

# Conflict, Listening and Negotiation in the Systems Engineering Workplace

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INCOSE Los Angeles Chapter

September 14, 2021



# Agenda

- Warnings and disclaimers
- Conflict is your friend
- Communication
- Negotiation



# Warnings & Disclaimers

# Why a Non-engineer?

- How did I get here?
  - Education- Economics- Counseling- Law school
  - Legal background
  - H/C Negotiation training- FBI Agent Terry Neist
  - Mediation training
  - Labor/management facilitation training
  - Large group mediation- Lombard Peace Center
- Technical introduction
  - Process improvement in the intelligence community
  - Using SE tools to model processes



# What are Soft Skills?

- Definition- Soft skills are non-technical skills that relate to how you perform.
- Include : Human interaction, problem solving, work management
- Usually defy quantification/measurement
- Introduced through a combination of training and education
- Technical disciplines tend to avoid these in their education curricula

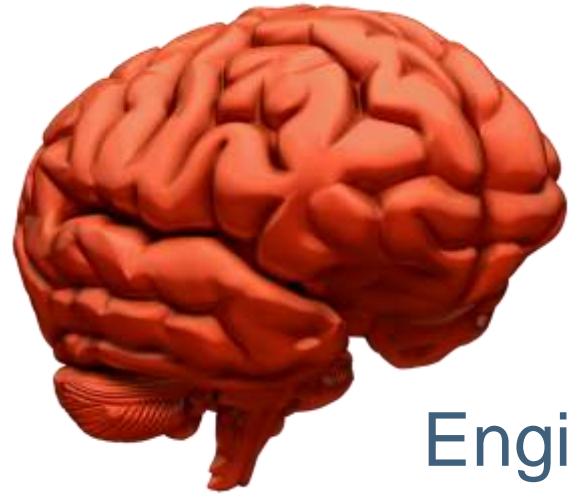
# Importance of soft (professional) skills

- INCOSE Competency Framework
- INCOSE Model-based Competency Matrix

Soft skills—which are needed to effectively communicate, problem solve, collaborate and organize—are becoming more important for success as the workplace evolves socially and technologically." SHRM

“Talent developers say that training for soft skills is their key focus for 2018. In the age of automation, adaptability rules. While maintaining technical fluency will be important, demand for soft skills will continue to accelerate. Industry experts and organizational partners agree that this should be the top focus for talent development in 2018.” Linked-In 2018 Workplace Learning Report

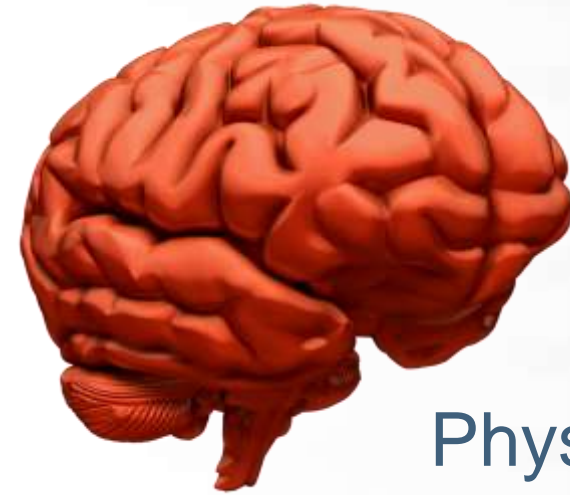
# Caution: Applicability



Engineer



Teacher



Physician



Lawyer



Scientist

# Think in principles, NOT in applications







# Conflict is Your Friend!

# What is Conflict?

“ . . . an expressed struggle between at least two interdependent parties who perceive incompatible goals, scarce resources, and interference from others in achieving their goals.” Wilmot, W and Hocker, J, *Interpersonal Conflict*



# Unpack the definition

“ . . . an expressed **struggle** between **at least two interdependent** parties who **perceive incompatible goals, scarce resources, and interference from others** in achieving their goals.” Wilmot, W and Hocker, J, *Interpersonal Conflict*

Keywords:

Struggle

At least two

Interdependent

Perceive

Incompatible goals

Scarce resources

Interference from others



# The role of conflict in a healthy organization

- Innovation means change and change means conflict
- Thomas Kuhn, *The Structure of Scientific Revolutions* (1962)



# Kuhn's view- "Normal" science



Truth

"Normal" Science

Hypothesis 1.0 Question Test

Hypothesis 2.0 Question Test

# Kuhn's view

The container for this hypothesis/test progression Kuhn calls a “paradigm”

