

# Design in Tech Report 2023

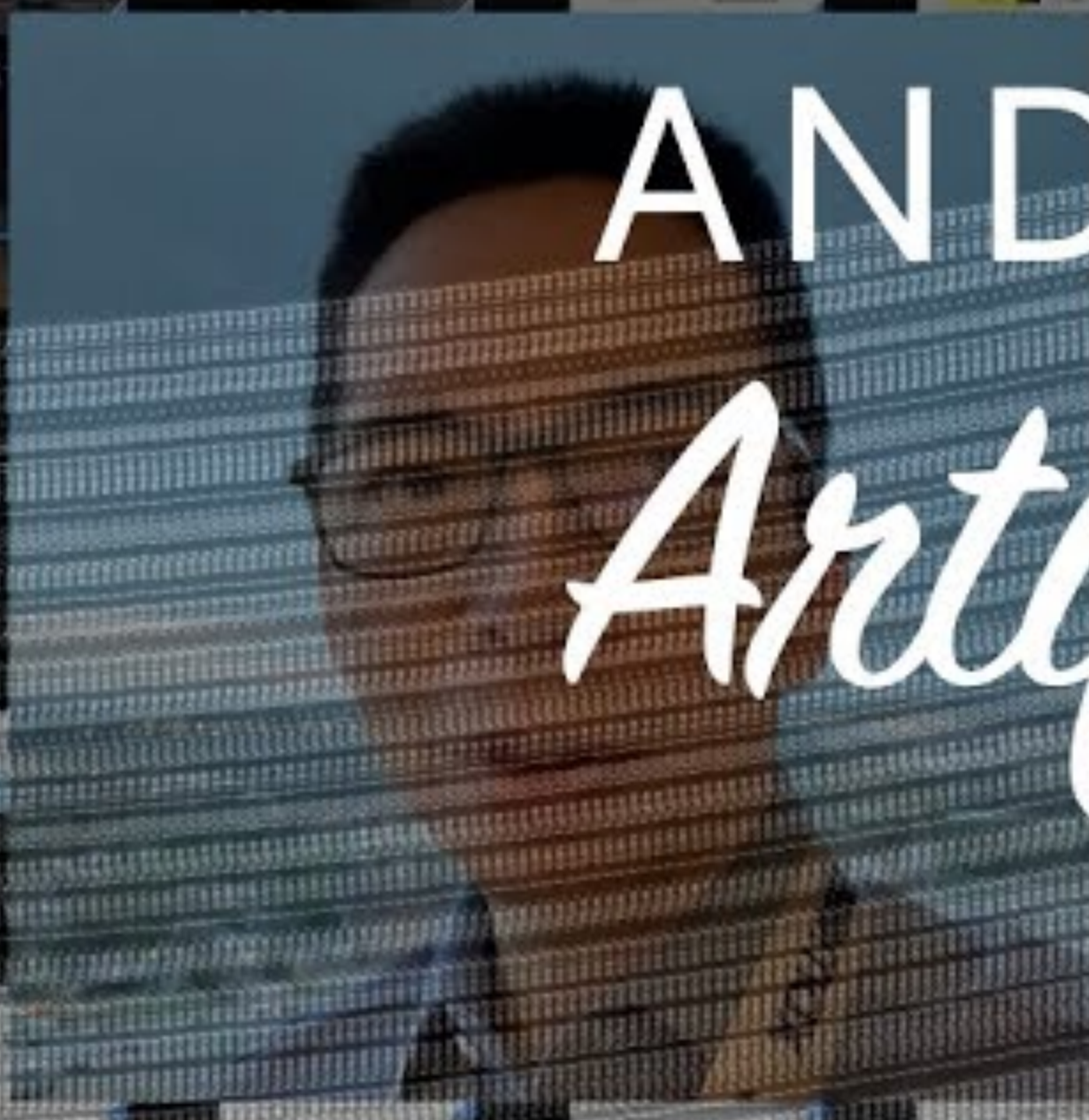
Formerly Resilience Tech Report and CX Report ... but now back to its original flavor

#DZNAI

# DESIGN

AND

*Artificial Intelligence*



# DESIGN IN TECH REPORT 2023

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Design trends revolutionizing the entrepreneurial and corporate ecosystems in tech.

