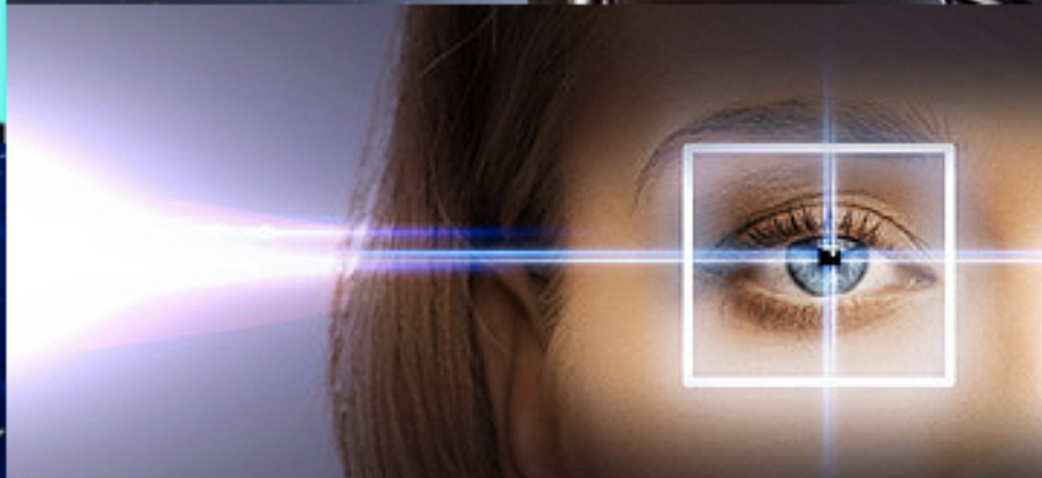
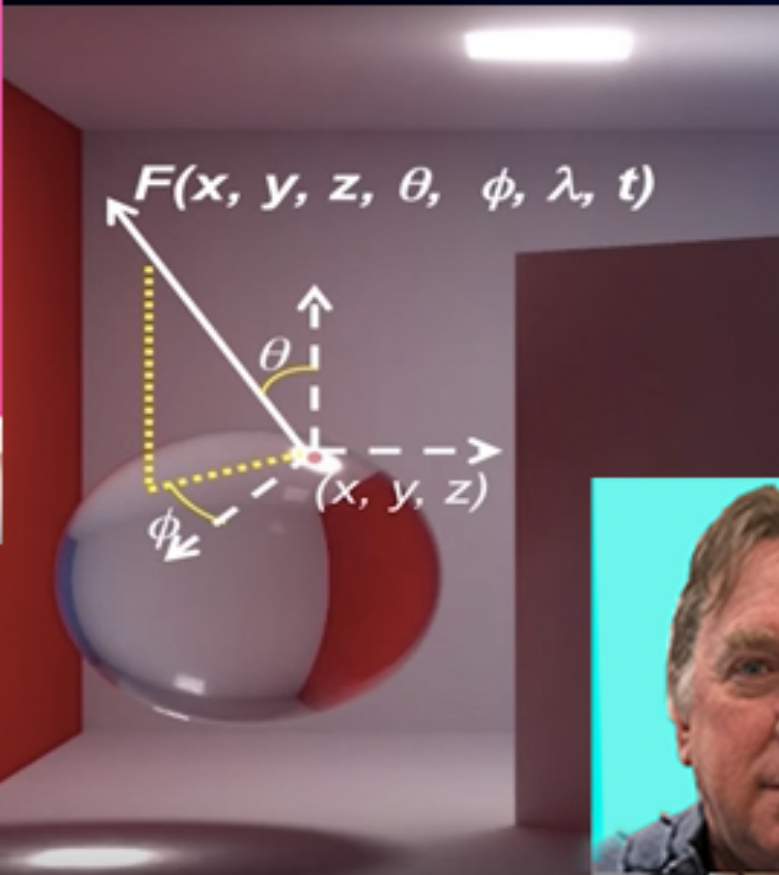


