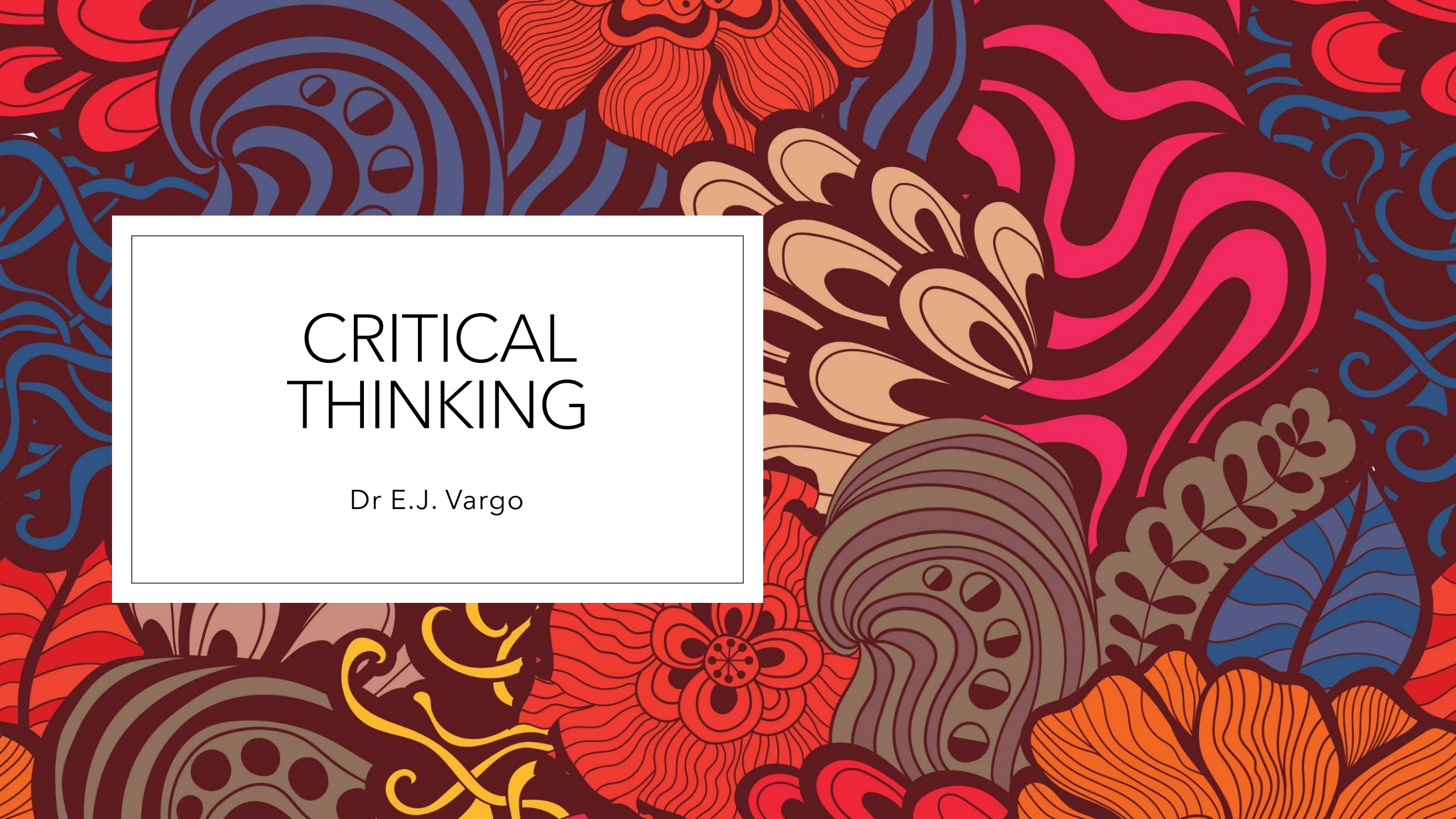
