LIGHTIG FOR INTERIORS

- COLORS
- LIGHTING

Interior Design Department
Third grade/ Fall semester

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LIGHTING FOR INTERIORS

- INTRODUCTION - VISIBLE LIGHT
- BRIGHTNESS PERCEPTION
- PSYCHOLOGY OF LIGHT

INTRODUCTION - VISIBLE LIGHT

INTRODUCTION - VISIBLE LIGHT

Introduction

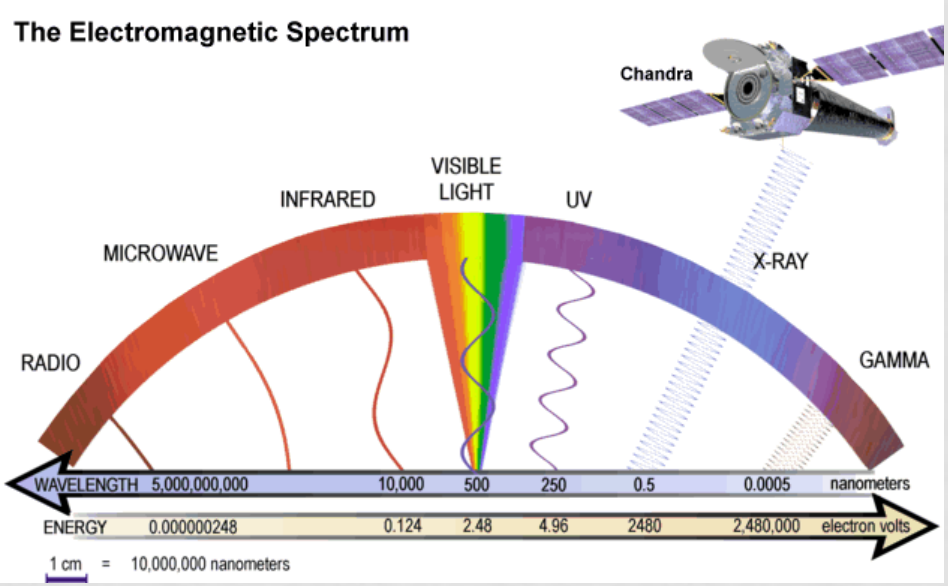
- Light brings interiors to life and is important to our activities and perception of the world around us.
- By controlling and designing with natural and artificial light, the interior designer can create wonderful, striking design concepts in interior spaces and provide for the visual needs of user activities.

INTRODUCTION - VISIBLE LIGHT

- Light is not visible by itself, but light falling on an object or color makes that object or color visible.

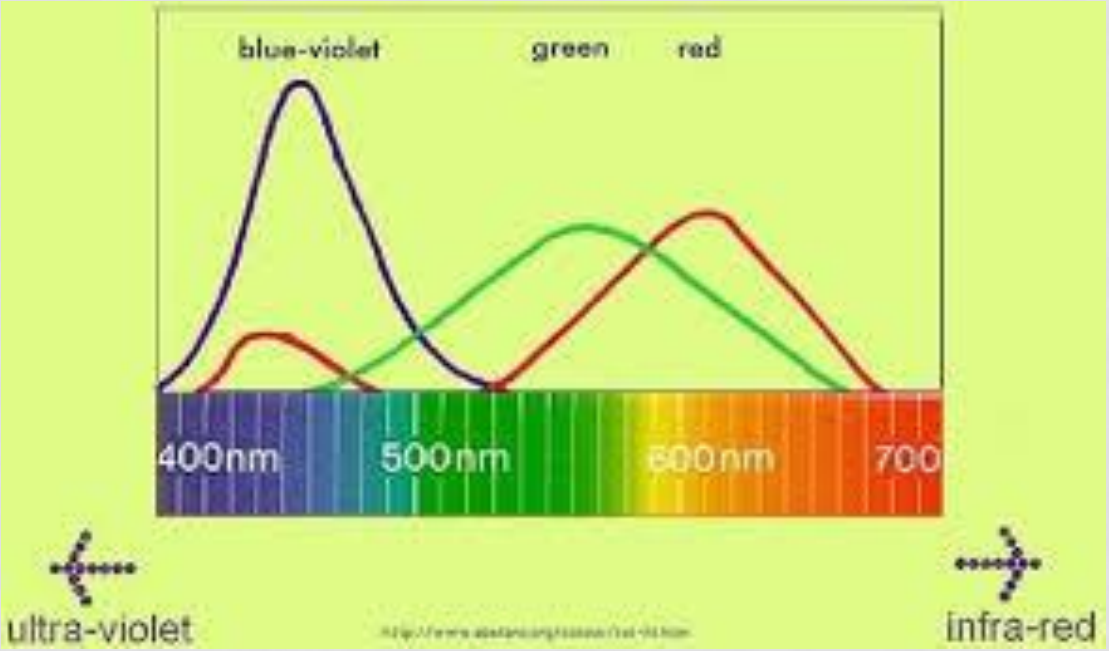
INTRODUCTION - VISIBLE LIGHT

- What we see as light is a narrow band of electromagnetic energy, ranging from approximately 380 nanometers (nm) to 760 nm.



