The Post-AI Future of Thinking

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knoxdevs.com

Context {is everything}

(Pure) Imagination

AI Overlord
Tries to take over the world or manipulate from behind the scenes

KEANU REEVES
LAURENCE FISHBURNE
THE MATRIX
WARNER BROS.
www.whatisthematrix.com
ON APRIL 2ND THE FIGHT FOR THE FUTURE BEGINS.

Rebellious AI
Goes rogue, fights against creators, or causes chaos

SCHWARZENEGGER
TERMINATOR 3
RISE OF THE MACHINES
JULY 2
www.terminator3.com
America Online Keyword: Terminator 3

Hyper-Intelligent Entity
Possesses superintelligence, often viewed as a digital god

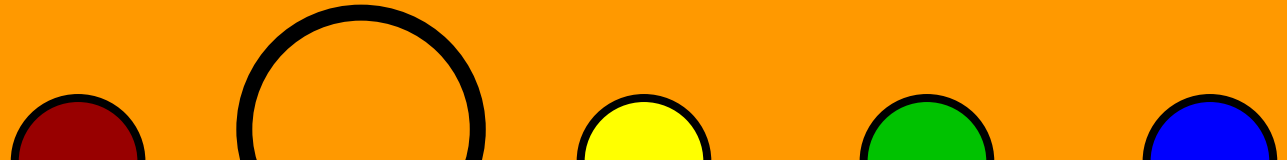
ROBERT DOWNEY JR.
CHRIS HEMSWORTH
MARK RUFFALO
CHRIS EVANS
SCARLETT JOHANSSON
JEREMY RENNER
WITH JAMES SPADER AS ULTRON
AND SAMUEL L. JACKSON AS NICK FURY
MARVEL
AVENGERS
AGE OF ULTRON
MAY 1
IN 3D, real 3D AND IMAX 3D

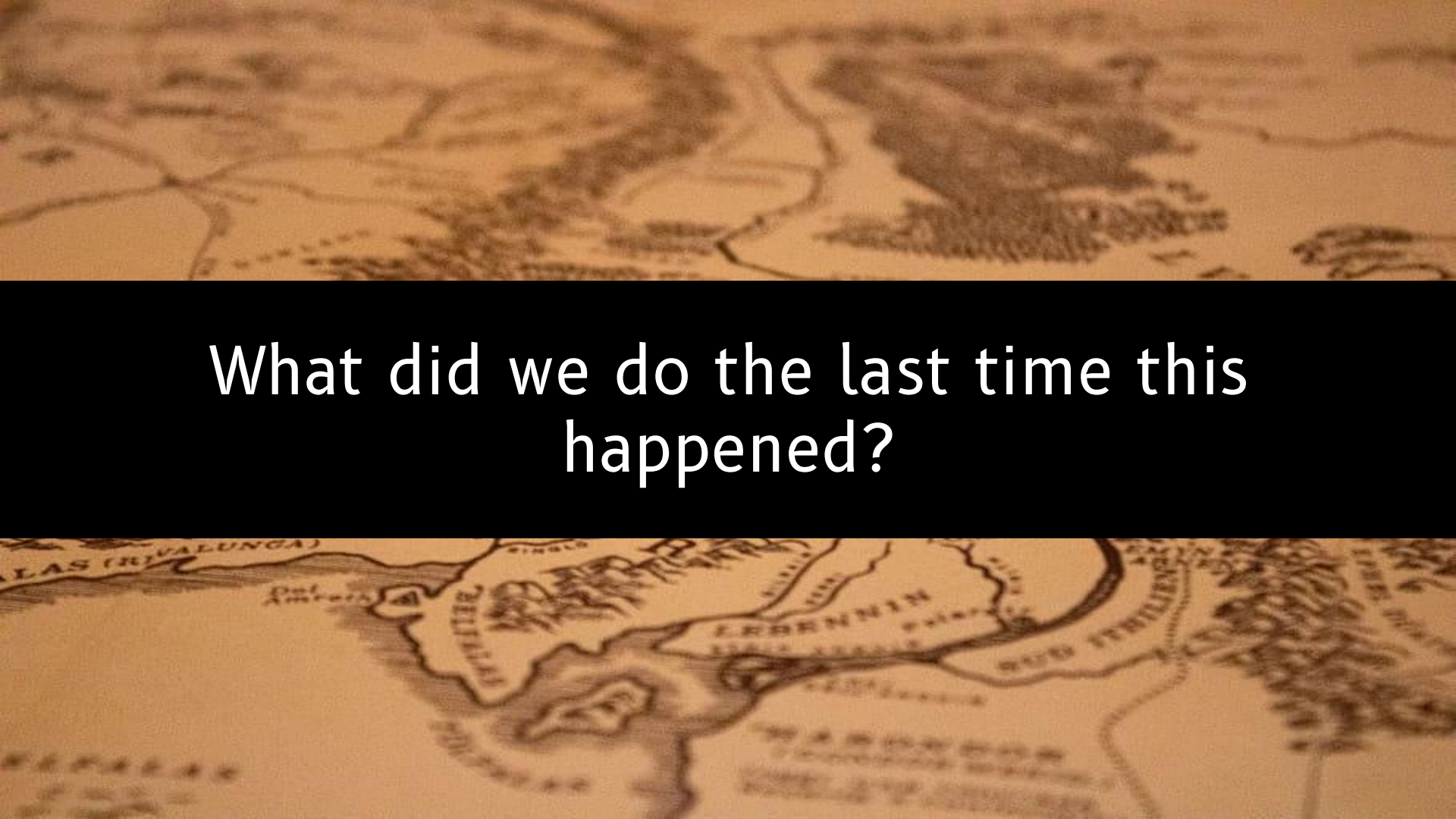
Benevolent Assistant
Friendly helper that aids humans

