

The coming AI Epoch

A NEW AGE OF ENLIGHTENMENT?
A NEW THREAT TO HUMANITY?

Imagining
THE
Digital
Future
CENTER

 ELON UNIVERSITY

The Age of AI is already 72 years old

1952 – First self-learning
checkers program

1955 – “Logic Theorist” mimics
human problem solving



The Age of AI is already 72

1964-67 – ELIZA
First chatbot.
Natural language
processing program
that looks
conversational

ELIZA: Is something troubling you?
Subject: **Men are all alike.**

ELIZA: What is the connection, do you suppose?
Subject: **They're always bugging us about something or other.**

ELIZA: Can you think of a specific example?
Subject: Well, my boyfriend made me come here.

ELIZA: Is it important to you that your boyfriend made you come here?
Subject: He says I'm depressed much of the time.

ELIZA: I am sorry to hear that you are depressed....

ELIZA: Can you tell me what made you unhappy?
YOU:

What AI is already doing now

- **Smart Assistants (Siri, Alexa and the tsunami to come)**
- **Recommendation Systems**
- **Semi-Autonomous Vehicles**
- **Fraud Detection**
- **Personalized Learning**
- **Chatbots and Virtual Customer Service**
- **Facial Recognition**
- **Language Translation Services**
- **Healthcare and Medical Diagnostics**

Infrastructure

Analytics

Machine Learning & AI

Applications and Enterprise

Data governance Privacy Security

AI Observability Safety Speech-voice Nonprofit

Applications - Horizontal

Applications - Industry

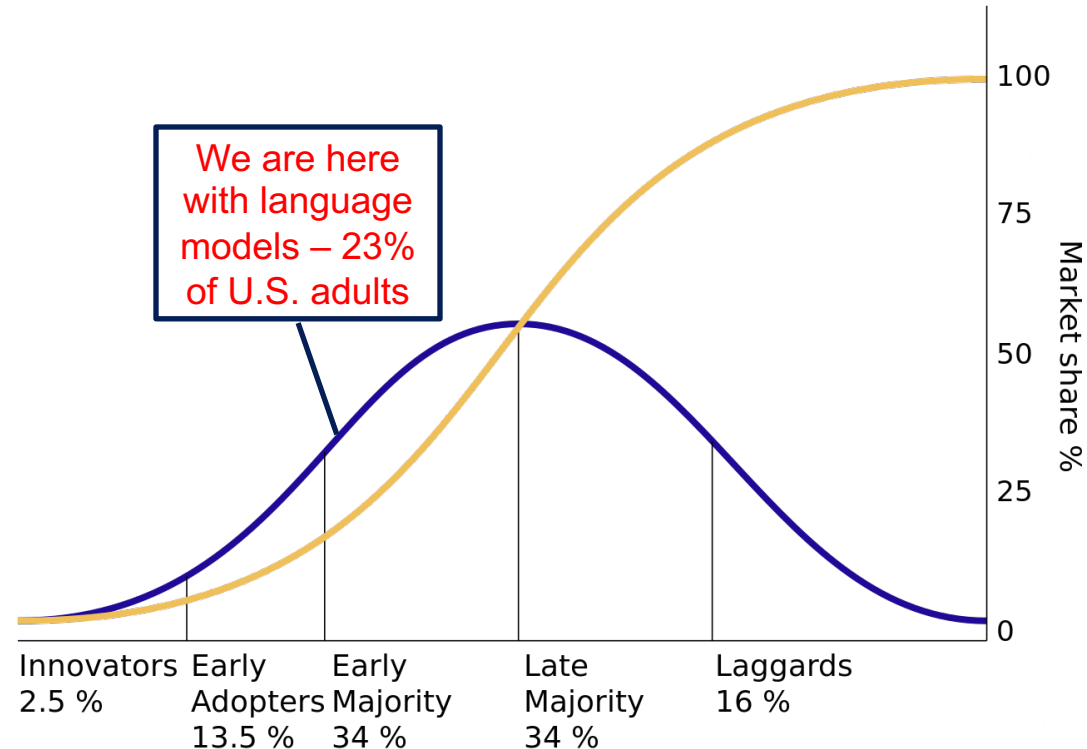
Open Source Infrastructure

Data Sources and APIs

Data and AI Consulting

What's the "same" about AI - LLMs

- Adoption will follow a long-standing pattern
- Divides are inevitable and distressing
- Efficiency, savings, safety, convenience are drivers
- Tech affordances and social innovations flow back and forth