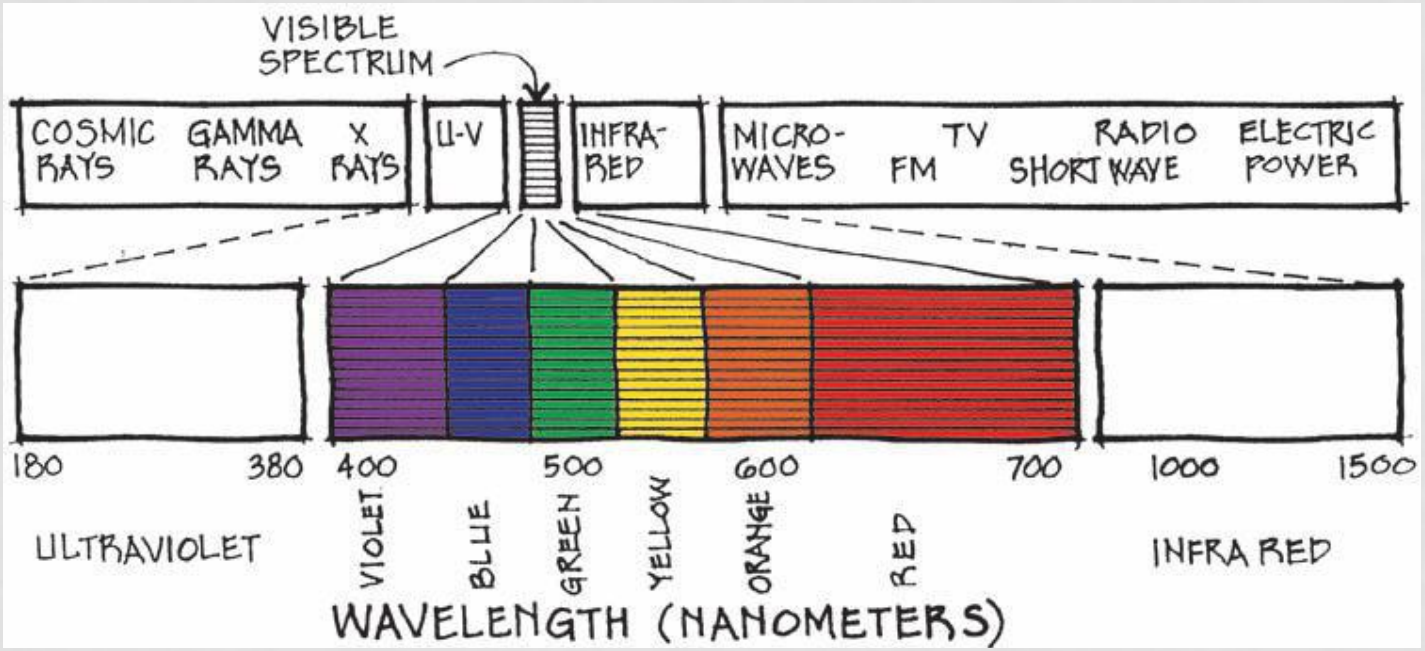
INTRODUCTION - VISIBLE LIGHT

- The physical difference is purely the wavelength of the radiation, but the effects are very different.
- Within the narrow band to which the eye is sensitive, different wavelengths give different colors.



INTRODUCTION - VISIBLE LIGHT

The physical difference between radio waves, infrared, visible light, ultraviolet, and x-rays is their wavelength.



BRIGHTNESS PERCEPTION

BRIGHTNESS PERCEPTION

Brightness versus luminance

- ***Brightness***

is the subjective sensation that occurs in the consciousness of a human observer.

is a subjective experience.

We hear someone say, "What a bright day!" and we know what is meant by that.

- ***Luminance***

is the objective measurement of intensity per unit of projected area.

density of light received on a surface, is measured by various kinds of photometers.

BRIGHTNESS PERCEPTION

- If the eyes are kept in low light for some time, they grow more sensitive, and a given quantity of light will seem brighter.
- This "**dark adaptation**" is rapid for the first few seconds and then slows down.
- Brightness is also a function of color. For a given intensity, the colors at the middle of the spectrum look brighter than those at the ends.

PSYCHOLOGY OF LIGHT

PSYCHOLOGY OF LIGHT

DEGREE OF STIMULATION(brightness contrast)

THE THREE ELEMENT OF LIGHT

SUBJECTIVE IMPRESSIONS

PSYCHOLOGY OF LIGHT

Subjective impressions of space are a function of brightness contrast when the relationship of surfaces that are lighted (the focus or foreground) to those that are left in comparative darkness (the surround or background).