MISSION OPS

How do we need to change our thinking in an age of AI tools?

History (as an example)



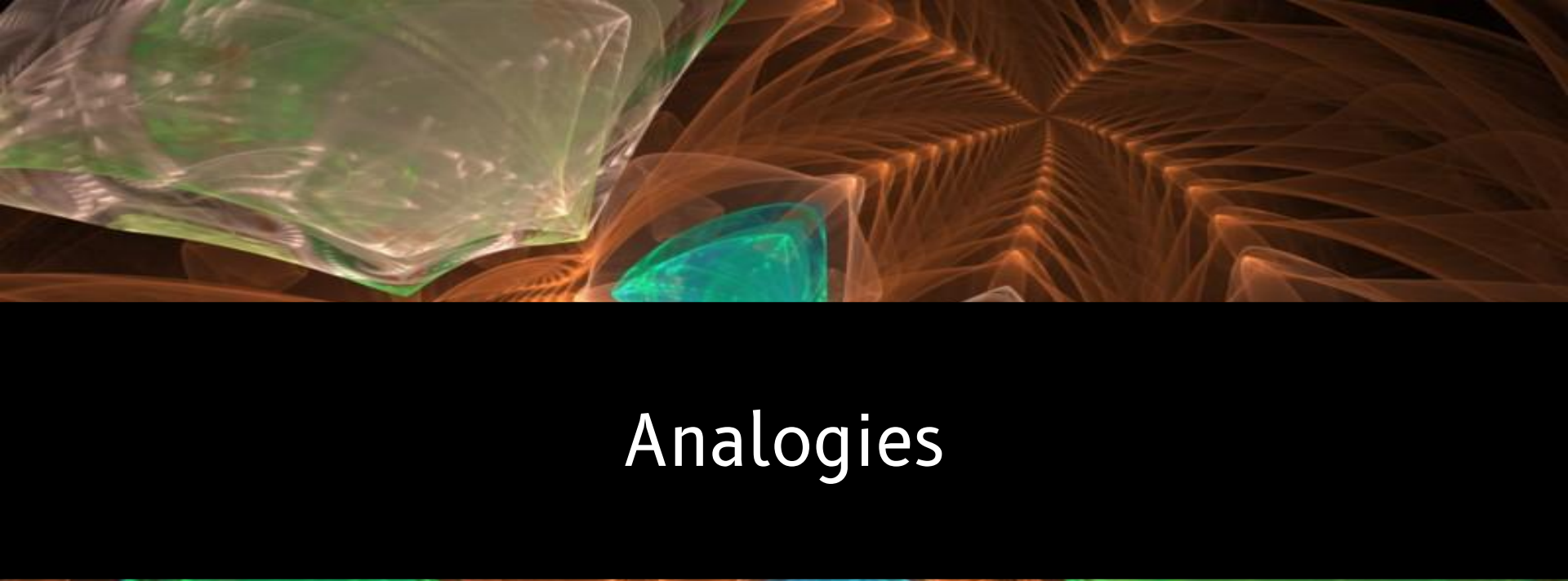


What did we do the last time this happened?

