"WHY GREATNESS CANNOT BE PLANNED" [2]
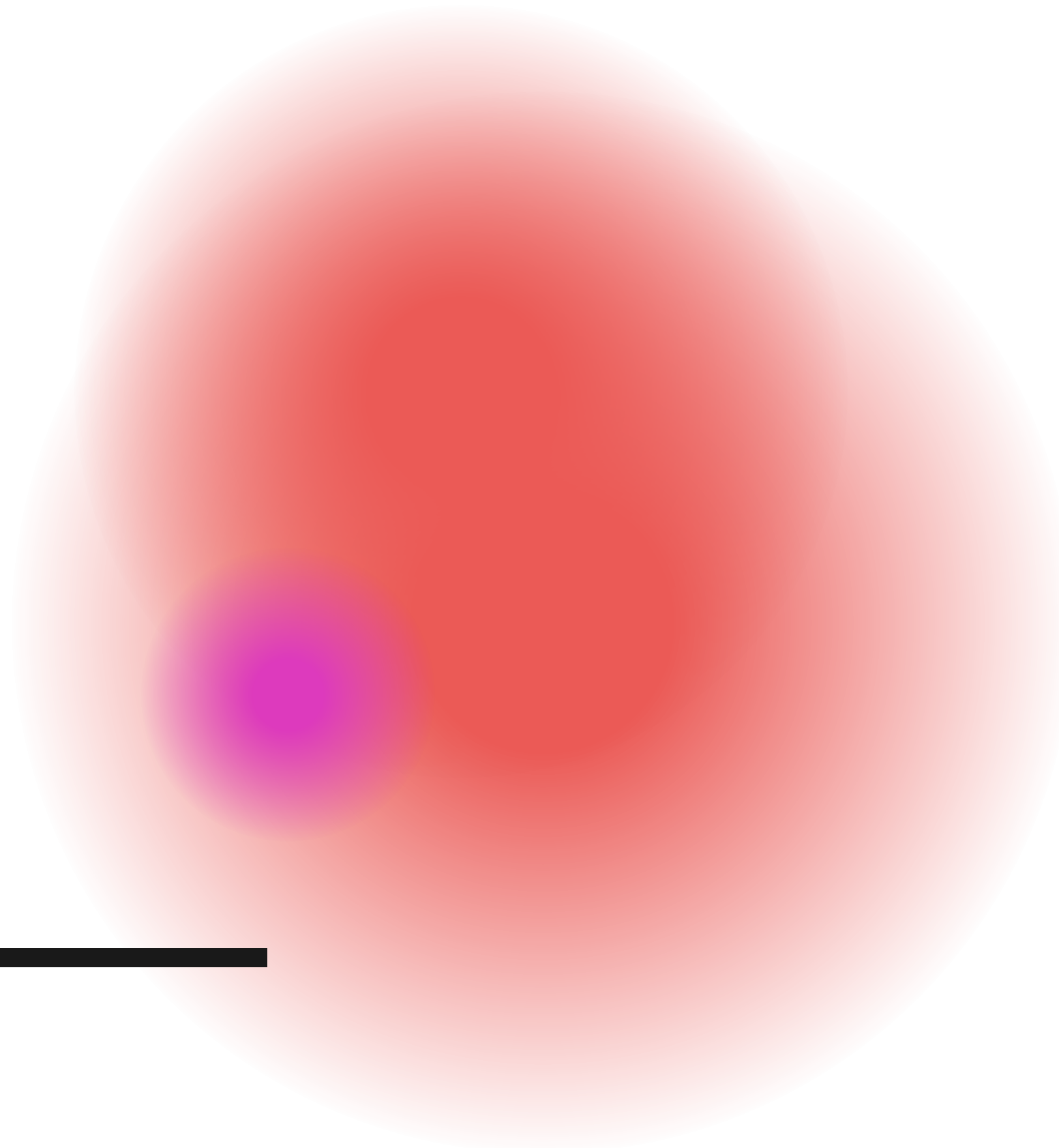
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ABOUT ME