- If all objects and surfaces in a room receive equal emphasis from light, contrast is lost.

PSYCHOLOGY OF LIGHT

- Over time, the lack of contrast causes people to feel listless, inactive and depressed.
- **Without contrast**, the environment produced has the quality of a **cloudy, overcast day.**
- People feel more alert, energetic, and positive on a sunny day, a day marked by bright highlights and some shadows.

PSYCHOLOGY OF LIGHT

- By providing brightness contrast, the lighting designer is able to create an environment that has the attributes of a sunny day.
- In truth, the significant difference between a "dull, boring" day and a "bright, cheerful" one is

the quality of light.

PSYCHOLOGY OF LIGHT

DEGREES OF STIMULATION(brightness contrast)

- Some activities and tasks benefit from a high degree of stimulation to encourage participation and increase enjoyment.
- Other activities and tasks benefit from a minimum of contrast to help a person feel contented, comfortable, focused, and relaxed.

PSYCHOLOGY OF LIGHT

DEGREES OF STIMULATION(brightness contrast)

1. Low-Contrast Environment

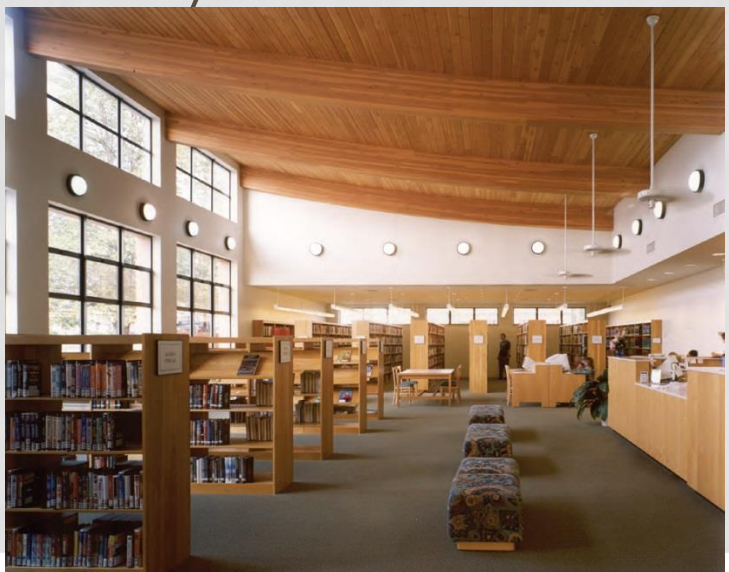
- A large proportion of *diffuse* light and a small amount of *focused* light produce this low-contrast environment.
- Low-contrast lighting systems are intended to provide easy seeing for visual tasks, to allow random circulation, or to permit flexible move of work surfaces.

PSYCHOLOGY OF LIGHT

DEGREES OF STIMULATION(brightness contrast)

1. Low-Contrast Environment

- If everything is to receive equal emphasis, no hierarchy is established between foreground and background.
- The result is a *low-contrast* environment.
- Low-contrast spaces are *low in stimulation*:
- These spaces are behaviorally neutral



PSYCHOLOGY OF LIGHT

DEGREES OF STIMULATION(brightness contrast)

1. Low-Contrast Environment

- Lighting systems that flood a space with diffuse light from overhead reduce contrast.
- Highly diffuse light produces a shadow less environment; forms are ill-defined, and textural perception is poor.

PSYCHOLOGY OF LIGHT

DEGREES OF STIMULATION(brightness contrast)

2. **High-Contrast Environment**

- A small proportion of diffuse light and a large amount of focused light produce a *high-contrast* environment.
- High-contrast lighting systems deliver patterns of light and shade; they intentionally establish a hierarchy between foreground and background.
- High-contrast spaces increase stimulation; they are intended to evoke specific moods or emotions

PSYCHOLOGY OF LIGHT

DEGREES OF STIMULATION(brightness contrast)

2. <u>High-Contrast Environment</u>

- A single spotlight on a stage is an extreme example of the influence of brightness contrast in creating focal points.
- A room lighted in this way dominates the people in it; the brightness contrast directs their attention and holds their interest, producing visual direction and focus

PSYCHOLOGY OF LIGHT

DEGREES OF STIMULATION(brightness contrast)

2. High-Contrast Environment

- High contrast environments are useful for guiding the circulation of people entering an unfamiliar room With high-contrast environments, brightness patterns can be established to influence our impressions of activity, setting, or mood.
- Or, they can be established to affect our personal orientation and understanding of a room's surfaces and objects

PSYCHOLOGY OF LIGHT

THE THREE ELEMENTS OF LIGHT

The three fundamental elements of light are:

(1) ambient light
(2) focal glow
(3) Sparkle

- The ratio of ambient light to focal glow establishes the degree of brightness contrast in a space
- sparkle adds the highlights that contribute to feelings of well-being.