The paradigm defines the methods and rules for testing hypotheses as well as the allowable challenges

Paradigm



# Kuhn's view- Paradigm shift



Paradigm 2

Hypothesis Question Test



Paradigm 1

Incommensurability

Hypothesis Question Test

Change not only in content but in the container (paradigm)

# Kuhn's view



Paradigm 2

Hypothesis Question Test

Paradigm 1

Incommensurability

Hypothesis Question Test

**Conflict!**



# Historical Example- Copernicus



Paradigm 1 Ptolemy

Paradigm 2 Copernicus



Hypothesis Question Test

Hypothesis Question Test

Incommensurability

**Conflict!**

“This fool wants to turn the whole art of astronomy upside down.”

# “That doesn’t happen anymore” – Current examples

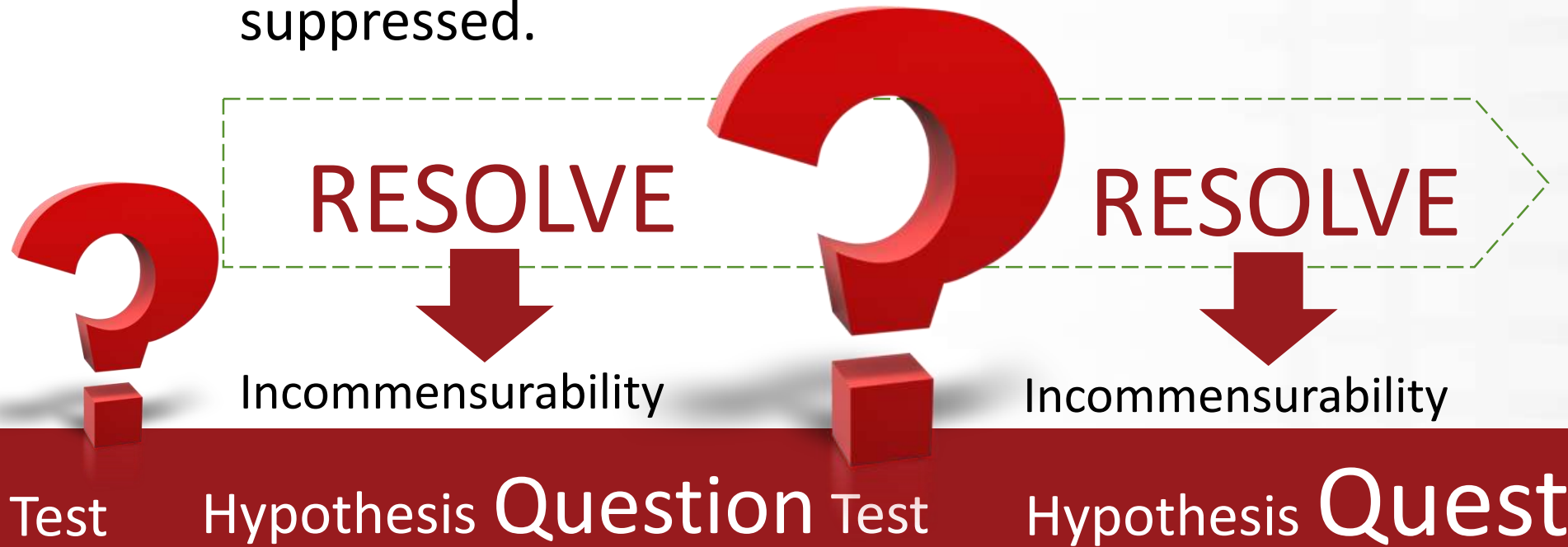
- Machine view (complicated) v. systems view (complex)
- Climate change
- Model-based v. Document-centric systems engineering



But . . . what happens if we **resolve** conflict around decision points / paradigm shifts?

# Conflict Resolution

The questions get bigger and more strident as successive paradigms are suppressed.



# What to do about conflict?



**Manage it!**

# Hints and tips for healthy conflict

- Healthy conflict is about issues NOT about people
- Healthy conflict requires a safe space
  - Trust
  - Ground rules
  - Education and training



What are some conflict  
**management**  
techniques?