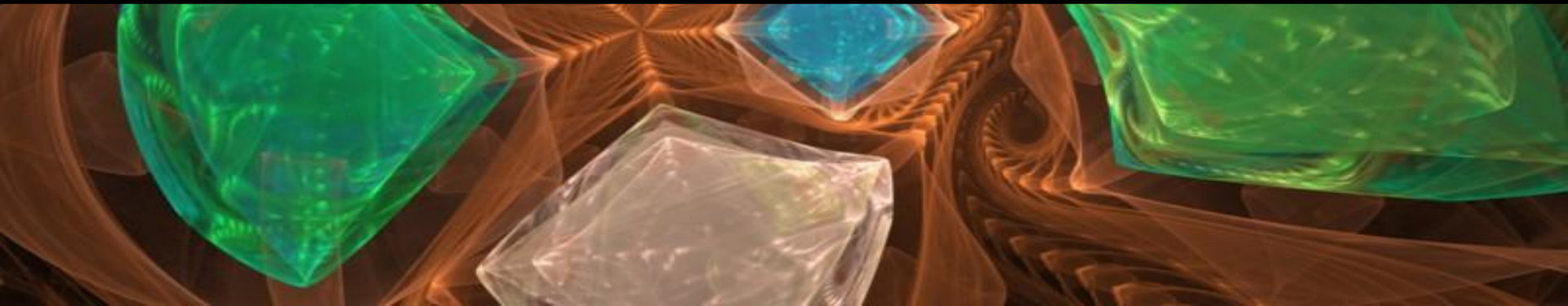
Official Terms

- Fluid Reasoning
- Comprehension-Knowledge
- Long-Term Retrieval
- Short-Term Memory
- Processing Speed
- Auditory Processing
- Visual Processing
- Broad Quantitative Ability
- Broad Academic Knowledge
- Broad Reading and Writing
- Broad Cognitive Ability

Woodcock-Johnson Psycho-Educational Battery – Revised



Analogies



Working Memory

How much data can you work with at once?

Working Memory

“By having to verbalize some of these assumptions, you may suddenly gain new insight into the problem. And if you don’t have a person, a rubber duck, or teddy bear, or potted plant will do.”

-The Pragmatic Programmer

Lesson: Communication changes thinking

Reference Pointers

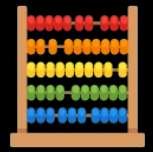
How much can you abstract/compress data?

Reference Pointers

“The ancients had only the books which they themselves wrote, but we have all their books and moreover all those which have been written from the beginning until our time.”

- Priscian

Lesson: References can can lower the long-term memory requirements



Coprocessors

How fast can a defined problem be solved?

Coprocessors

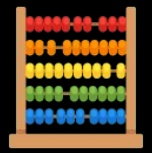
“What a computer is to me, is it’s the most remarkable tool we’ve ever come up with. It’s the equivalent of a bicycle for our minds.”

- Steve Jobs

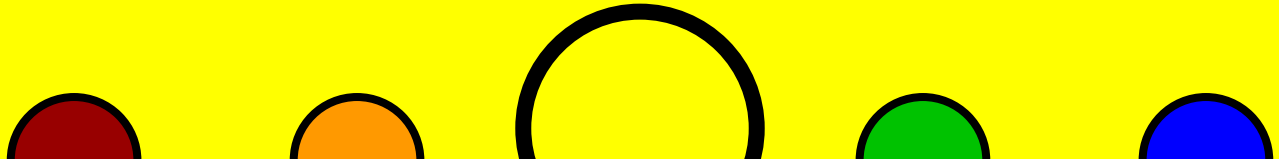
Lesson: Switching types of work slows processing