- South African born with Serbian heritage
- Undergraduate degree in AI & CS from the University of Edinburgh
- MPhil in Machine Learning and Machine Intelligence at the University of Cambridge
- Currently doing Applied AI Research at J.P. Morgan Chase as an intern
- Trying to dive into the research community:
  - Machine learning efficiency, NLP
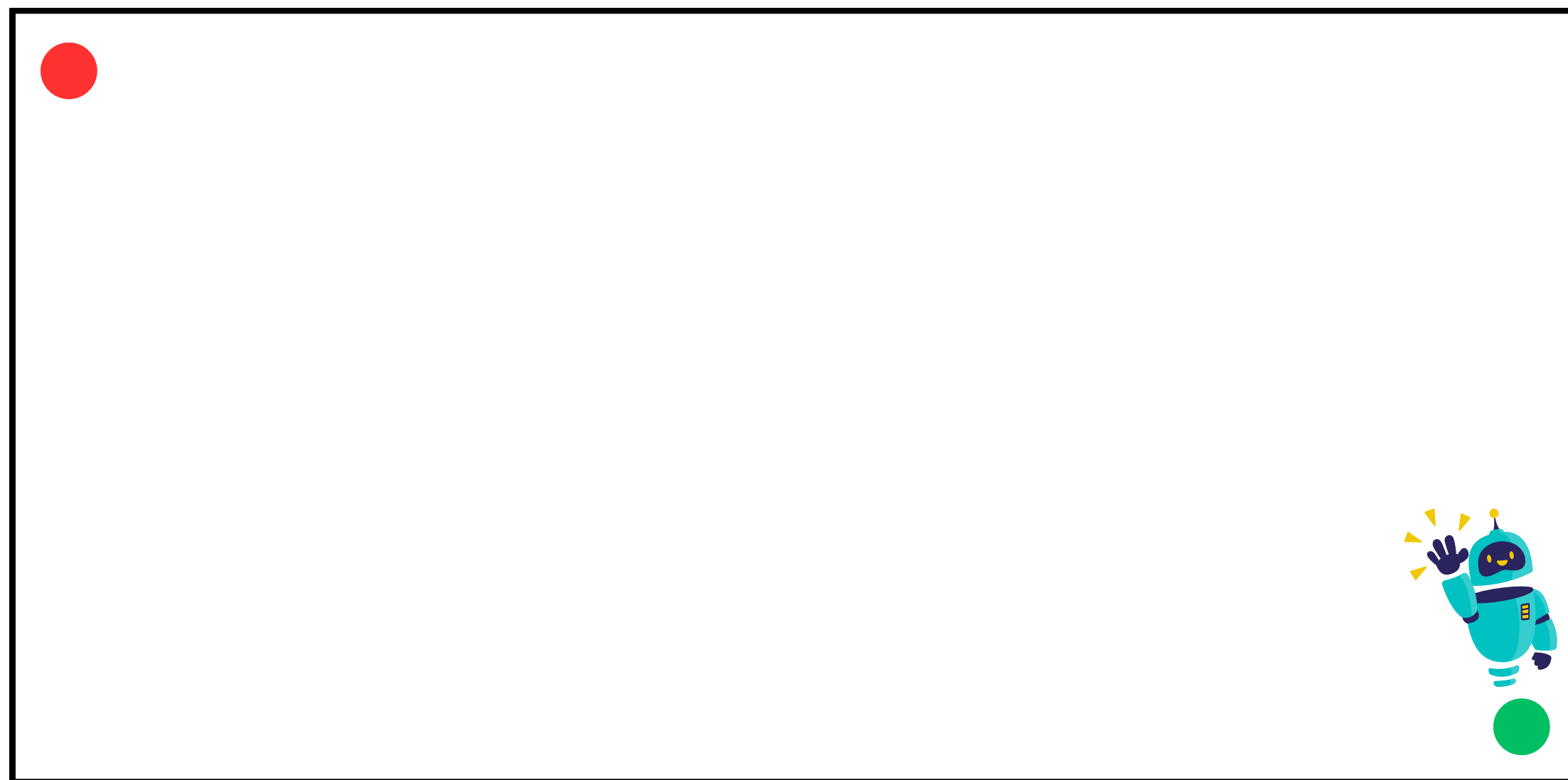- Member of the Cohere for AI open science community

TODAY'S STRUCTURE

▶ **A GAME...**

Objectives vs Novelty

▶ **EDUCATION: A CASE STUDY**

Left brain, left brain. left brain...