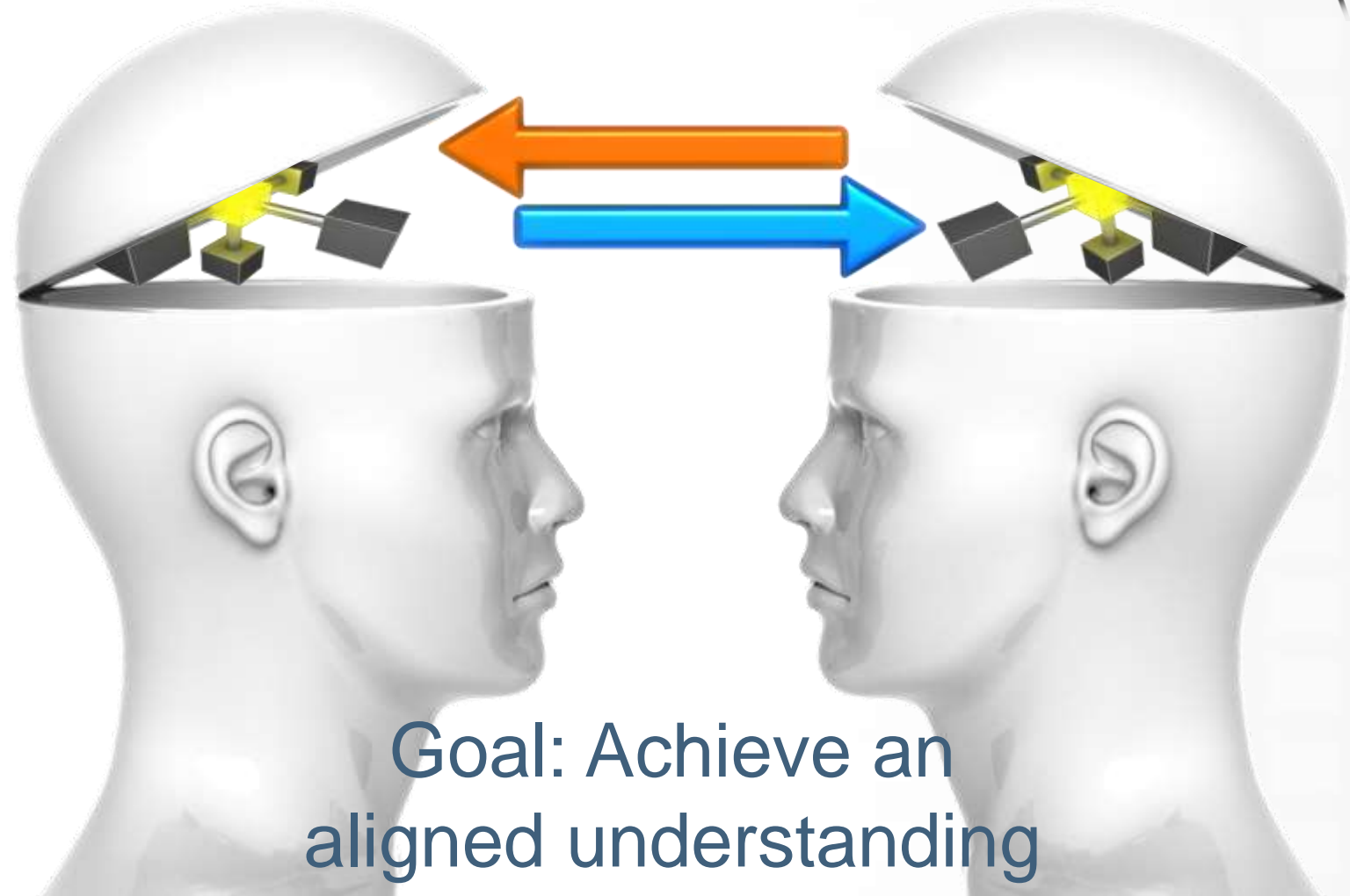
# Communication





# Communication

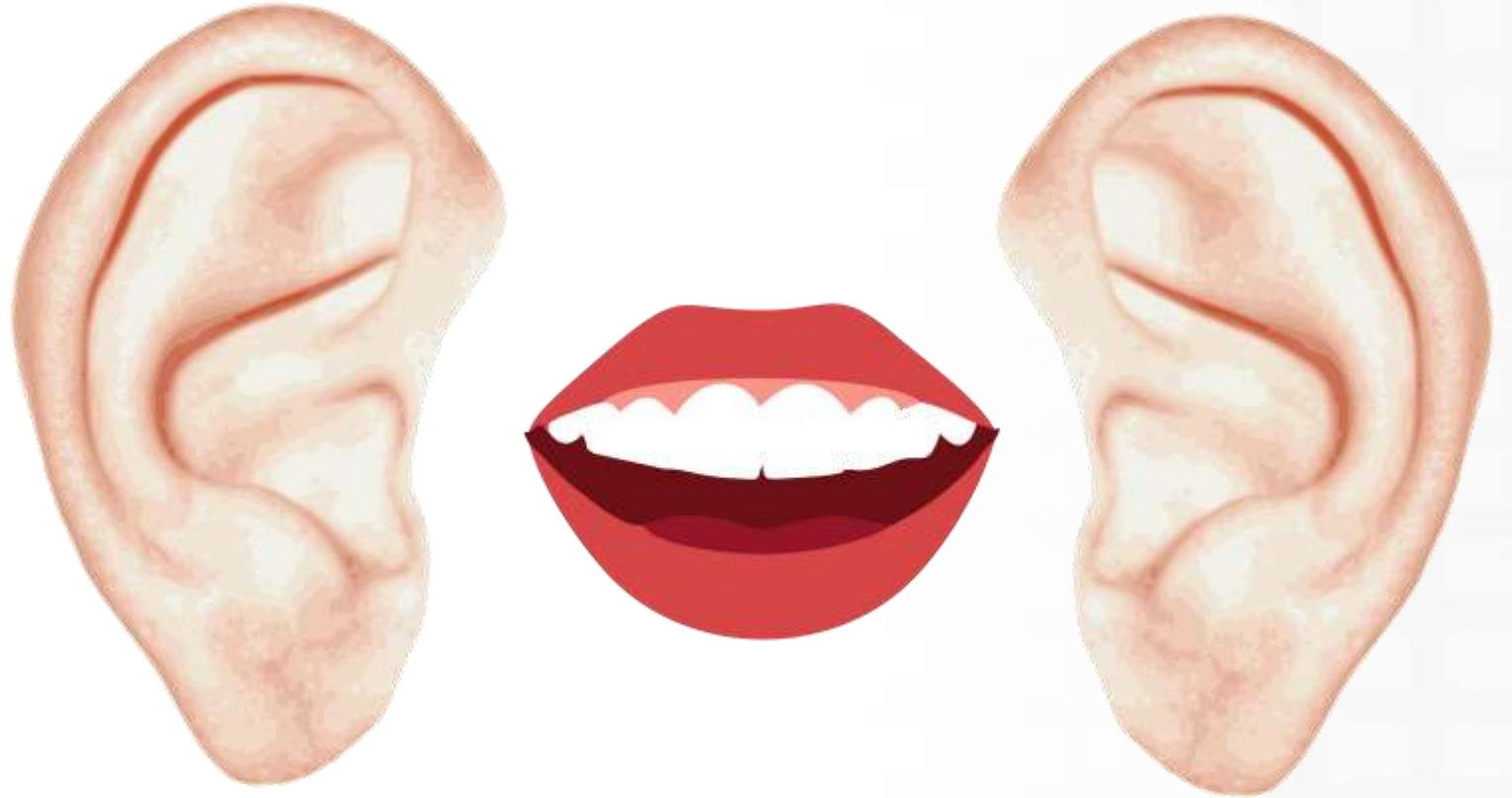
- Bi-directional
- Multi-channel
- Multi-purpose



Goal: Achieve an aligned understanding

# Skill **ONE**- Listening

- Getting ourselves ready to listen
- Two ears, one mouth
- It's not ALL about you!



# Skill - Advocacy (Persuasion)

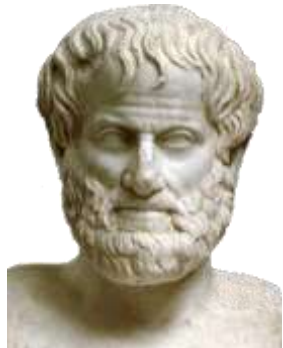


- Why persuasion is **NOT** negotiation
- We are **NOT** data driven!
- Of elephants and riders- The pillars of rhetoric