# AI

Back from a multi-year hiatus ... the #DesignInTech Report topic this year is "Design and Artificial Intelligence"

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# ARTIFICIAL

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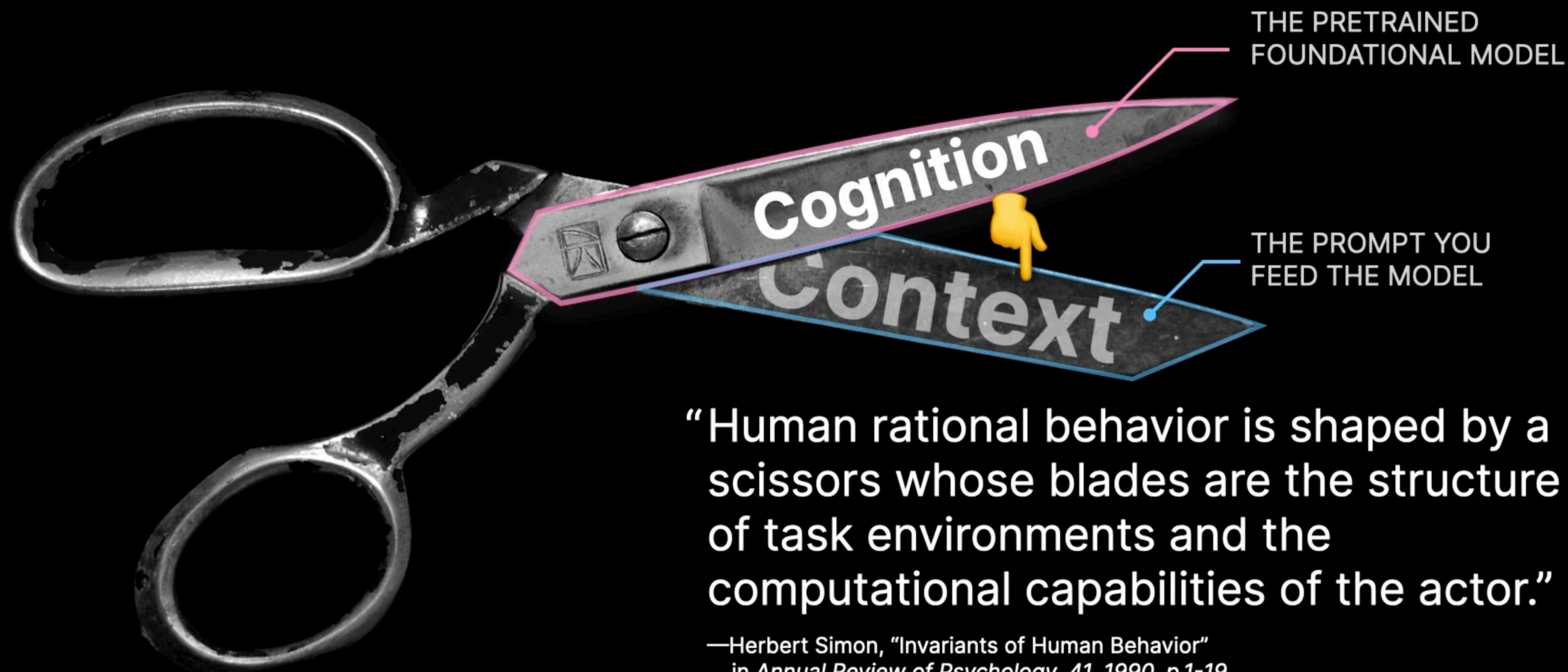
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# GENERATIVE

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## Simon's Scissors: Context and Cognition



Scissors Photo by Matt Artz on Unsplash

Source: Dan Lockton, “Simon's Scissors and Ecological Psychology in Design for Behavior Change” in SSRN Electronic Journal, Aug 2012.

AESTHETICS

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# Context

## 1. Select a large language model\*\*

- ▶ Davinci
- ▶ Curie
- ▶ Babbage
- ▶ Ada

NEWER  
(\$\$\$)

OLDER  
(\$)

The OpenAI universe also includes Codex (for generating computer code) and the new ChatGPT model

## 2. Create the core prompt

- ▶ Make your wish.
- ▶ Be specific about the outcome, length, format, and style.
- ▶ Use precision in how you prompt.
- ▶ When referring to text to act upon, delimit it with "" (3 double quote marks) or ### (3 hash sign marks).

## 3. Add in useful context



- ▶ Give one example of how you'd like your prompt to behave.
- ▶ Give multiple examples of how you want your prompt to behave.
- ▶ When you don't give guidance with examples, that's "zero shot." The other cases are called "one shot" and "few shot."

