

Awe and wonder in scientific research

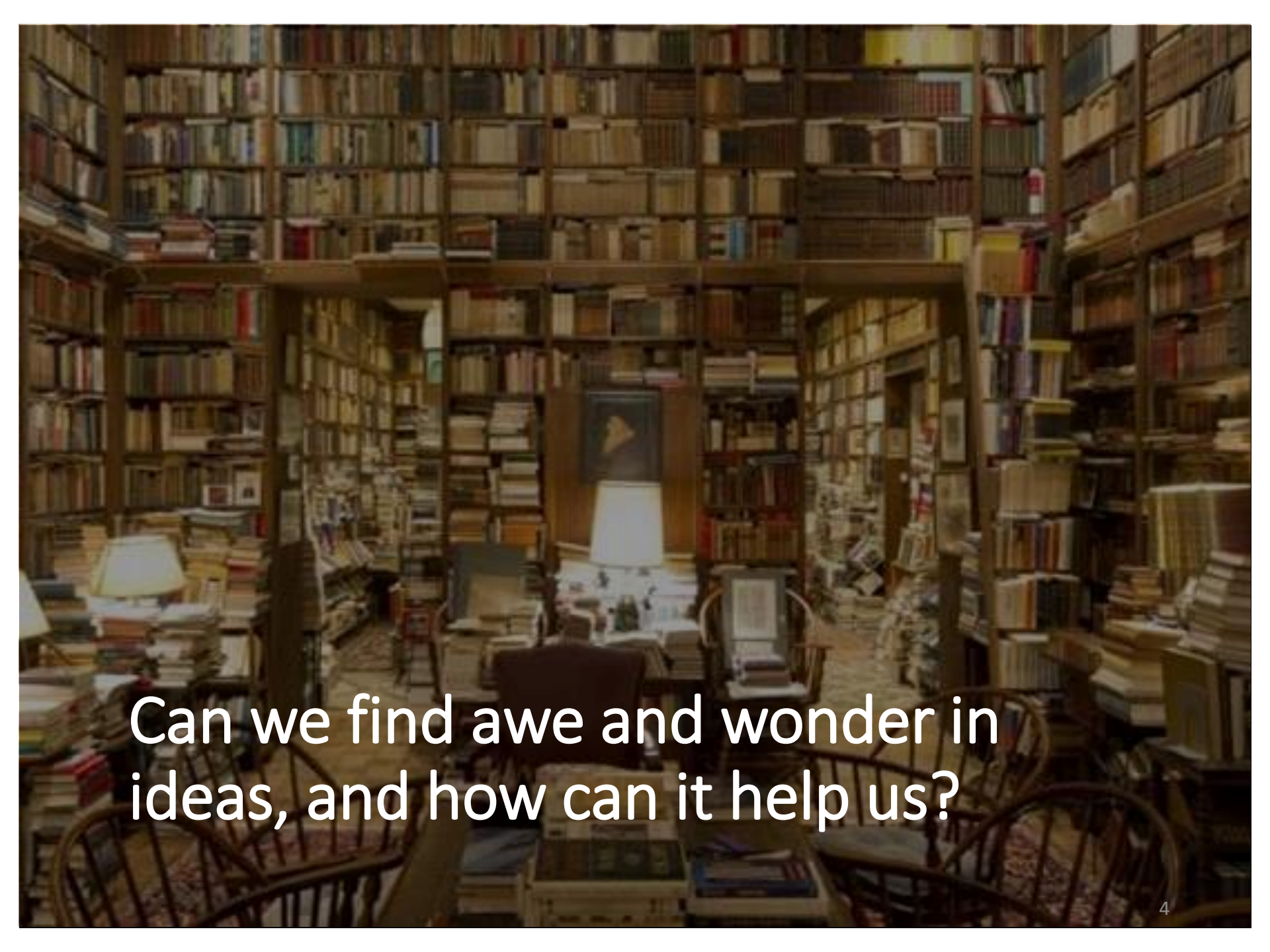
Arnold Wentzel
Universidad Antonio Nariño
2 December 2021



What is
awe? And
wonder?

