Creativity in Education:
a Recursive Exercise in Estimation Ability

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Evolving society and human skills

INDUSTRIAL SOCIETY

✧ **STANDARDIZATION**

✧ **CONCENTRATION**
  SYNCHRONIZATION

EDUCATIONxIND

✧ **ROTE LEARNING**

✧ **SPECIALIZATION**

✧ **CREATIVITY FOR GENIUS**

INFORMATION SOCIETY

✧ **PERSONALIZATION**

✧ **DISTRIBUTION**
  S/T DESTRUCTURING

EDUCATIONxINFO

✧ **FLEXIBILITY**

✧ **FILTERING**

✧ **CREATIVITY FOR DIGNITY**

POST-INFORMATION SOCIETY

✧ **HYPER-INTELLIGENCE**

✧ **HYPER-CONNECTIVITY**

EDUCATIONxPOST-INFO

✧ **A.I. CONTROL**

✧ **ENTREPRENEURSHIP**

✧ **CREATIVITY FOR SURVIVAL**

EDUCATION FOR CREATIVITY
IS
A
NECESSITY

Critical 90-95%   Creative 5-10%

<u>developing</u> vs. profiling creativity

- In order to develop creativity in an educational setting, students must be trained to work on *creativity tasks*

    - By definition, a creativity task involves

        - A variety of ways to define the task itself

        - A multiplicity of concepts for cognitive processing

        - A variety of emotions experienced in acting on the task

        - A vast variety of possible outcomes (products)

    - A number of creativity tasks have been defined and validated

- ***Critical point: How should the educator provide feedback on the outcomes of a creativity task?***

- Note: early feedback is typically provided before the outcome is materialized into (e.g.) a prototype

Can anyone see the full impact of a creative outcome?

A smartphone is an eraser

The bouncing smartphone

A smart ball

Estimating ideas: pragmatist maxim

"Consider what effects, which might conceivably have practical bearings, we conceive the object of our conception to have.

Then, our conception of those effects is the whole of our conception of the object."

– Peirce, C.S., (1992-1999). *The Essential Peirce.*

Creativity requires originality and effectiveness

- Runco, M.A., Jaeger, G.J. (2012). The standard definition of creativity. *Creativity Research Journal. 24*, 92–96.

Creativity requires <u>potential</u> originality and effectiveness

- G.E. Corazza (2016). Potential originality and effectiveness: The dynamic definition of creativity. *Creativity Research Journal,* in press.

- Definition of **Creative Achievement (long version)**: "*Creative achievement requires the attribution of sufficient originality and effectiveness to a represented outcome of a creative process by at least one estimator at a specific time*".

- Definition of **Creative Achievement (short version)**: "*Creative achievement requires both originality and effectiveness*".

- Definition of **Creative Inconclusiveness (long version)**: "*Creative inconclusiveness corresponds to insufficient attribution of originality and/or effectiveness to the represented outcomes of a creative process by any estimator at a specific time*".

- Definition of **Creative Inconclusiveness (short version)**: "*Creative inconclusiveness implies insufficient originality and/or effectiveness*".

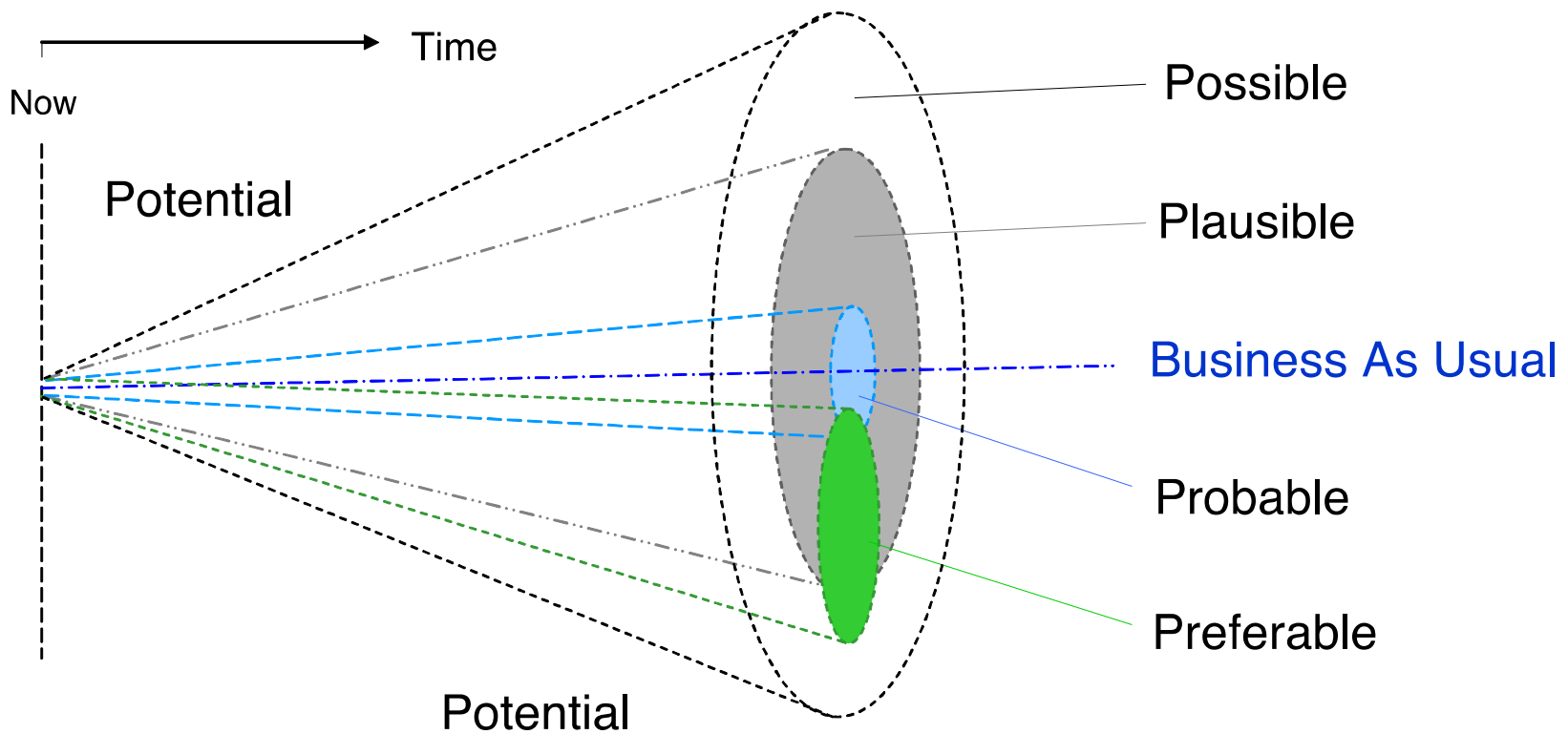*A **judge** "knows" and "remains distinct"*

