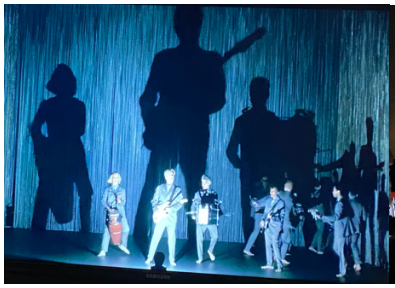
OLLI SHADOWS - CLASS 3 TOPICS

February 10, 2026

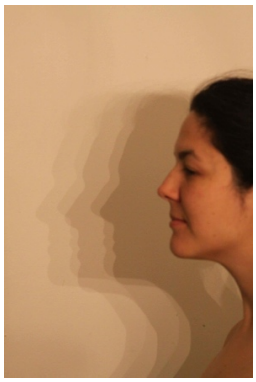
SEE END FOR REVISED CLASS SCHEDULE

1. Video: American Utopia. Good example of change in shadow size when change distance from point source.
   Video: Magic flute. Another example of how shadow size changes with change in distance from source or surface.



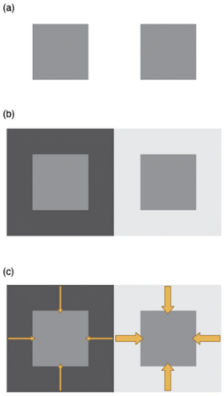

2. Summary of how light sources affect shadows. Sun: Parallel light, Moves, Extended source; Point source: Diverging light, point source. These things affect shadow size, shape, sharpness.

3. Question: Is there light inside a shadow? Answer: Yes. You can see details inside shadows. If no light you would just see blackness. Also, multiple shadows created by multiple light sources contain different amounts of light.

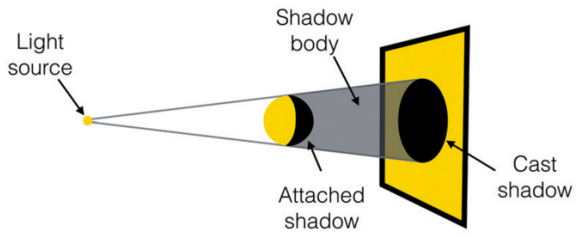



4. Why are shadows dark? What happens to light intensity measured by a light meter in back of the cup? (Answer: Nothing). Major mechanism of darkness is contrast between the lighted area (surround) and the shadowed area.

5. Physiological mechanism. Lateral inhibition. Lighted area sends inhibition into nearby area and makes it look darker.

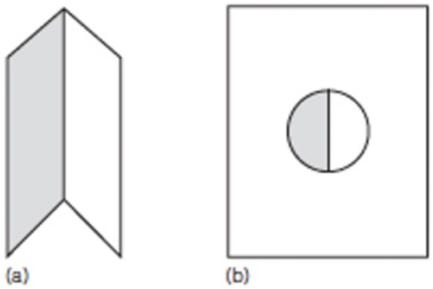


6. Are shadows two dimensional or three dimensional? Answer: 3D. There's the 2D part we usually see on a surface (cast shadow) or on the back of an object (attached shadow), and the 3D part (Shadow body) that we often don't see unless there's something inbetween the object and the surface. But we can feel the shadow body when we step into the shade and it feels cool.

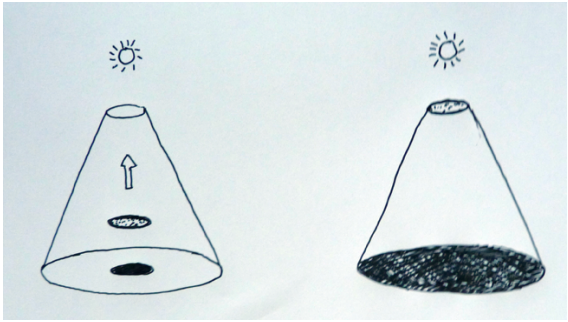


7. How can we tell the difference between dark area created by a shadow and a dark area created by properties of a surface or material? Brain/mind takes lots of sources of information into account: Checking nearby objects; Checking sharpness of border; Taking the illumination and slant of surface into account (see Mach card demo below) are a few. Sometimes it isn't easy, as when an object is seen in a weird orientation like the woman below.

8. Mach card demonstration we did in class, which shows that poor cues to illumination, or the slant of a surface, can affect how we perceive darkness.



9. Seeing a light-dark border is important for seeing a dark area as a shadow. Example: Sorenson "tepee demonstration" Another example: The patio problem. Also, seeing the darkness of night as "dark sky" but not a shadow, because the earth's border between day and night isn't visible.



10. Sometimes cognitive factors can influence how we label darkness. If theatergoers know that there are shady characters hiding in the darkness on a stage, they might say the people are "lurking in a shadow" even though turning the lights off on a theater stage creates darkness that isn't a shadow because it isn't caused by blocked light.

CLASS 3 VIDEOS

Click on the URL to access the video

American Utopia

https://www.youtube.com/shorts/YqOQIZwKj0c

Note: Above is just a short clip showing the shadow effect in one segment of the show. Couldn't locate the URL of the longer video I showed in class.

Magic Flute

https://www.youtube.com/watch?v=ZFtL4lB9Rus

Fuse school – shadows are where there is no light (wrong!)

https://www.youtube.com/watch?v=qNDH1MHkRyk

Dog licking water shadow

https://www.youtube.com/watch?v=H4jdN7wN9Ps

REVISED CLASS SCHEDULE: SEE NEXT PAGE

CLASS SCHEDULE:

This schedule is modified from what was discussed in the first class because there will be NO CLASS ON MARCH 10.

FEB 17: Perceiving visual shadows; Hearing musical shadows

FEB 24: Shadows in drawing and painting

MAR 3: Shadows in photography & film

MAR 10: NO CLASS

MAR 17: Shadows in architecture

If there is time at the end of class on March 17, I will briefly discuss shadows in astronomy and how shadows affect different plant, animal and human habitats.