# IESSEF Emerging Technologies in Lighting

The Hottest, Smartest, & (Mostly) Non-IoT



Jan.19 2017

# Design Centric Lighting (Or Vice Versa)

Clifton Stanley Lemon

Founder, Clifton Lemon Associates



# Industry Trends

Ledification

Sensorization

Cost Reduction- System  
Integration

@ Chip & Package Level

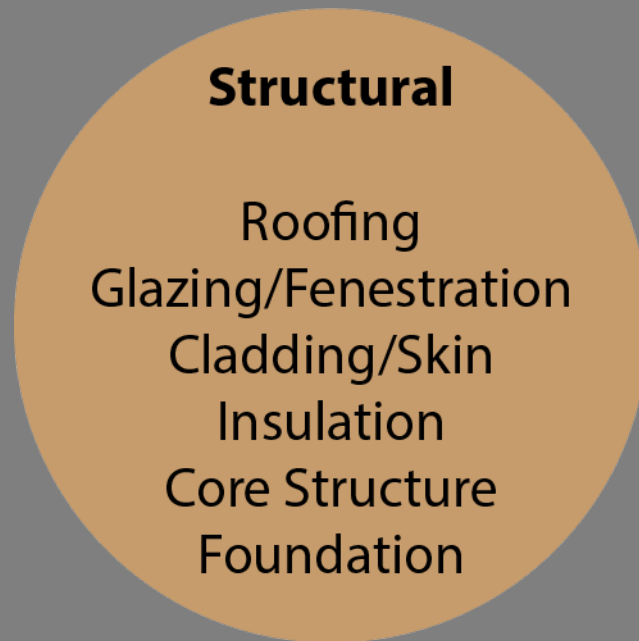
Supply Chain Realignment

Embedded Intelligence

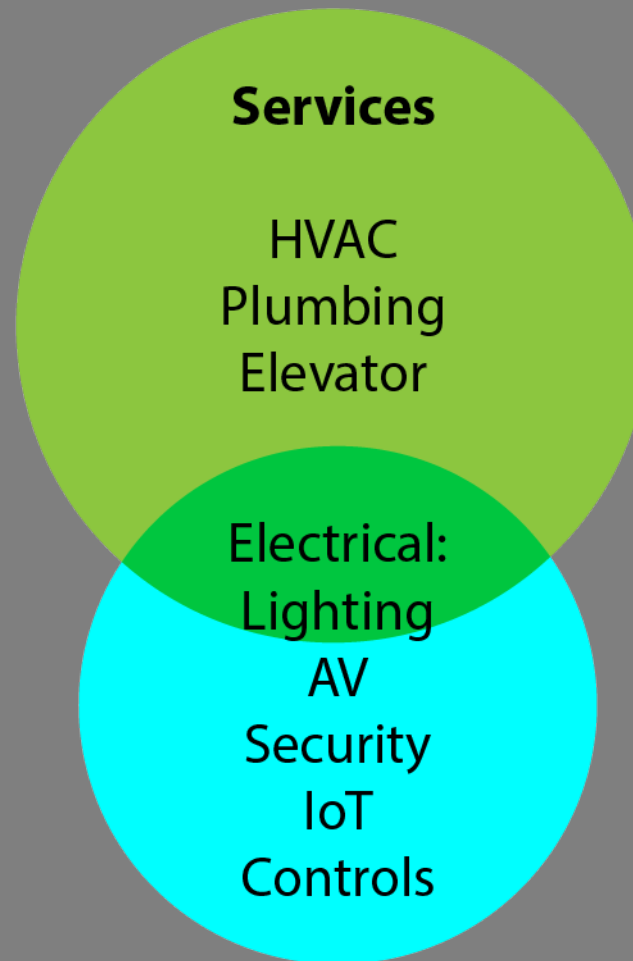