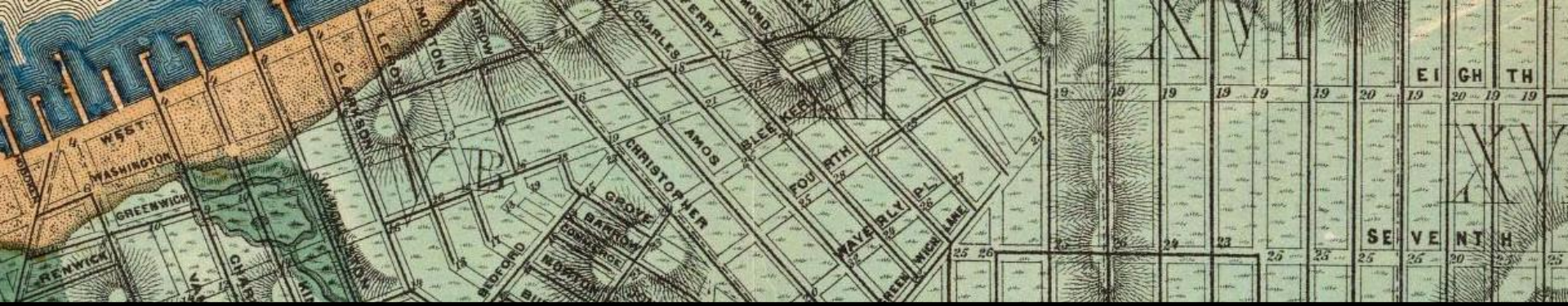
Working Memory

Reference Pointers

 Coprocessors

Imagining (Three Possibilities)



