- Contrast in Astrophotography Today

***THAT'S SICK!***

***IS IT REAL??***





***THAT'S SICK!***

***IS IT REAL??***



# A Concept of Beauty

“To the list of science highlights can be added an even longer list of spectacular images that, though not necessarily in the top 10 scientifically, have had extraordinary public impact by virtue of their sheer beauty or arresting novelty.”



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# A Concept of Beauty



Denis Dutton (1944-2010)

*“We can say that the experience of beauty is one of the ways that evolution has of arousing and sustaining interest or fascination, even obsession, in order to encourage us toward making the most adaptive decisions for survival and reproduction.”*

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# A Concept of Beauty



Denis Dutton (1944-2010)



Thomas Cole

“beautiful landscape paintings”



# A Concept of Beauty



Denis Dutton (1944-2010)



Tetons and the Snake River (Ansel Adams)

# A Concept of Beauty



Denis Dutton (1944-2010)

*"Is beauty in the eye of the beholder? No, it's deep in our minds. It's a gift handed down from the intelligent skills and rich emotional lives of our most ancient ancestors. Our powerful reaction to images, to the expression of emotion in art, to the beauty of music, to the night sky, will be with us and our descendants for as long as the human race exists."*

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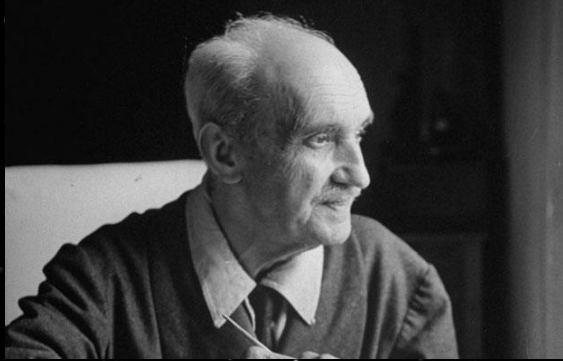
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# Beauty of the Night Sky



George Santayana (1863-1952)

*"It is an intricacy delicately poised  
between unfathomable complexity and  
uninteresting simplicity"*

*"The infinity which moves us is the sense  
of multiplicity in uniformity.."*

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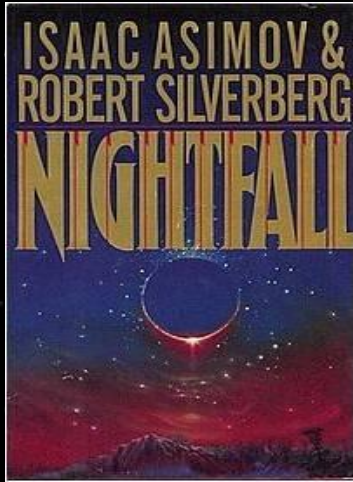
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# Beauty of the Night Sky



*"If the stars should appear one night in a thousand years, how would men believe and adore, and preserve for many generations the remembrance of the city of God!" -Ralph Waldo Emerson*

*"I think they would go mad." - editor*







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Format: Abstract

Send to

Int J Psychophysiol. 2015 Jul;97(1):46-57. doi: 10.1016/j.jpsycho.2015.04.021. Epub 2015 May 7.

## Night or darkness, which intensifies the feeling of fear?

Li Y<sup>1</sup>, Ma W<sup>2</sup>, Kang Q<sup>1</sup>, Qiao L<sup>1</sup>, Tang D<sup>1</sup>, Qiu J<sup>1</sup>, Zhang Q<sup>3</sup>, Li H<sup>4</sup>.

### Author information

### Abstract

Nighttime fear is a phenomenon in which people feel more afraid of threats at night. Despite the vast amount of psychological research on nighttime fear, previous researchers have not accurately distinguished between "night" and "darkness", both of which play important roles in nighttime fear. We collected physiological (skin conductance response and heart rate) and psychological (self-report) data simultaneously to investigate the effects of "night" and "darkness" on fearful feelings and whether these effects were moderated by the mode of stimulus delivery (i.e., visual or auditory). Specifically, two tasks were employed in which time (day vs. night), illumination (light vs. darkness) and stimulus type (fearful vs. neutral) were manipulated. Participants (n=128) were exposed to visual and auditory oddball tasks consisting of fearful and neutral stimuli. The results indicated that there were significant increases in fear responses at night, and the difference between day and night was significant for fear stimuli but not for neutral events. Furthermore, these effects were consistent over different sensory modalities (visual and auditory). The results of this study underscore the importance of the day-night cycle in fear-related information processing and suggest that further attention needs to be paid to the influence of the biological circadian rhythm on these processes. The current findings could inform a deeper understanding of anxiety and fear-related disorders, and thus, we invite future studies to illuminate the underlying neurobiological mechanisms therein.