What's different about AI

- It is being built into tools humans already use and could be viewed as wallpaper that is just part of life (like electricity)
- It is arising in a multi-revolution environment where the pace of change is unprecedented – “NBIC convergence” - nano, bio/genetic, info, cognitive
 - **PLUS advances in ...**
 - human enhancements
 - new interfaces – glasses, brains
 - synthetic, data-enhance environments (ER, VR, metaverse)
 - robotics

What's ahead: 2,778 experts say AI will ...

2026: Win World Series of poker

2027: Convincingly fake a song by a popular artist

By **2031** write an original Top 40 song

2030: Fold laundry

2033: Retail salesperson job functions will be fully automated

2035: Independently research and write high-quality machine learning paper

2040: Physically install electric wiring in a new home

2045: Prove math theorems for top math journal

2050: Solve long-standing unsolved problem in math and win Millennium Prize

Major takeaway: For most tasks, expert timelines to success shortened

[Thousands_of_AI_authors_on_the_future_of_AI.pdf \(aiimpacts.org\)](#)

What's ahead: 2,778 experts say AI will ...

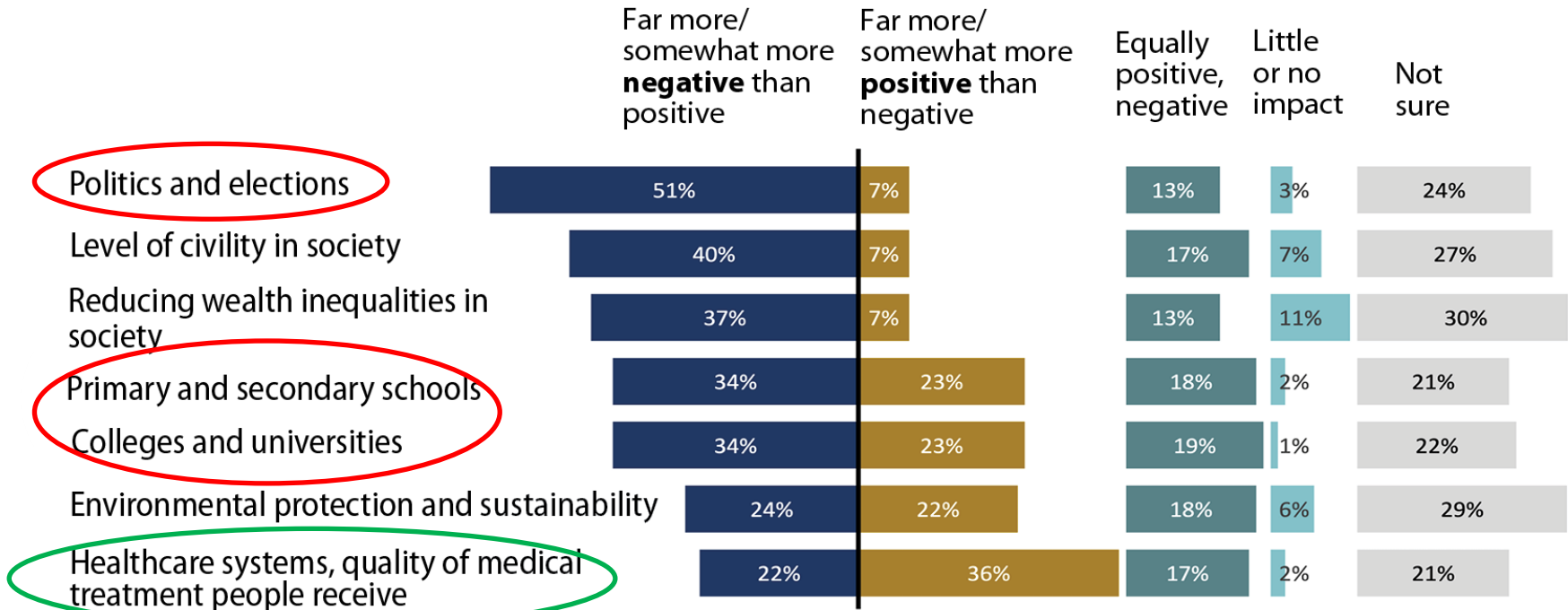
2047: High-level machine intelligence is better and cheaper to implement than all humans -- down 13 years from earlier predictions

