Everyone's favorite mistakes

Jean-luc Doumont

We live with assumptions, because…

We believe what we see
Intuition is stronger than reason

We believe almost anything
when we are not knowledgeable

We believe what is convenient to us
so we select what we take into account

Question assumptions   How do you know   what you believe you know?

Frequent mistakes   Confusing the ends (the goals) and the means
See next page   Confusing necessary and sufficient conditions
Confusing variable and uniform characteristics

Limitations   Questioning assumptions is an endless endeavor
Unquestioned assumptions are what we call values

Objections   Distinguish how you feel and how you act upon it
No excuse: everyone has the intelligence to do it

Applications   Professional sphere   Work management
Public sphere   Politics, media
Private sphere   Your loved ones

1	Ends Means	Communication	Challenge what you include	on your presentation slides
			Challenge the conventions	for starting a presentation
			Challenge sacred traditions	such as acknowledgments?

Respect   Do not confuse *distance* for *respect*

No blame, no guilt—and no excuse!

Beware of etiquette and similar rules

Thinking out of the box   Beware of the *streetlight effect*

Challenge the usual means   to find more efficient ones

2	Necessary Sufficient	Correlation *vs* causation	Assumption	$A \Rightarrow B$

Alternatives $B \Rightarrow A$ | $C \Rightarrow A$ & $C \Rightarrow B$ | $A \rightleftharpoons B$

Contraposition   If $A \Rightarrow B$ then $\neg B \Rightarrow \neg A$

then $\neg A \not\Rightarrow \neg B$

Interpretation   A judgment of intent   is a single explanation
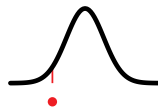
is aggressive

reveals our biases

3	Variable Uniform	Generalization	Stereotypes come from somewhere

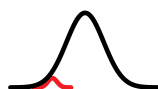and are strengthened by our biases

Illusion of control   No sense of variability $\Rightarrow$ No sense of probabilities
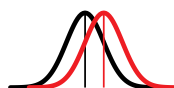
Normal distributions

An individual is seldom
representative of a group

A subgroup is seldom
a random sample either

When arguing a difference in means,
do take the spread into account, too