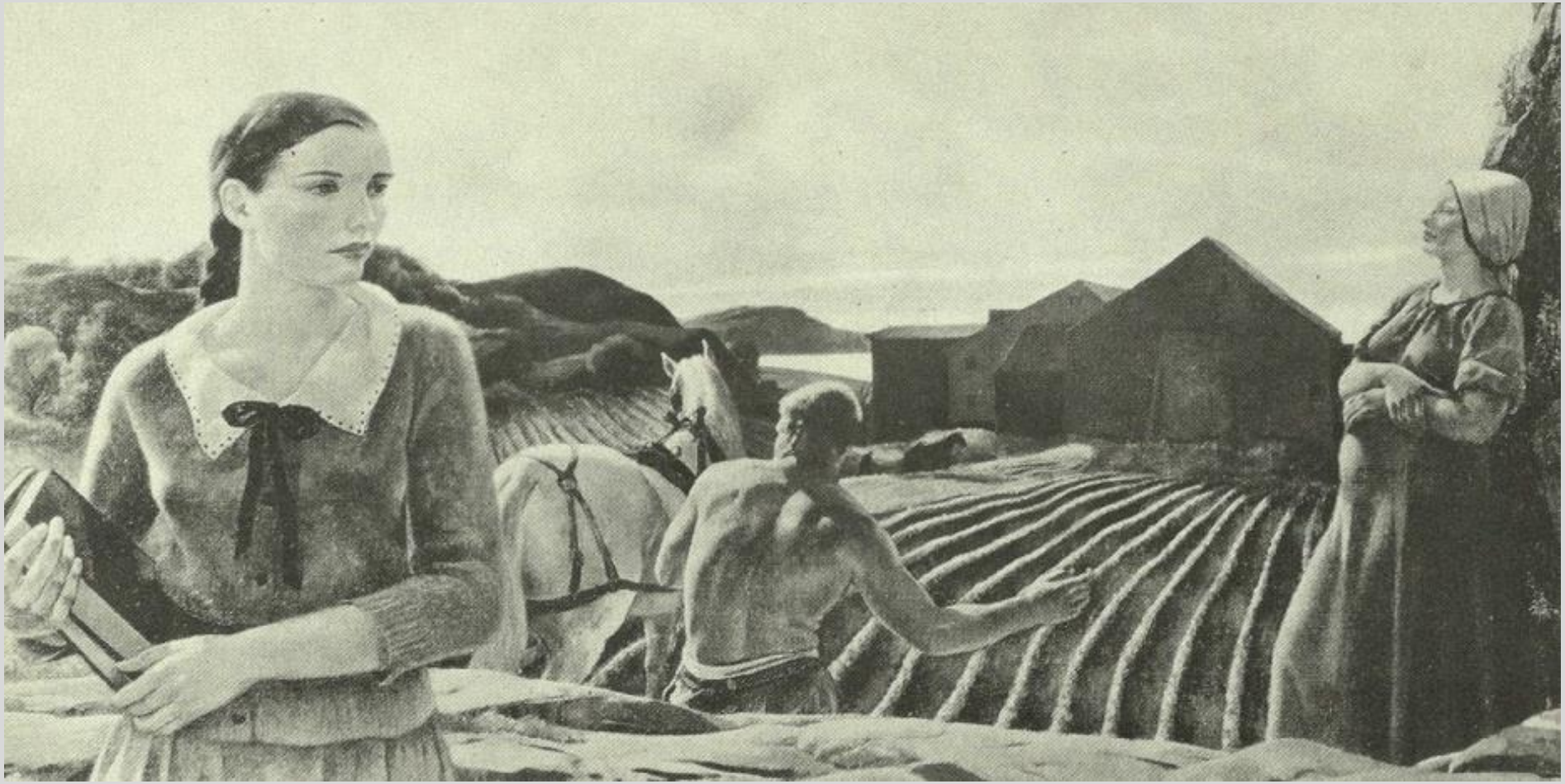