We normally associate awe and wonder with nature

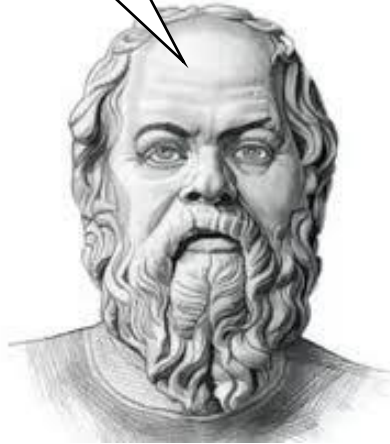




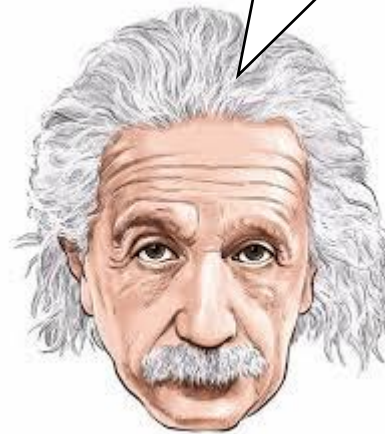
Can we find awe and wonder in ideas, and how can it help us?

Philosophers and scientists saw it as the key to originality and discovery

Wisdom
begins in
wonder



Who never
experiences
awe, ceases to
discover



How awe happens and why it is so rare

The path to awe and wonder starts with an unexpected event

Unexpected event → Surprise

Then it should surprise you

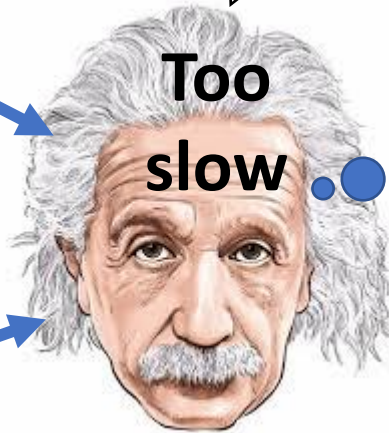
It is very hard to be surprised

Theory decides
what we can
observe

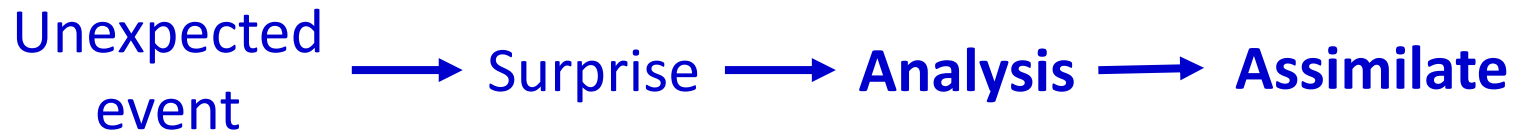
Predictions
based on
expectations

14 million bits
per second
coming in

**Too
slow**



A surprise can leave you unmoved...



Assimilation makes things smaller

Surprise!