# Lighting is Part of Building

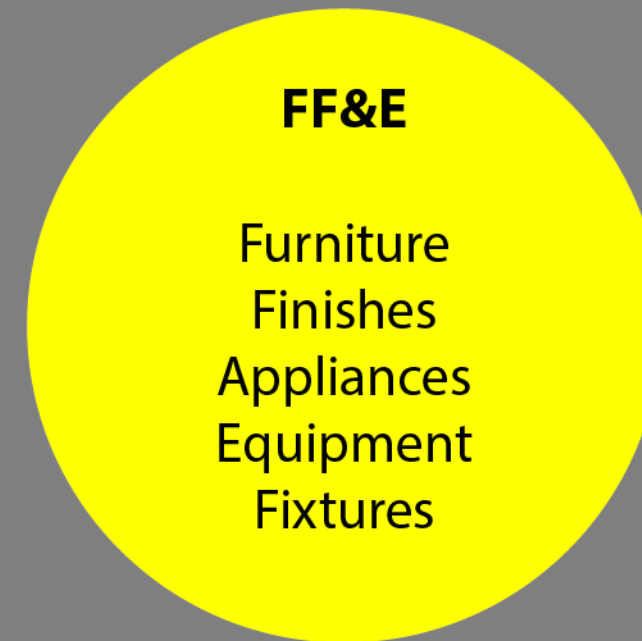
## Stuff that Doesn't Move



## Stuff that Moves



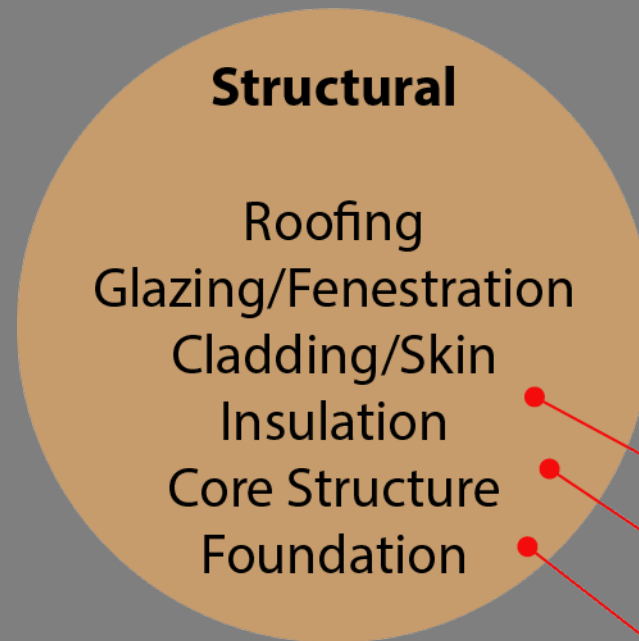
## Stuff That Can Be Moved



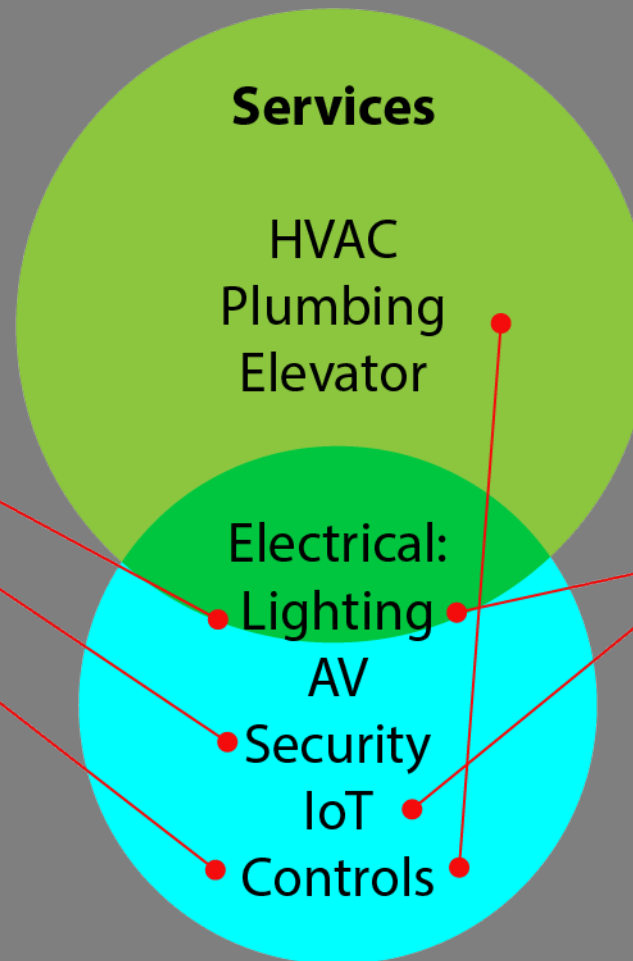


# Lighting is Part of Building

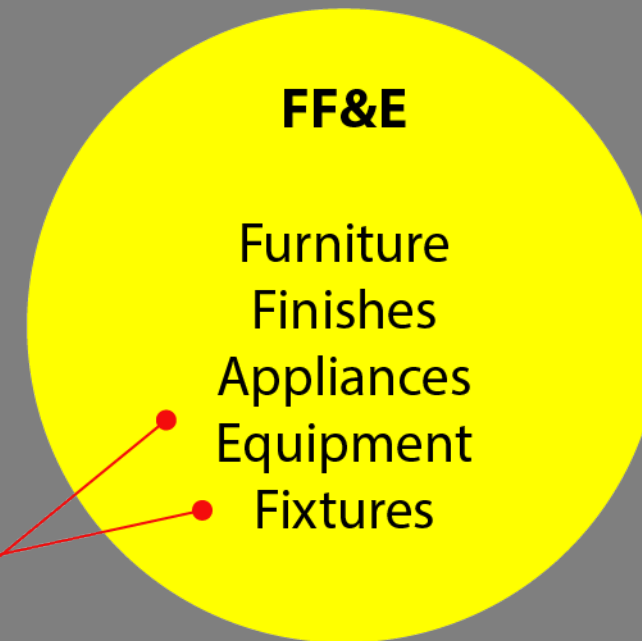
Stuff that Doesn't Move



Stuff that Moves



Stuff That Can Be Moved





# Building Evolves Slowly



Driving Factors:  
Risk Management  
Sunk Costs  
Localization  
“Project” Bias  
Complexity