*An **estimator** "searches" and "engages"*

Estimating the value of a creative idea

is an exercise in anticipating the future(s)

Time forks perpetually toward innumerable futures

Jorge Luis Borges

- G.E. Corazza (2017). Creativity and anticipation. In *Handbook of anticipation*, R. Poli (ed.)

... projects the creative idea over several potential futures

In this way, static expertise is overcome
in favor of *dynamic creative guidance*
in a continuous creator-estimator dialogue

- We must progress in the understanding of

  - how educators can be good estimators of creativity

  - how they can foster the development of estimation ability in their students, an essential part of their creative mindset

1. **estimator traits and abilities:** specific characteristics that make a good estimator (e.g., openness, extraversion, divergent thinking, etc)

2. **meta-creativity**: number and diversification of the possible interpretations that an estimator can conceive of a creative item

3. **embedded cognition impact on idea estimation**: environmental influences on the performance of an estimator

4. **discrimination ability of original ideas**: diversification of the possible consequences derived within a set of expert/non-expert estimators

5. **historiometric studies in idea estimation**: diversification in the estimates of originality and effectiveness in the short, medium, and long term

6. ***cultural anthropology implications on creativity estimation***: diversification in the estimates of originality and effectiveness as a function of cultural differences of the estimators

7. ***social competition effects on idea estimation***: correlation between the estimator's own ability and the assigned creativity scores

8. ***social bias effects on idea estimation***: dynamic effects of knowledge about other estimators' opinions on a specific estimator's assessment of a product

9. ***estimation and anticipation***: effect of the development of anticipation methodologies on the estimator's ability

A Recursive Exercise in Estimation Ability

- Who is going to estimate the results of estimating the outcomes for a creativity task?

- Clearly, education for creativity requires a new approach to feedback...
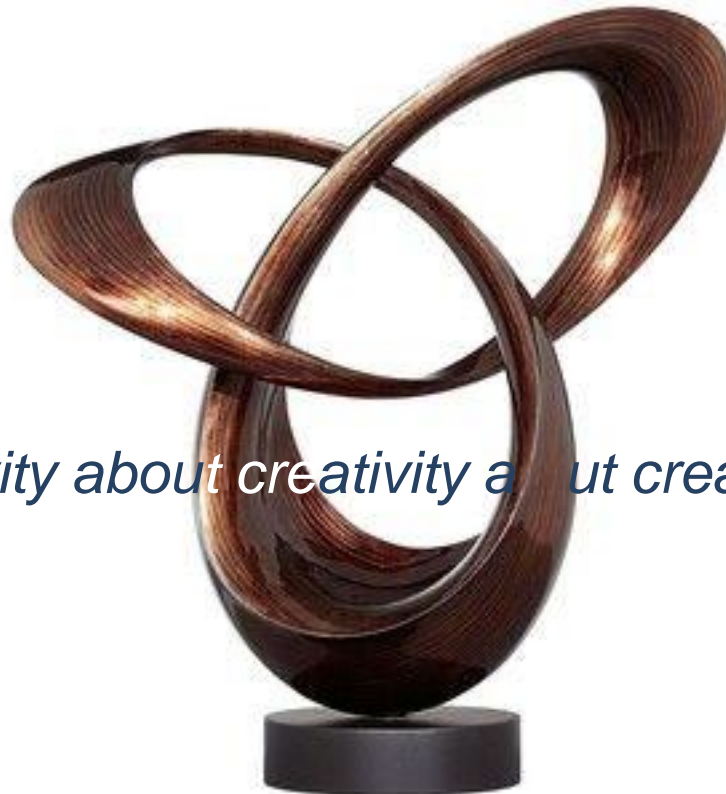
creativity about creativity about creativity…

Thank you for your attention!

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