Surprise

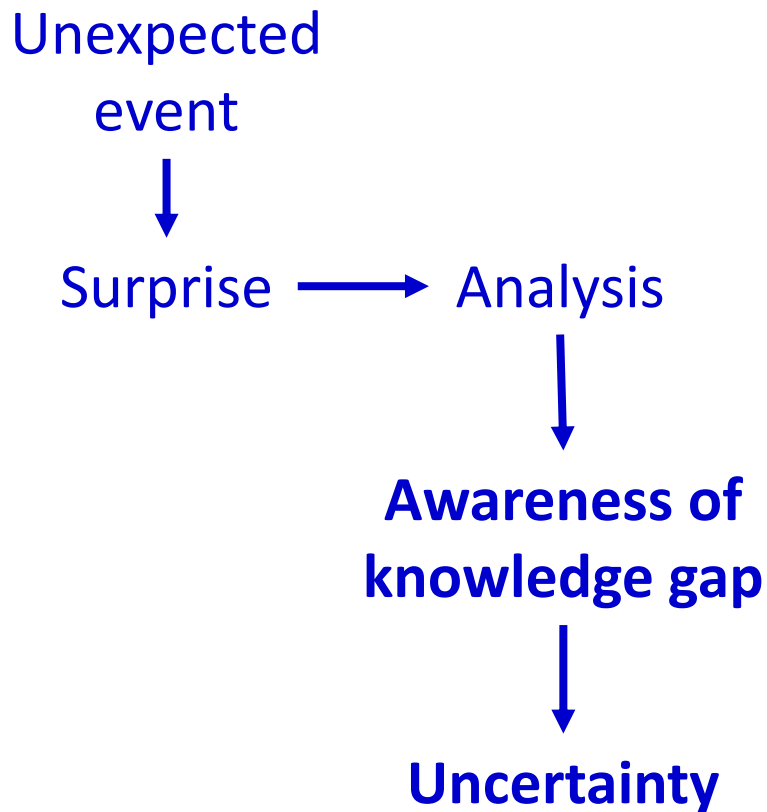
Surprise

Surprise

Surprise



... or the surprise can make you uncertain



And so disrupt your mental structures

Unexpected
event



Surprise



Analysis



Awareness of
knowledge gap



WONDER



**Delayed
assimilation**



Uncertainty



AWE



Accommodate

A mind-blowing experience

The experience is too big to fit into your conceptual framework

Surprise

Surprise

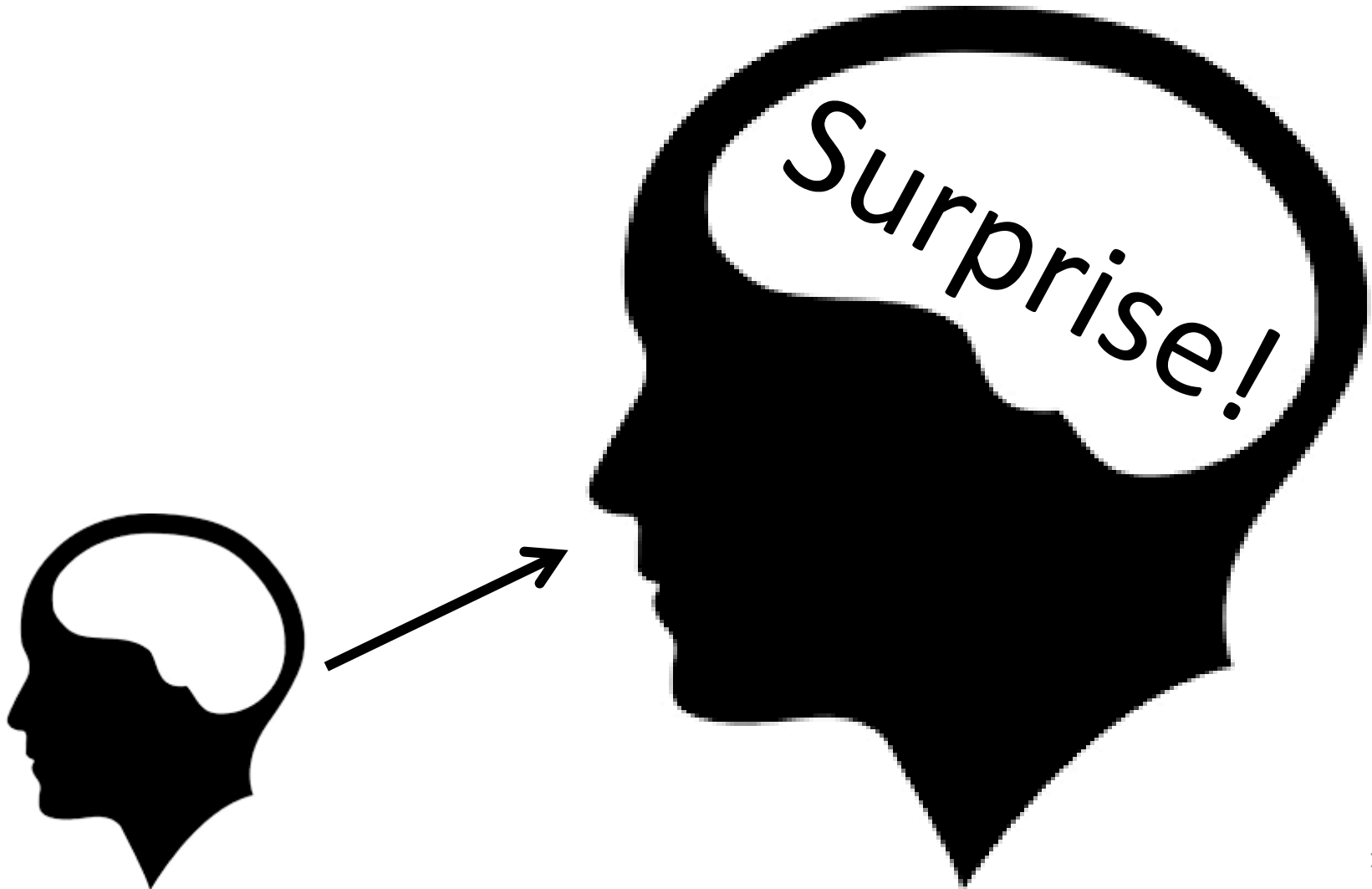
Surprise

Surprise

Surprise!!!