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**KEYWORDS:** Circadian rhythm; Dark; Heart rate; Nighttime fear; Sensory modality; Skin conductance

PMID: 25957698 DOI: 10.1016/j.jpsycho.2015.04.021

[PubMed - indexed for MEDLINE]



Publication Types. MeSH Terms

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Circadian modulation of learning and memory in fear-conditioned mice. [Behav Brain Res. 2002]

Exposure to bright light and darkness to treat physiologic maladaptation to [N Engl J Med. 1990]

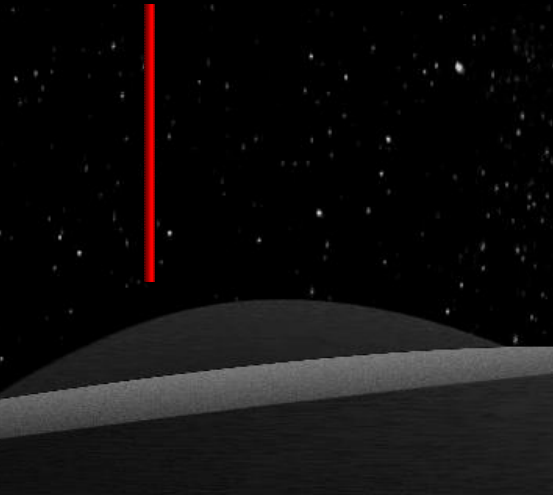
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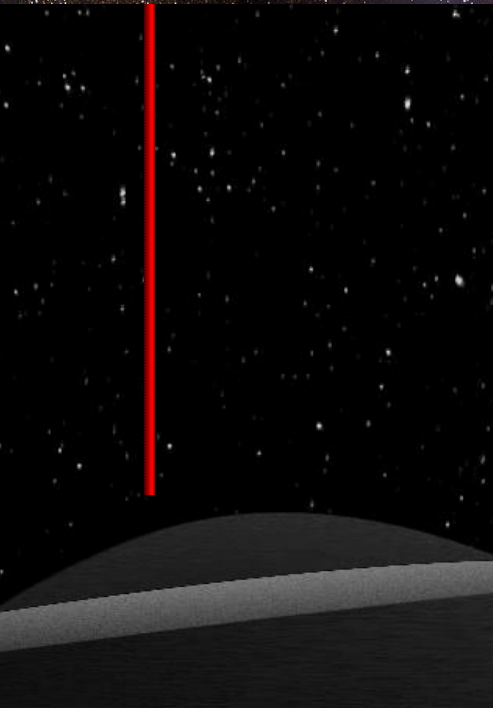
### Cited by 1 PubMed Central article

Effects of personal relevance and simulated darkness on the affective appraisal [PeerJ. 2016]













# Contrast

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# Contrast



*"Dodging and burning are steps to take care of mistakes God made in establishing tonal relationships."*