CRITICAL
THINKING
Dr E.J. Vargo

Aims of this Session:

- Define critical thinking: what is it? Where does it come from?
- How to develop critical thinking and recognize when we are using it.
- Apply critical thinking techniques to psychology related exercises.
- Sum it up: why is it important for psychologists to think critically?

What is the *behavior?* What is the *meaning* of the behavior?



From the TAT

Some definitions…

- **“The propensity and skills to engage in activity with reflective skepticism focused on deciding what to believe or do.”**

  Halonen, J. S., & Dunn, D. S. (2020). On critical thinking. *Critical Thinking in Psychology*, page 224.

- **“..focusing on the adherence to criteria and standards.”**

  Bailin, S. (2002). Critical thinking and science education. *Science & Education*, 11(4), page 364.

- **“The promotion of independent thinking, personal autonomy, and reasoned judgement in thought and action;”**

  Bailin, S., & Siegel, H. (2002). *Critical thinking.* The Blackwell guide to the philosophy of education, page 190.

SYSTEM 1

Intuition & instinct

95%

Unconscious
Fast
Associative
Automatic pilot



SYSTEM 2

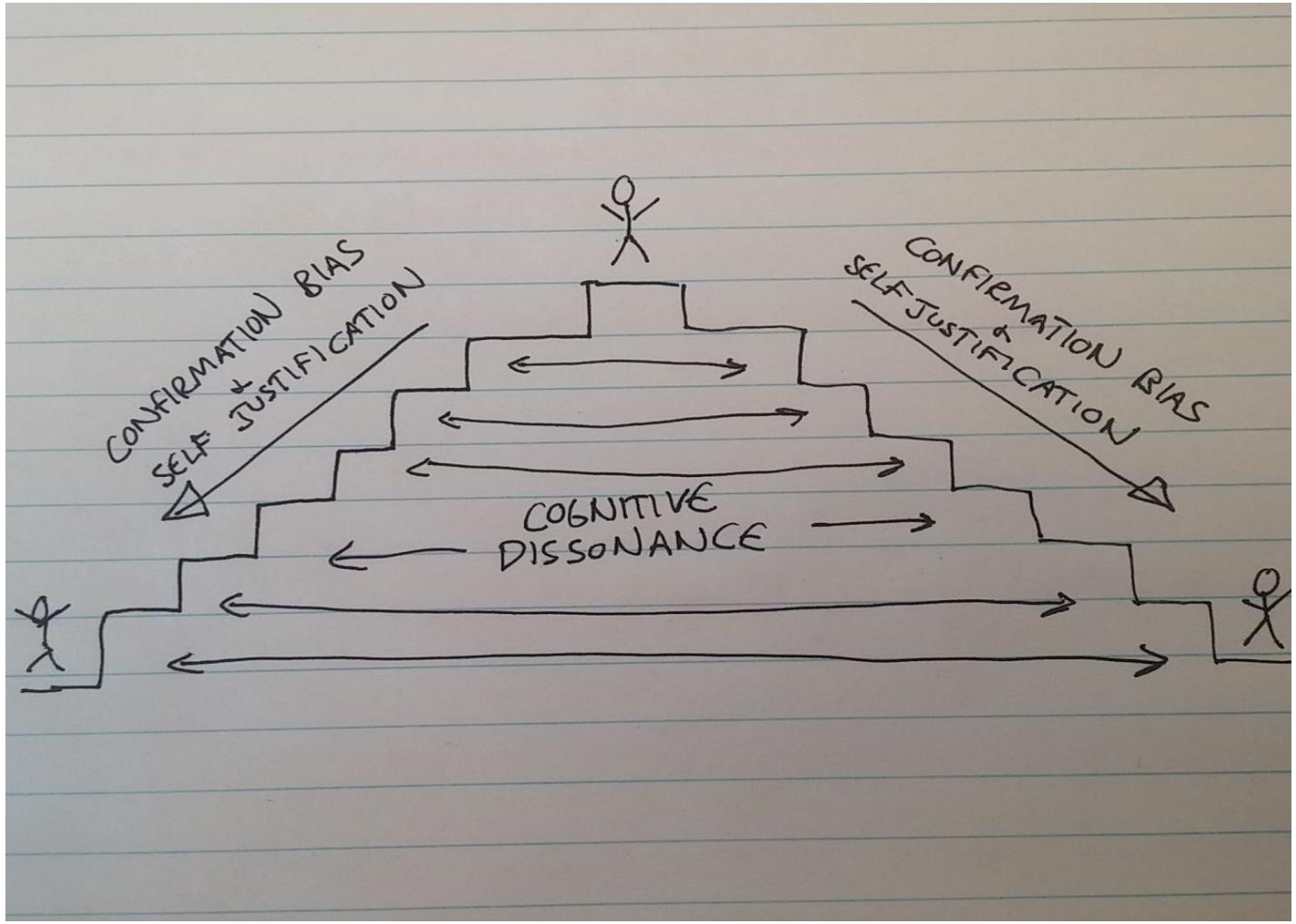
Rational thinking

5%

Takes effort
Slow
Logical
Lazy
Indecisive

Source: Daniel Kahneman

Questioning our own epistemology



From: Mistakes Were Made (but not by me)" – Carol Tavris and Elliot Aronson

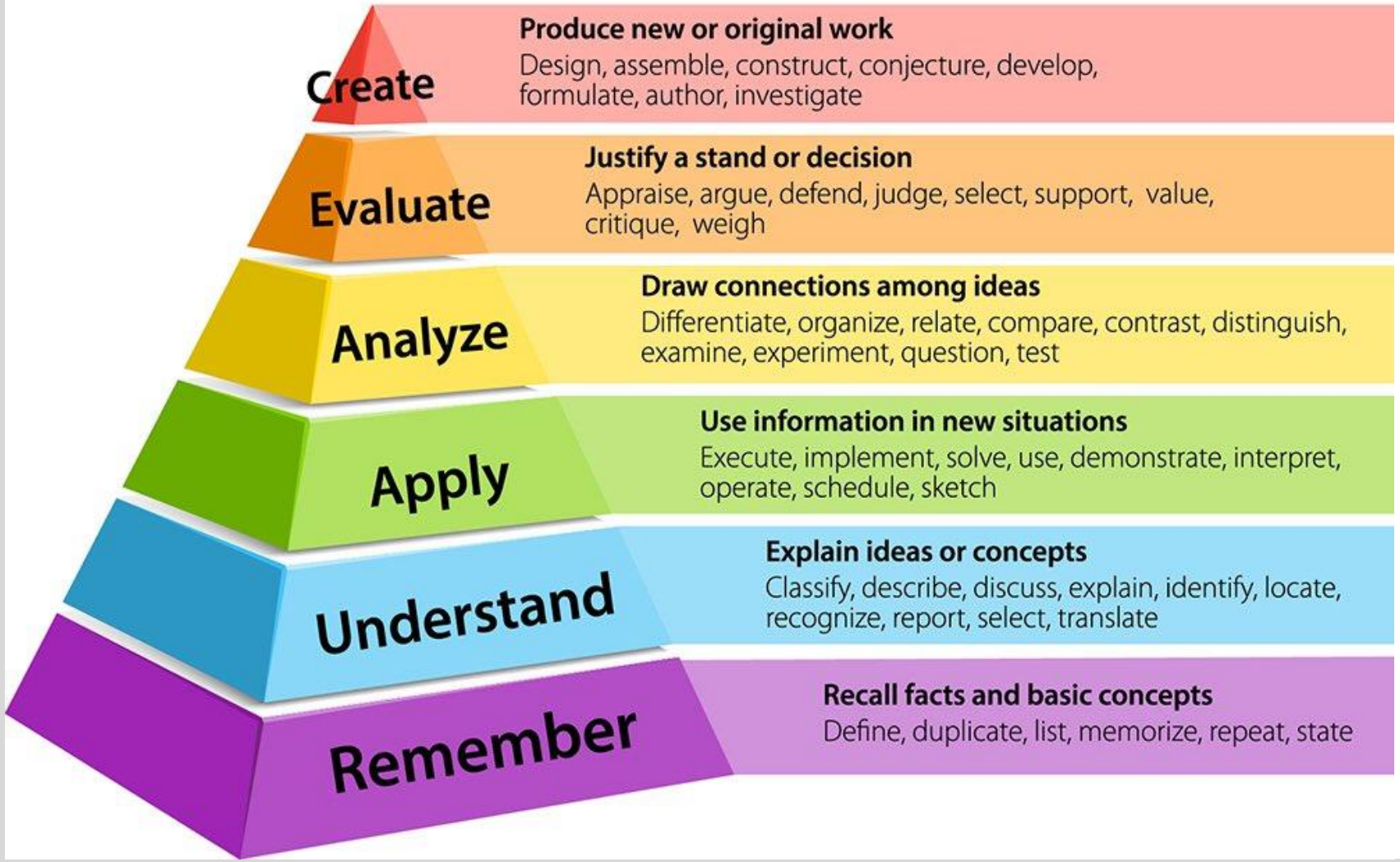
Questioning how we accept that our own information is true