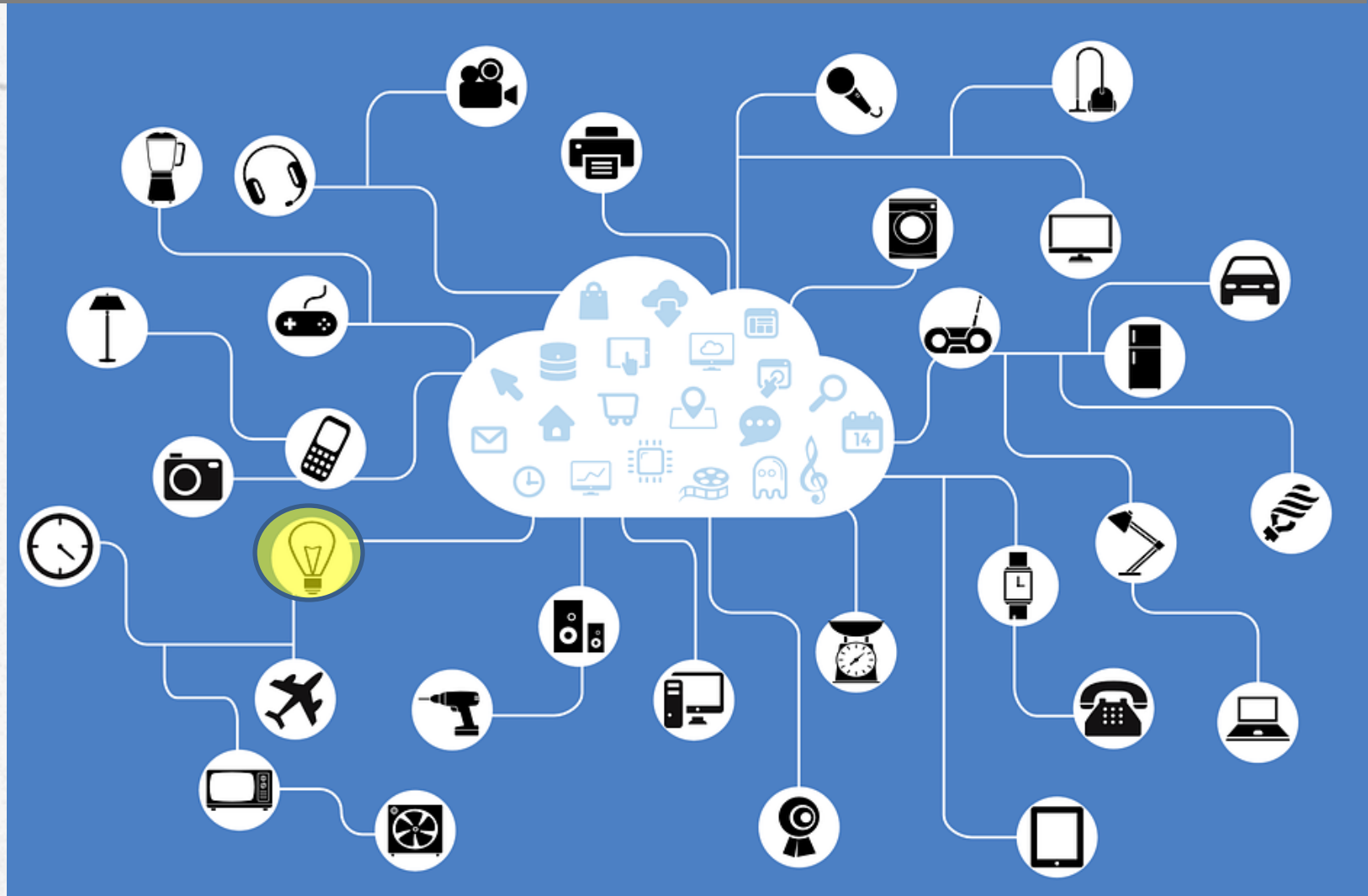
Photo: Wikipedia Commons



# Lighting Leads

Circa 1910- "Internet" of Electricity

Today: Life in the Cloud



# LDs: Merely Specifiers?



Photo: Wikipedia Commons

Lighting is Unimportant  
Data & IoT Rule  
Humans out of the loop  
Lighting Companies  
are now IT companies  
Smart Sockets not  
Smart Lighting



# Lighting is About Design



By definition,  
Design is Innovation



Photos: Wikipedia Commons,  
Lauren Manning



# Today A Designer Must Be A:



Researcher  
Behavioral Economist  
Anthropologist  
Psychologist  
Politician  
Engineer  
Artist  
Historian  
Entrepreneur



# Different Paths to Design

Just...