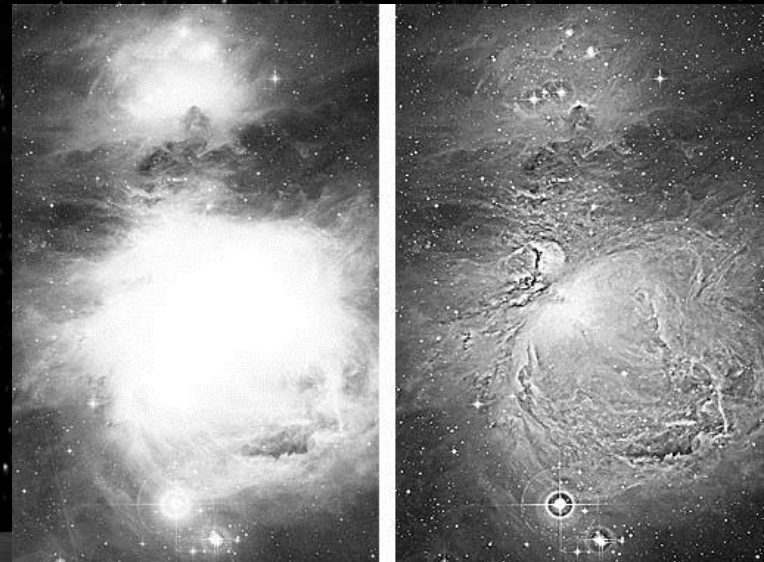
Ansel Adams  
Moonrise over Hernandez

# Contrast

David Malin  
Photographic Amplification



Unsharp Masking





# Contrast

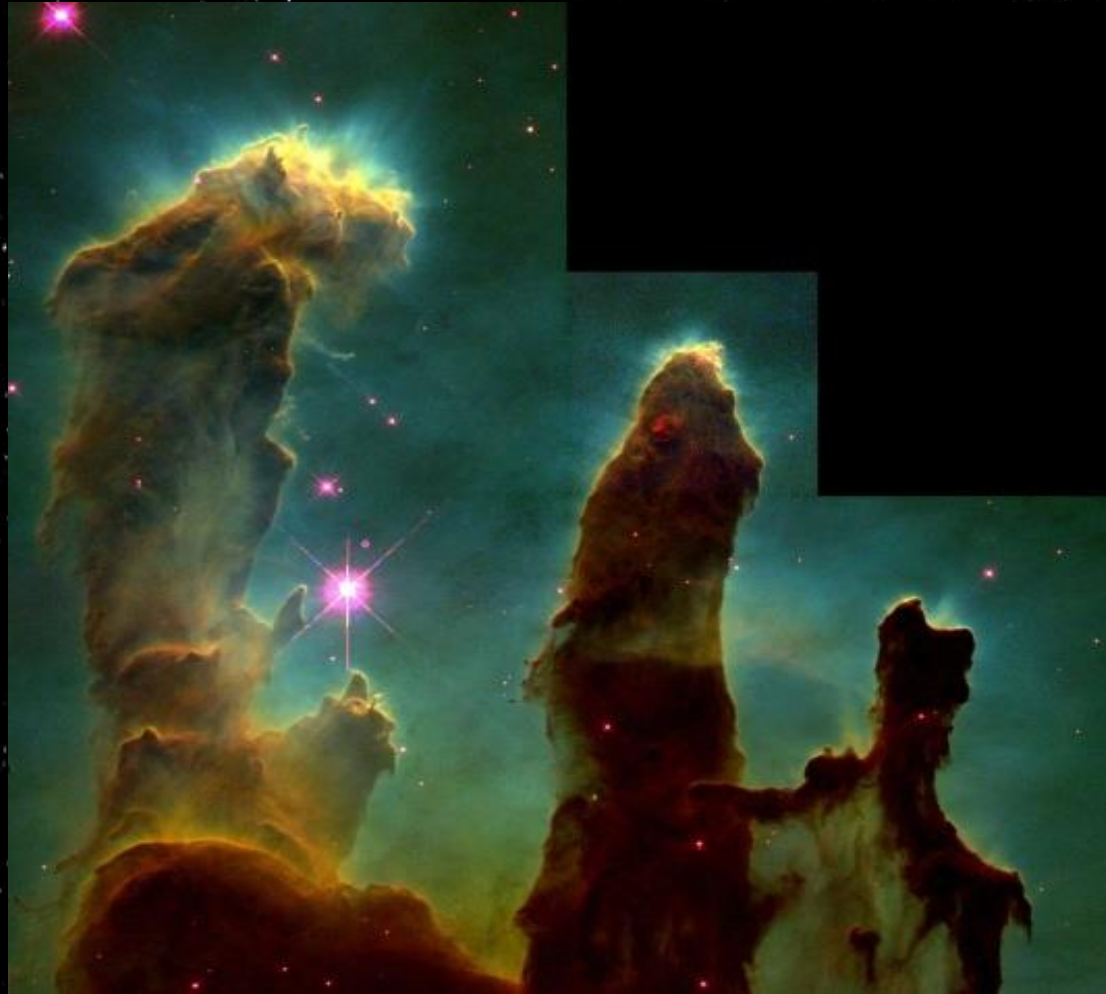


Wide Field Planetary Camera 1



Wide Field Planetary Camera 2

# Contrast



HST: "Pillars of Creation" (M16)

NASA, Jeff Hester, and Paul Scowen  
(Arizona State University)

# Contrast

- Unsharp Masking
- Deconvolution
- Digital Development
- High Pass Filter Techniques
- Multiscale Wavelet Processing

*“There’s nothing worse than a sharp image of a fuzzy concept.” – Ansel Adams*





# Contrast



Vicent Peris

V. Peris (OAU), G. Bergond (CAHA), CAHA



Adam Block



Tony Hallas

# Contrast



A. Block



J. Gabany