- **"How do you know that?"**
- **"How can this bit of knowledge be shown to be false if one wanted to disprove it?"**
- **Accepting "to not know"**

Metacognition (thinking about thinking)

- What kind of preparation are you engaging in to produce the intensive study required to be successful?
- What rationalizations may have transpired in the course of "getting ready"?
- How do you plan on coping if you achieve a less than thrilling mark?
- How may cognitive bias be creeping into your thinking processes?

Bloom's Taxonomy

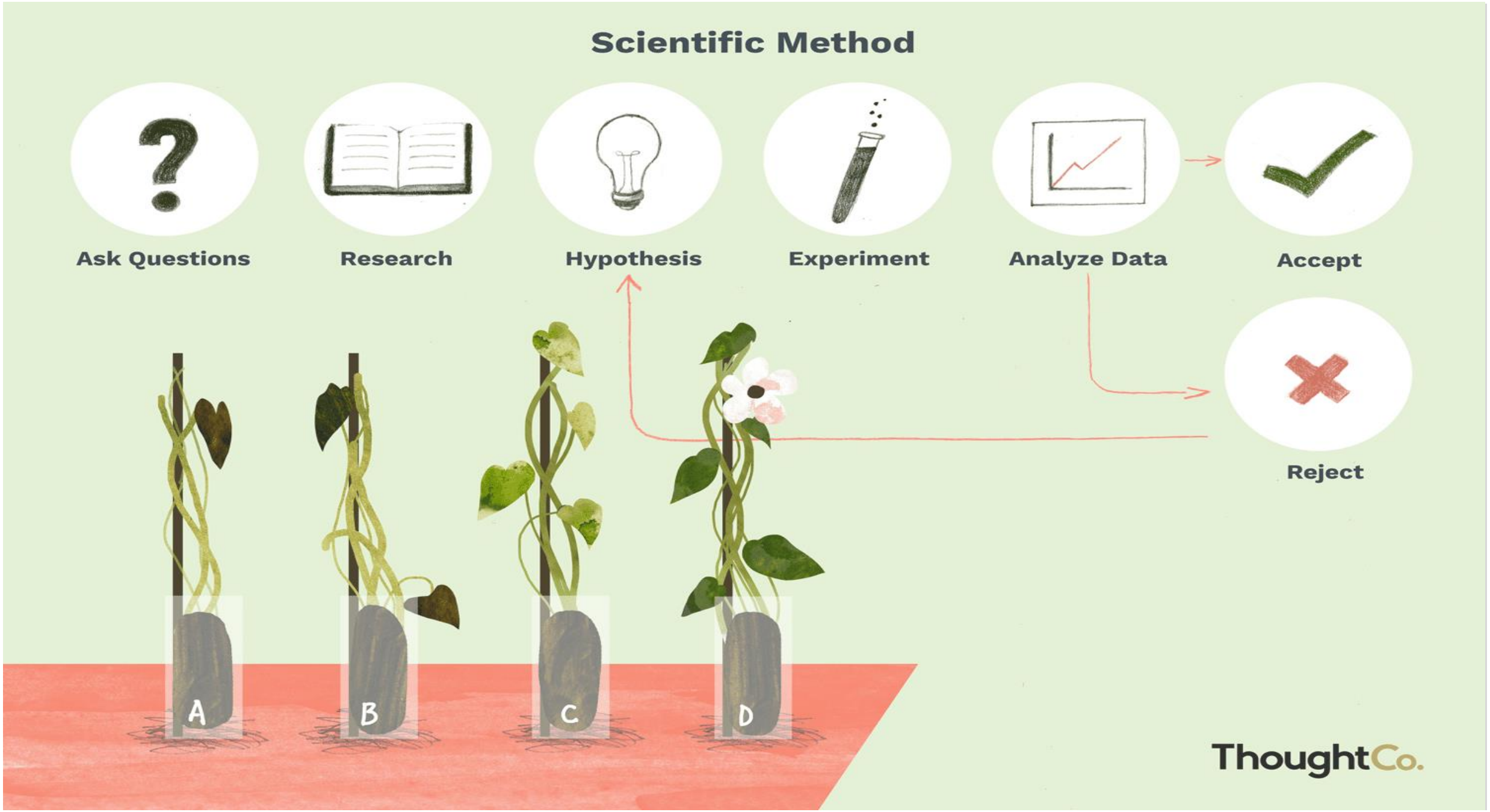


- Critical thinking is often erroneously viewed as an outcome but is actually a dynamic process..

- Procedure vs. Criteria

- Learning from mistakes

Scientific Method



MYTH "31,000 dissenting scientists prove there's no expert agreement on human-caused global warming."

PREMISE #1
A large proportion of people with science degrees dissent against human-caused global warming.

PREMISE #2
People with science degrees are experts on climate change.

CONCLUSION
There is no expert agreement on human-caused global warming



MAGNIFIED MINORITY
31,000 is only 0.3% of over 10 million people with science degrees in USA.



FAKE EXPERTS
While all the signatories of the petition have science degrees, 99.9% have no expertise in climate science.

Now let’s try with some psychology examples

Identify errors and make suggestions:

- A large sample of people of all ages was given an IQ test. It was noted that people over 50 generally had lower IQ scores and it was concluded that intelligence declines with age.

- An investigator gave a personality test to a large number of crack cocaine addicts. The addicts’ scores on the trait of "emotionality" were significantly lower than the scores on that trait obtained from the general population. This caused the investigator to believe that highly unemotional people are more susceptible to crack cocaine addiction.

“The real value of being a good critical thinker in psychology is so you won’t be a jerk” - Anonymous North Carolina academic

The scientist–practitioner gap, ideological intrusions into science, relativistic ways of thinking in the culture, uncritical responses to the biotechnical revolution, and other cultural developments have all made developing critical thinking more vital than ever.

Wade, C. (2008). Critical thinking: Needed now more than ever. In D. S. Dunn, J. S. Halonen, & R. A. Smith (Eds.), *Teaching critical thinking in psychology: A handbook of best practices* (p. 11–21). Wiley-Blackwell.