The proportions of these three elements yield the desired emotional setting.

PSYCHOLOGY OF LIGHT

THE THREE ELEMENTS OF LIGHT

1. **Ambient luminescence**

- is shadowless illumination.
- It minimizes form and size.
- It reduces the importance of things and people.
- It fills people with a sense of freedom of space and It is usually reassuring and restful.

PSYCHOLOGY OF LIGHT

THE THREE ELEMENTS OF LIGHT

1. **Ambient luminescence**

- The best example is a **foggy** day on a mountaintop.; there are **no shadows**, nothing to tell you what to look at.
- In that sense it's confusing, but it is also **relaxing** and **restful**, as there is **no excitement, no interest**.
- It minimizes man—think about a figure moving through that fog—and **destroys form**

PSYCHOLOGY OF LIGHT

THE THREE ELEMENTS OF LIGHT

2. <u>Focal glow or task light</u>

- Focal light is directive, creates a bright center; it tells us what to look at, organizes, marks the most important element.

PSYCHOLOGY OF LIGHT

THE THREE ELEMENTS OF LIGHT

2. **Focal glow or task light**

- Focal glow is the sun burst through the clouds and the light rays of sunshine that warms the far end of the valley.
- It is the pool of light at your favorite reading Chair
- Focal glow draws attention, creates interest, and tells people what to look at.
- Focal glow is the focus. It separates the important from the unimportant.

PSYCHOLOGY OF LIGHT

THE THREE ELEMENTS OF LIGHT

3. sparkle or glitter

- Sparkle is scintillation.
- the most exciting kind of light.
- Full of stimulations and interesting
- chandeliers in dining rooms, sequins on dresses, and lights on theatre circs. all take advantage of the fact.

PSYCHOLOGY OF LIGHT

THE THREE ELEMENTS OF LIGHT

- **Outdoors, during daytime**,

1. the sky provides the ambient light.
2. Objects and surfaces that are illuminated by the sun, such as a grass land, trees, or the side of a building, are the focal glow.
3. The reflection of the sun from *shining(glossy)* surfaces, such as moving water, dew on leaves, or polished metal on a building, supplies the sparkle.

PSYCHOLOGY OF LIGHT

SUBJECTIVE IMPRESSIONS

- patterns of brightness contrast change, the strength of visual stimuli also changes, changing our impressions of space.

PSYCHOLOGY OF LIGHT

SUBJECTIVE IMPRESSIONS

1. Spaciousness
2. perceptual clarity
3. pleasantness.

PSYCHOLOGY OF LIGHT
SUBJECTIVE IMPRESSIONS

1. **Impressions of Spaciousness**

- The impression of a room's largeness or smallness is affected by the intensity of the lighting at the room perimeter.

Impressions of spaciousness (large-small)

PSYCHOLOGY OF LIGHT

SUBJECTIVE IMPRESSIONS

1. **Impressions of Spaciousness**

- Flynn found that differences in quantity of horizontal illuminance significantly change impressions of spaciousness and perceptual clarity.

- Higher illuminance values are described as "clear," "bright," "distinct," "large," and "more spacious"

PSYCHOLOGY OF LIGHT

SUBJECTIVE IMPRESSIONS

2. <u>Impressions of Perceptual Clarity</u>

- Nothing is more important than how people's faces appear.
- Flynn demonstrated that lighting schemes rated:

- high in facial clarity are considered more public
- schemes that are rated low in facial clarity are considered more private.

PSYCHOLOGY OF LIGHT
SUBJECTIVE IMPRESSIONS

2. Impressions of Perceptual Clarity

Public space

- means intermixing and bringing people together.

- The potential for visual contact improves as the intensity of general illuminance is increased.

- Increasing intensities bring people together because facial expressions and gestures are more clearly perceptible

PSYCHOLOGY OF LIGHT
SUBJECTIVE IMPRESSIONS

2. Impressions of Perceptual Clarity

Private space

- suggests separating people and keeping them apart

- Shadow and imagination reinforce feelings of privacy because these lighting techniques prevent the ability to perceive accurate facial detail; even nearby individuals become more unknown

Impressions of perceptual clarity—private space.

PSYCHOLOGY OF LIGHT
SUBJECTIVE IMPRESSIONS

3. Impressions of Pleasantness

Flynn also found that the non uniform brightness produced by a downward concentrating lighting system rates more favorably than the uniform brightness produced by a diffuse system.

The nonuniform brightness is rated as more "friendly," "pleasant," "sociable," and "interesting"


Thank you!