2116: Full automation of labor -- down 48 years from earlier predictions

Opinion about AI's societal impacts

Artificial intelligence's level of impact on societal institutions and systems

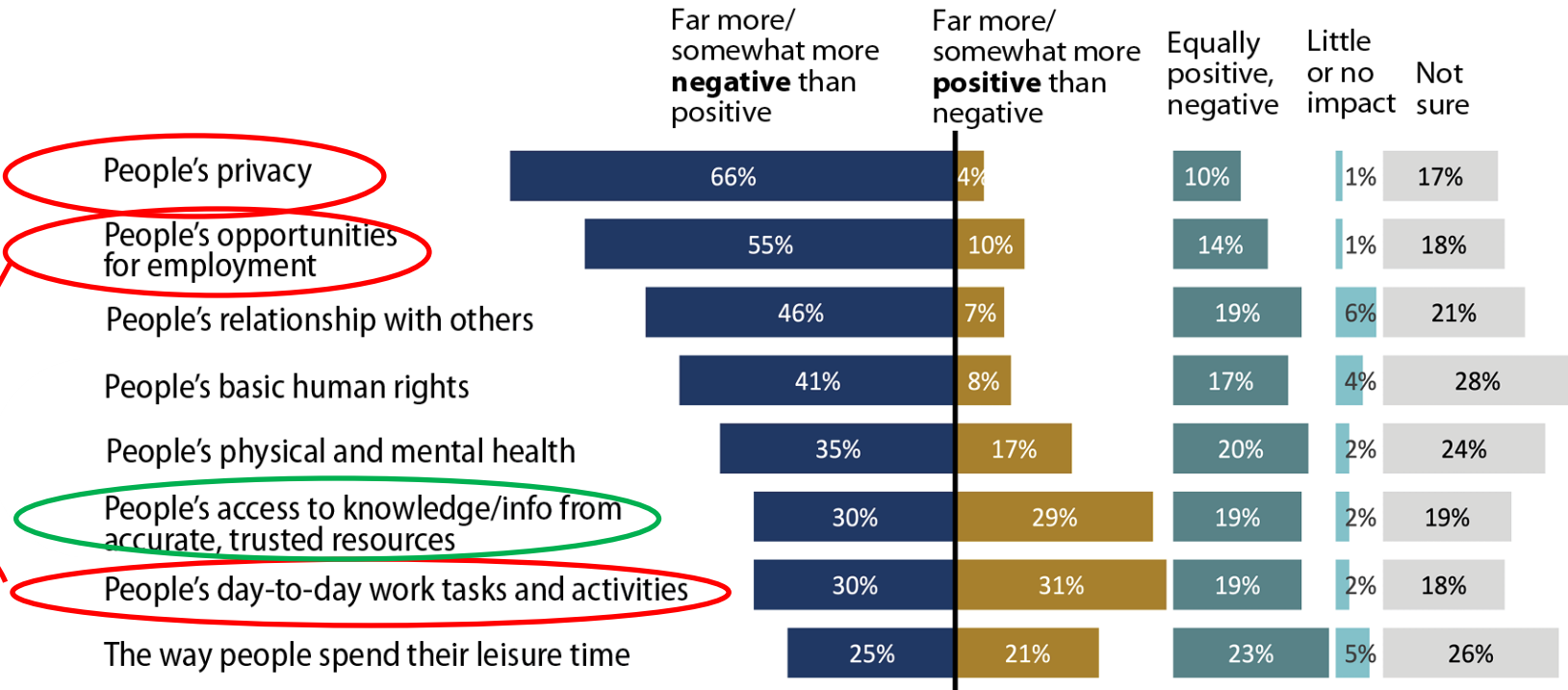
% of U.S. adults who say artificial intelligence will have ____ level of impact by the year 2040