The vastness of awe changes us
through accommodation



How awe makes you a
better researcher

Shattered expectations force us to pay attention and make new meaning



Less likely to rely on
cliches and stereotypes



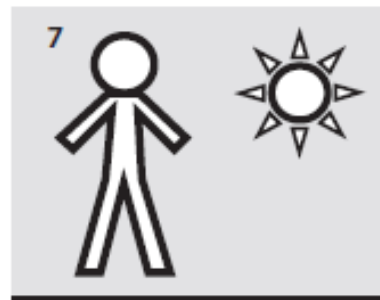
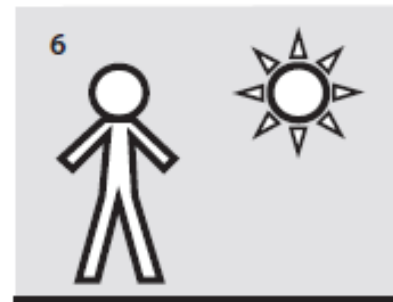
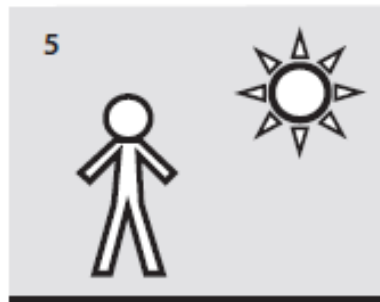
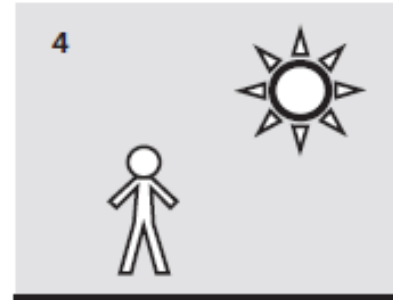
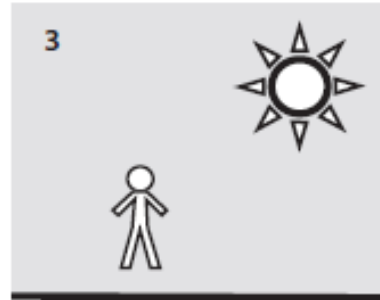
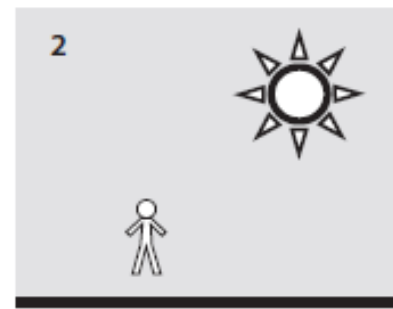
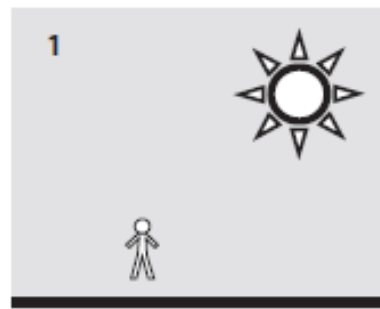
Uncertainty makes you more open to new explanations