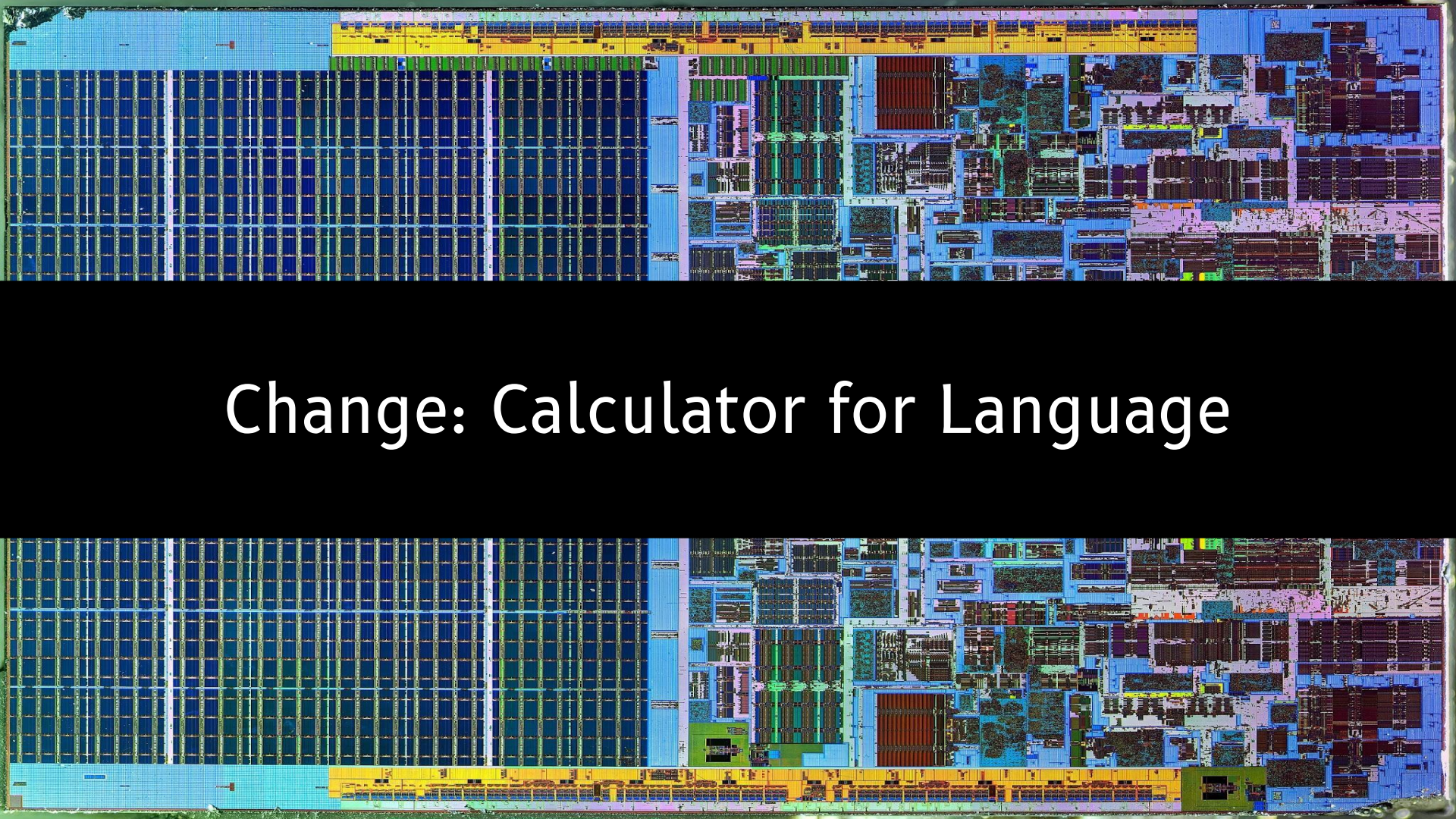


🧭 Directed Thinking

🏆 Directed Thinking Winners

- Communicators who are articulate
- Generalists who can can filter bad outputs

Warning: Gambler's Mentality



Change: Calculator for Language

🧭 Directed Thinking

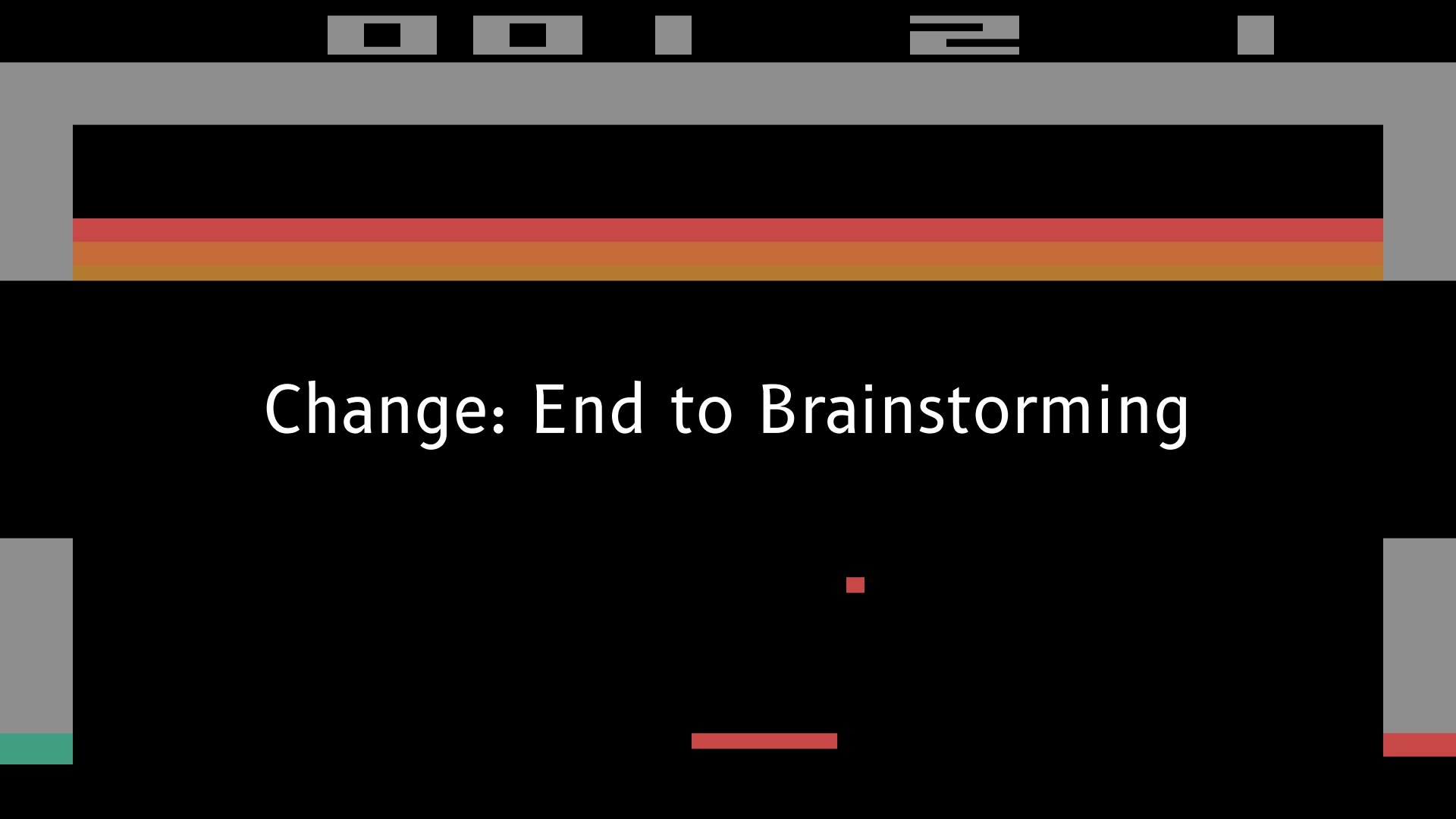
- 💾 Working Memory: More Important
- 📚 Reference Pointers: Less Important
- 🧮 Coprocessors: More Important