Build What They Want!

Build It & They Will Come!

(They will want it when they see it)

Build It & Make Them Want It!

But...

How do we know what they want?

What if they don't come?

It's really hard to make them want stuff they don't understand

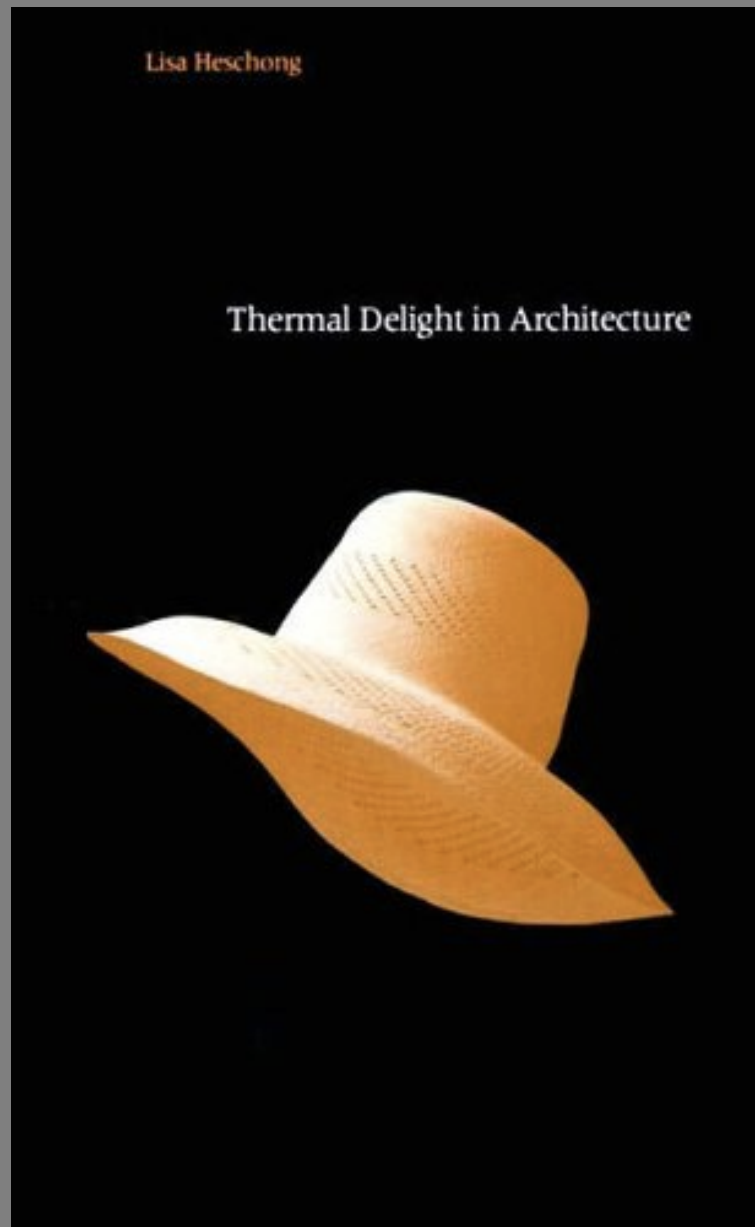
# Building is Disruption Averse

Photos: Wikipedia Commons





# What About Beauty & Delight?



To claim "truth to materials" is to reduce **architecture** to construction, and to claim that ornament is crime is risible. **Beauty in architecture** is perceived in a building's visual qualities. The aesthetic sense assesses the **beautiful**, while its counterpart, the moral sense, assesses the good.

-C.W. Westfall



Photo: Auerbach Glasow French



# Design Is...

Not reflexively innovating to solve problems,

but ensuring that we're solving the right problems in the first place.



Thank You!

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@cliftonlemon



# Panel Discussion Questions

Is it ethical, practical, or even possible to totally automate building controls?

What are the problems most worth solving with lighting?

When and how will IoT be used directly for lighting itself?

What are the most important priorities for lighting research and what's keeping us from exploring them?

This concludes The American Institute of Architects  
Continuing Education Systems Course

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