Less likely to accept
weaker arguments



Less focus
on self, and
greater
focus on the
ideas and
phenomena



How to cultivate awe and wonder as a researcher

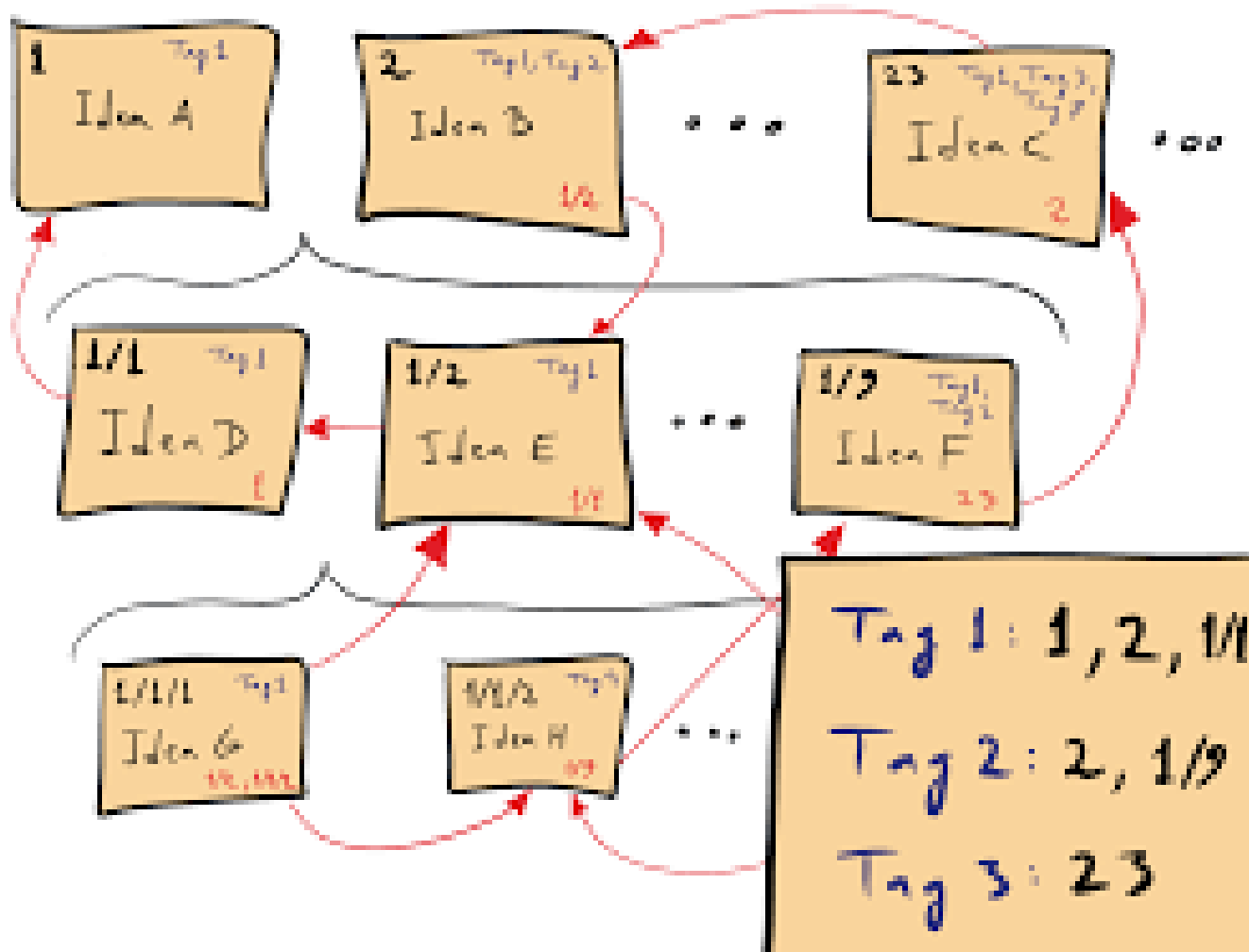
The intellectual “awe walk”



Relive your
own moments
of awe and
wonder



Luhman's 'Zettelkasten' system: "random acts of surprise"



Seek out the opposite or the vast



Always assume you are wrong

"No truth is without some mixture of error, and no error so false but that it possesses some elements of truth. If a man is in too big a hurry to give up an error he is liable to give up some truth with it, and in accepting the arguments of the other man he is sure to get some error with it."

INFINITE
GAMES



FINITE
GAMES



Awe and wonder mean
you never have to stop playing

Some sources

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A GUIDE TO
**Argumentative
Research Writing
and Thinking**
OVERCOMING CHALLENGES

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A collage of hand-drawn diagrams and sketches on an orange background, including a flowchart, a triangle, and a group of figures.

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ROUTLEDGE FRONTIERS OF POLITICAL ECONOMY

Creative Research in
Economics

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