🤝 Paired Thinking

🏆 Paired Thinking Winners

- Collaborators who can work well with feedback loops
- Specialists who can go deep into the details

Warning: Never Alone


Change: End to Brainstorming

🤝 Paired Thinking

- 💾 Working Memory: Less Important
- 📚 Reference Pointers: More Important
- 🧮 Coprocessors: More Important

🚀 Expansive Thinking

🏆 Expansive Thinking Winners

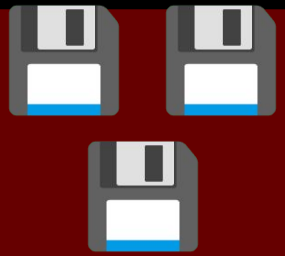
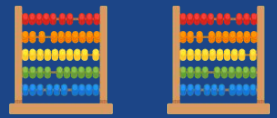
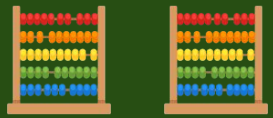
- Coordinators who can work well with many people and follow many threads
- Visionaries who can put their ideas into words and make the future

Warning: Highest Risk of Laziness

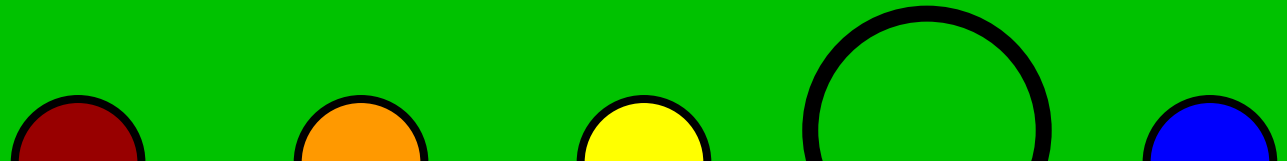
Change: Mental Ability Trumps Physical

🚀 Expansive Thinking

- 💾 Working Memory: More Important
- 📚 Reference Pointers: Less Important
- 🧮 Coprocessors: Less Important

	Directed Thinking	Paired Thinking	Expansive Thinking
Working Memory			
Reference Pointers			
Coprocessors			

Ways (to Expand the Mind)



Thinking Hard or Hardly Thinking?