Opinion about AI's social impacts

Artificial intelligence's level of impact on people's personal lives

% of U.S. adults who say artificial intelligence will have ____ level of impact by the year 2040



Implications for higher education

Prompt language: 8 attempts trying to show the revolutionary impact this will have on universities



Implications for higher education – 1

Teaching and Learning

- Engaged learning is essential – project-based learning will increase
- Personalized and self-paced – customized tutoring – super-flipped classroom
- Language models for syllabi
- Hybrid (or multi-brid) in “presence” and content
- Special value of collaboration and working in diverse teams
- Simulations and VR
- Curriculum
 - New literacies to master the “language” of AI and its use in assignments
 - Data fluency, numeracy, prompt engineering
 - New focus on ethics (alignment, bias, inclusion, human-in-the-loop)

Implications for higher education - 2

Testing and grading

- Essays and “papers” need to be reimagined for new measures of mastery – and cheating
- Oral testing will likely grow
- Authentication practices/systems will arise – “This really is my work”
- Real-time feedback on assignments and classwork will emerge
- Documentation of student use of AI will likely be embedded in student evaluation
- Portfolios will be heavily emphasized
- Micro-credentialing and badging will increase
- New systems will be designed to test AI systems’ performance and accuracy

Implications for higher education - 3

Lifelong learning – Mindset change

- Embedded as a core learning outcome of college “experience”
- New opportunity for alumni offices to exploit
- Not just for skills advancement; it can also be for personal and social enrichment

How the experts see things

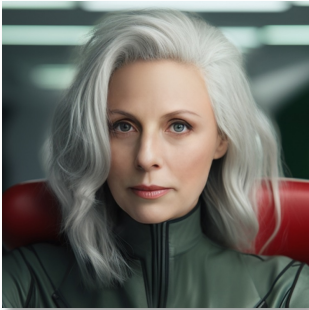
Two giant themes emerged from responses to open-ended question...

“Considering the likely impact of the proliferation of AI in individuals’ daily lives and in society’s social, economic and political systems, **how will life have changed by 2040?**”

2 giant themes in expert commentary

1

We will have to reimagine what it means to be human.



Tracy Follows
CEO Futuremade,
a UK consultancy

“If we become disconnected from our own identity creation because a machine is doing much of it on our behalf, we will start to have identity crises. **The confusion and crisis over AI-aided (or addled) identities could cause turmoil.** ...This is the real existential threat of the 21st century.”

2 giant themes in expert commentary

2

Societies must restructure, reinvent or replace entrenched systems.



Lene Rachel Anderson,
Economist/Philosopher
Nordic Bildung, Denmark,

“If things don’t change by 2040 ... societal institutions will have been undermined. ... It could be otherwise, but **there do not seem to be any political institutions that understand the scope of what we are facing**, and we are not creating the next generation of institutions.”

Challenge us to reimagine ...



Who we are: Our identity tied to jobs; self-definition tied to our intelligence. What happens when superior “intelligence” is all around us?

Challenge us to reimagine ...



What we do: With smart “co-pilots” and agents representing us, how much agency and “free will” is possible? What do we lose when we rely on AI sidekicks?

Challenge us to reimagine ...

How we connect/share: Our socialness is our superpower. What happens when info ecosystem becomes polluted and we all live in info bubbles?



Challenge us to reimagine ...



How we think: Cognition itself will change as AI pervades our lives. Will this enfeeble us? Make us too dependent and docile?

The question now: What are humans good for?

Our assets:

Imagination

Intuition

Moral reasoning

Decision-making

Judgment

Leadership qualities

Our assets:

Conflict resolution

Curiosity

Adaptability

Intelligence of emotions

Intelligence of the body

Empathy

And our most mysterious trait of all –

our consciousness



OpenAI. (2024). *ChatGPT (4)* [Large language model]. <https://chat.openai.com>



“Please tell me a story about a puppy who goes to Jupiter on her birthday to solve a mystery and is a mermaid, using an engaging and humorous tone, in approximately a thousand words, in the style of Ernest Hemingway.”

Cartoon by Hilary Allison

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