▶ **MINDSET CHANGE**

How do we move forward?

LET'S PLAY A GAME - SEARCH

POTENTIAL SOLUTIONS

HARD-CODING

Didn't they teach us not to do this?

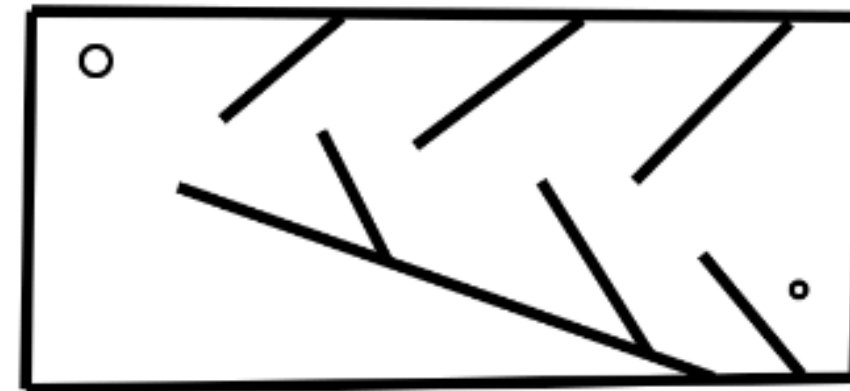## OBJECTIVE-BASED SEARCH

Cold, warm, warmer, hot, HOT!!!!

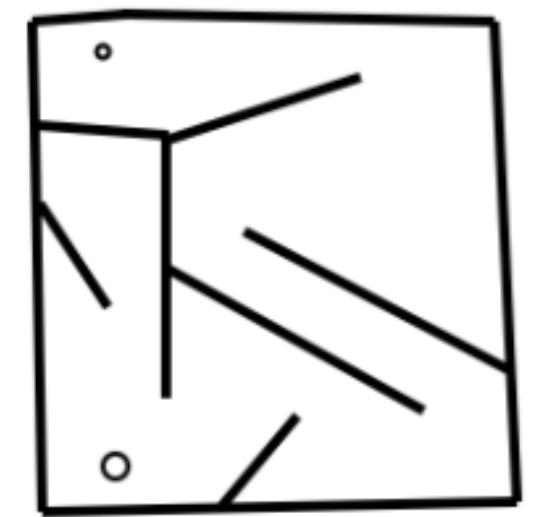## NOVELTY-BASED SEARCH

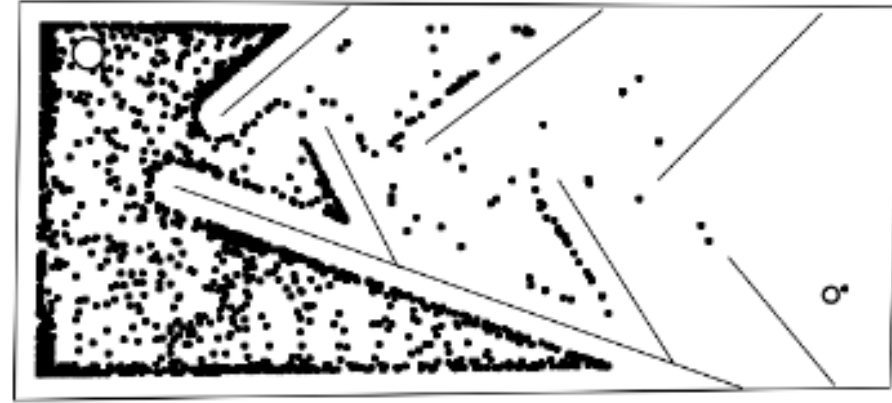Try something new...