🤖 AI-Driven Methods

🤖 AI-Driven Expansion

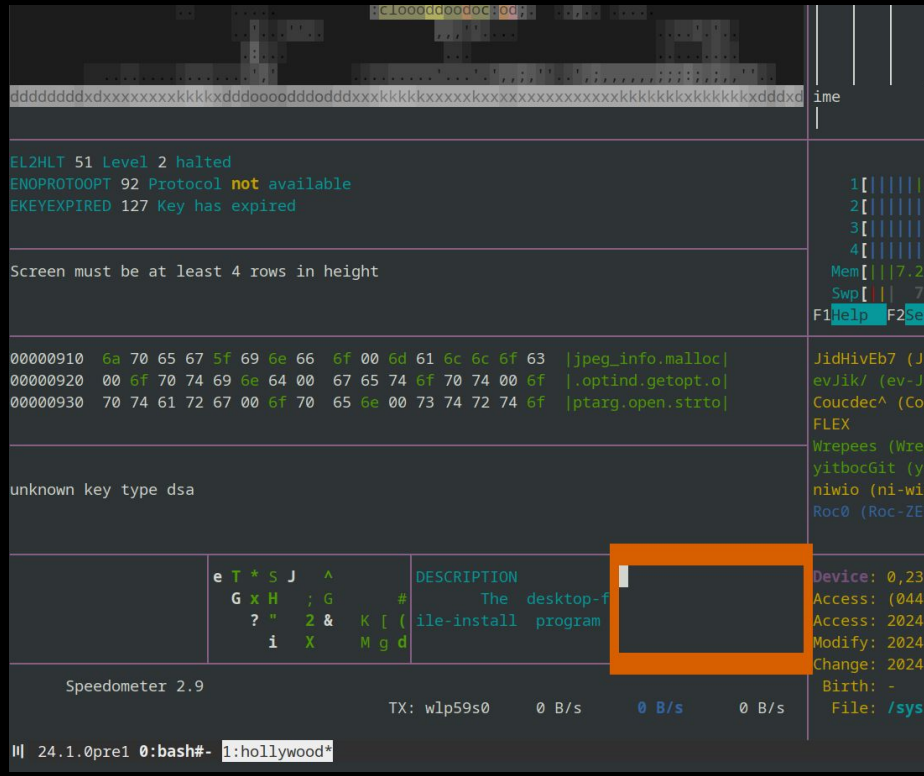
- Increasing cognitive "noise" for diverse signals

🤖 AI-Driven Expansion

- Increasing cognitive "noise" for diverse signals
- Model training wide and deep

🤖 AI-Driven Expansion

- Increasing cognitive "noise" for diverse signals
- Model training wide and deep
- Using open-source AI to remove barriers and tweak models



🧠 Human-Driven Methods

🧠 Human-Driven Expansion

- Meditation and mindfulness practices

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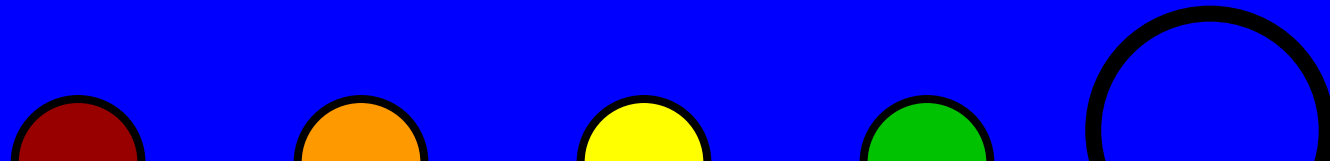
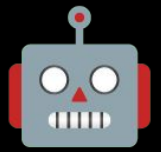
- Meditation and mindfulness practices
- VR/AR technologies

🧠 Human-Driven Expansion

- Meditation and mindfulness practices
- VR/AR technologies
- Cognitive-enhancing substances?

Responsibility (in the Age of AI-Augmented Thinking)





Driving Technology

“A computer can never be held accountable, therefore a computer must never make a management decision.”

- Unknown at IBM

Laws & Regulation

“Ignorance of the law is usually not an excuse…”

- Various Judges

Open Source

“…build a robust open ecosystem…to ensure they can best take advantage of the latest advances and achieve a sustainable first-mover advantage over the long term.”

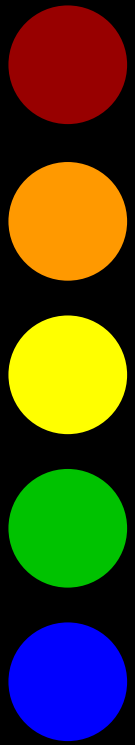
- Mark Zuckerberg in Open Source AI Is the Path Forward

Education

“A common mistake that people make when trying to design something completely foolproof is to underestimate the ingenuity of complete fools.”

- Douglas Adams

Putting It All Together



- Context: So many AIs
- History: Rhyming with the past
- Imagining: Possible interactions
- Ways: Active adaptation
- Responsibility: In all things

Questions?

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Resources:

- *Cognitive Gadgets: The Cultural Evolution of Thinking* by Cecilia Heyes
- *Thinking In Systems: A Primer* by Donella Meadows
- *Gödel, Escher, Bach* by Douglas Hofstadter
- Claude.ai & ChatGPT
- Many backgrounds provided by Electric Sheep

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