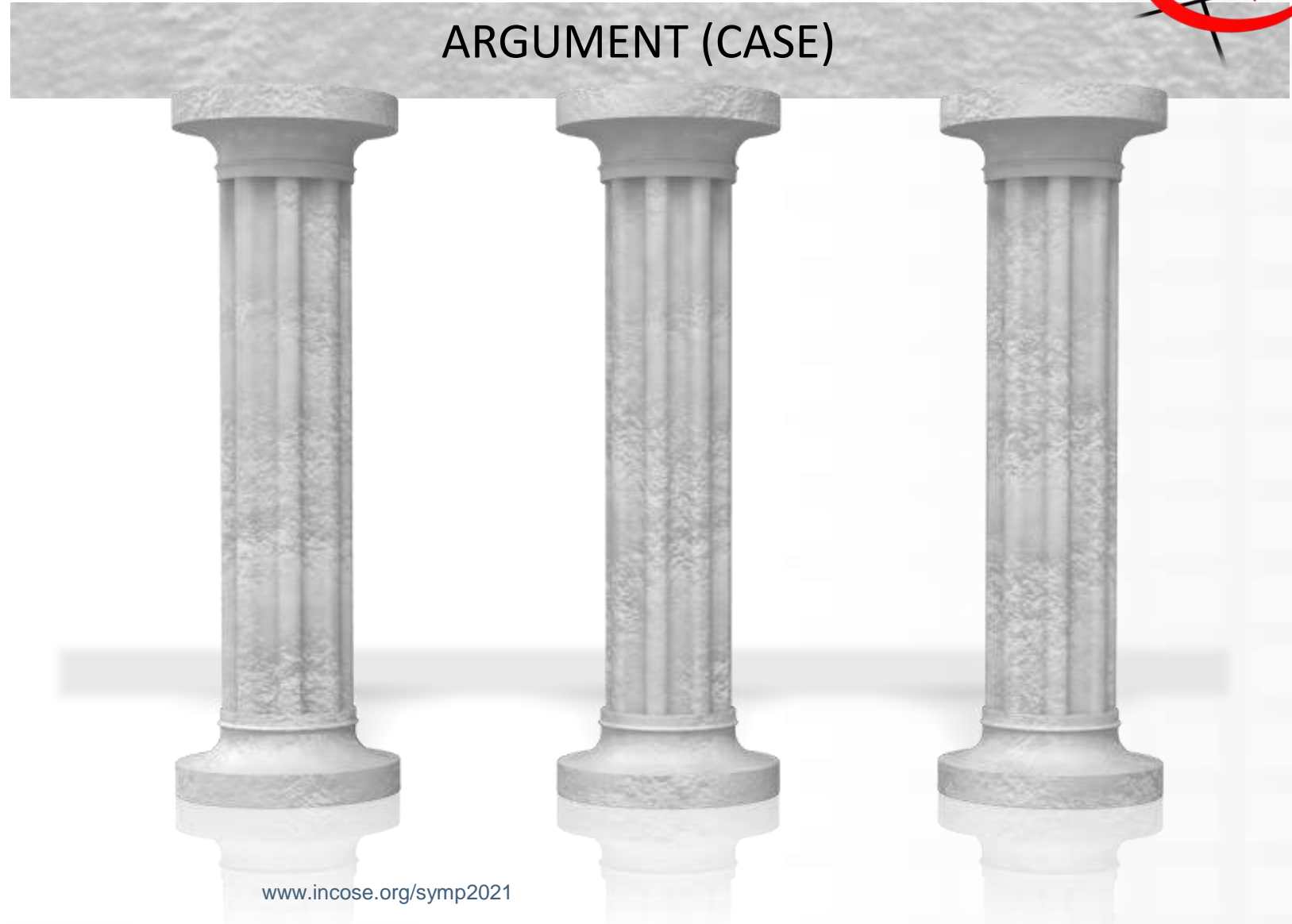


# The 3 pillars

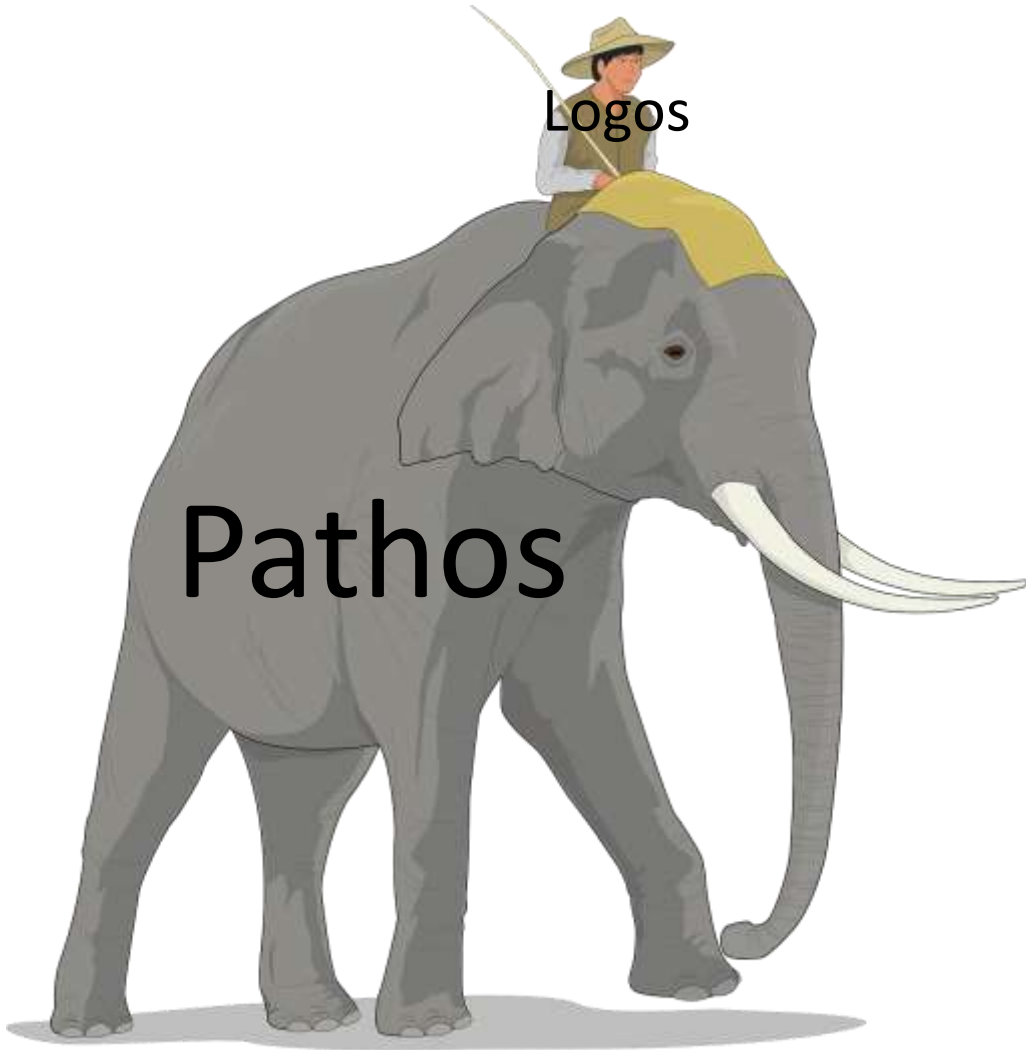
- Ethos
- Logos
- Pathos



*Aristotle, 3 Pillars of Rhetoric*



# Addressing Emotion



Recognizing reality  
Elephant and rider analogy

Example:  
Change? Me?  
Must make the emotional case!

Chip and Dan Heath, *Switch: How to Change Things When Change Is Hard*  
Jonathan Haidt, *The Happiness Hypothesis*



# Negotiation

# Skill - Problem Solving

- Negotiation is **mutual**
- Negotiation is **solution**-seeking
- Interest-based problem solving
- Focus is on getting into the shoes of the other party
- Not based on rhetorical tricks or exploiting rules



# Summary



- “Soft” skills are applicable wherever there are humans involved
- There is a growing consensus around the importance of soft skills
- Conflict is important to the healthy organization as an innovation driver
- Conflict should be managed NOT resolved
- Communication is the backbone of conflict management skills
- Listening is the number one communication skill
- Pathos (emotion) is the forgotten pillar of advocacy
- Negotiation is about understanding NOT tricks for arguing
- Join us on the 25<sup>th</sup> for tips, tricks and techniques



# Resources

- Paradigm Shift / Change
  - Kuhn, Thomas, *The Structure of Scientific Revolutions*
  - Parsons, Keith, *It Started With Copernicus*
- Negotiation/Change
  - Heath, C., and Heath, D., *Switch: How to Change Things When Change Is Hard*
- Interest Based Problem Solving
  - Fisher, R., Ury, Wm., *Getting To Yes*
  - Collaborative Interest Based Problem Solving (<https://bit.ly/3B5j0nu> )
- Videos
  - Russell Ackoff, From Mechanistic to Systemic Thinking (<https://www.youtube.com/watch?v=yGN5DBpW93g>)

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# Thank You!

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