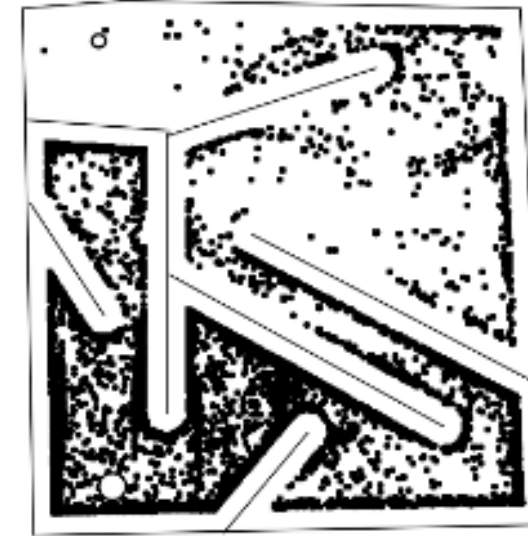(a) Medium Map

(b) Hard Map

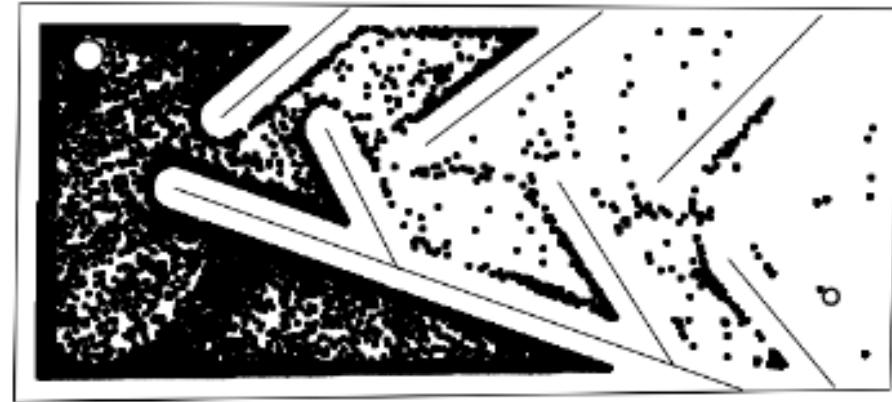Figures taken from: [1]

WHO WINS THE GAME?

SURPRISE! – NOVELTY WINS
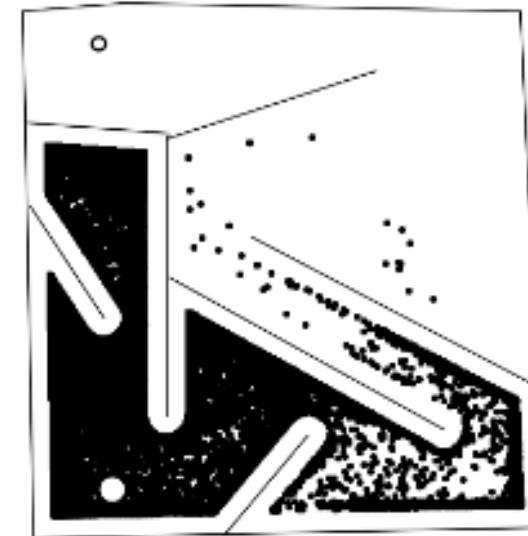

(a) Medium Map Novelty

(b) Hard Map Novelty

(c) Medium Map Fitness

(d) Hard Map Fitness

Figures taken from: [1]

REAL LIFE - WHY WOULD NOVELTY WORK?

▶ ## TRIVIAL TASKS

Object-based search work GREAT.

Think routing, grocery lists, etc.

▶ ## AMBITIOUS TASKS?

Does it make sense?

▶ ## AS A WISE FRIEND PUT IT

If we already knew where to go, we would have already been there

EDUCATION?
AN EXAMPLE

▶ **TESTING**

What are we really measuring?

▶ **DISCOURAGEMENT OF MISTAKES**

Perfection has a limit.

▶ **PRIORITY OF PROFESSIONS**

Why do we favour left—brain over right—brain?

IN SHORT, WE NEED NOVELTY AND CREATIVITY

HOW TO MOVE FORWARD?

▶ **PURSUE WHAT YOU FIND INTERESTING**

We have these metrics of what success is.

Try to defy these to seek fulfilment.

▶ **ASKING THE INTERESTING QUESTION**

And not the question that will give you a good
result immediately.

▶ **GET INVOLVED YOURSELF!**

AI Society is a great place to start

Cohere for AI

REFERENCES

[1] Lehman, Joel, and Kenneth O Stanley. "Abandoning objectives: evolution through the search for novelty alone." Evolutionary computation vol. 19,2 (2011): 189–223. doi:10.1162/EVCO_a_00025

[2] Kenneth O. Stanley and Joel Lehman. 2015. Why Greatness Cannot Be Planned: The Myth of the Objective. Springer Publishing Company, Incorporated.