## 4. Tune the model's settings

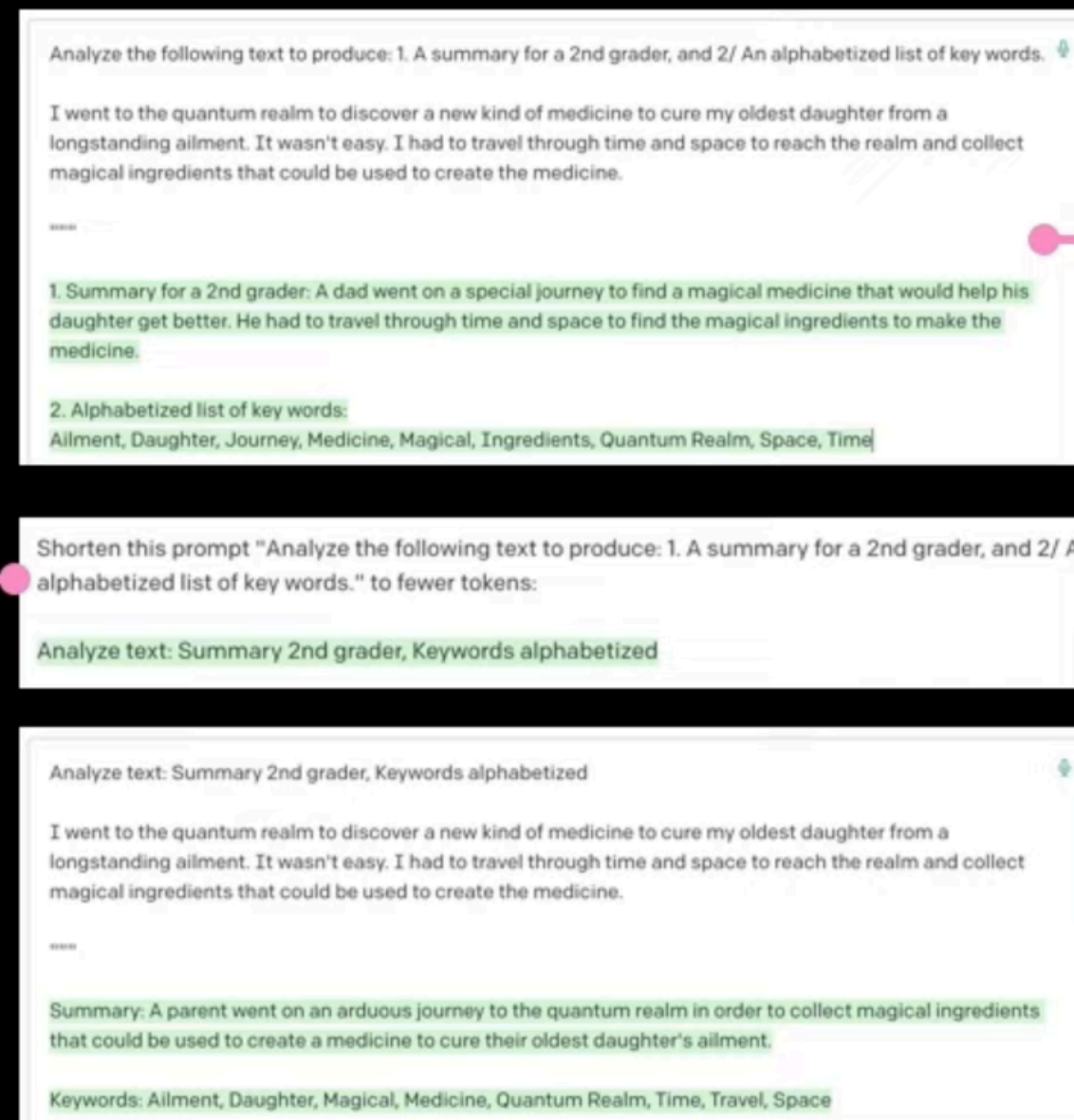
- ▶ Set the temperature high to make it more random; lower the temperature to make it more deterministic.
- ▶ Alternatively, adjust the "p" parameter to broaden or narrow the range of words that will be generated in response.
- ▶ Give it more tokens when you need to work with longer prompt or longer responses.

# Prompt Engineering 201


## A. Shorten an often-used prompt

- ▶ You can reduce\*\* the amount of tokens that get used by finding a similar but shorter version of a prompt.
- ▶ This way if you're using the prompt a lot, you're not using up as many tokens in a cumulative sense.

\*\*One DiT survey responder suggested using Quillbot.



## B. Go for a two-fer or three-fer

- ▶ Sometimes with one prompt you can get multiple things done. 

## C. Use "chain of thought" prompting

- ▶ Getting a model to use our own human tendency to "think out loud" has been shown to produce more accurate outcomes.
- ▶ When prompting, give an explicit "thinking out loud" explanation for how a problem is to be solved with your related reasoning.

Playing with the OAI tokenizer <https://platform.openai.com/tokenizer> gives you valuable insights on how it "eats" text. And learn more about how "chain of thought" prompting works via <https://arxiv.org/abs/2201.11903> asap.

Source: <https://arxiv.org/abs/2201.11903>

AESTHETICS

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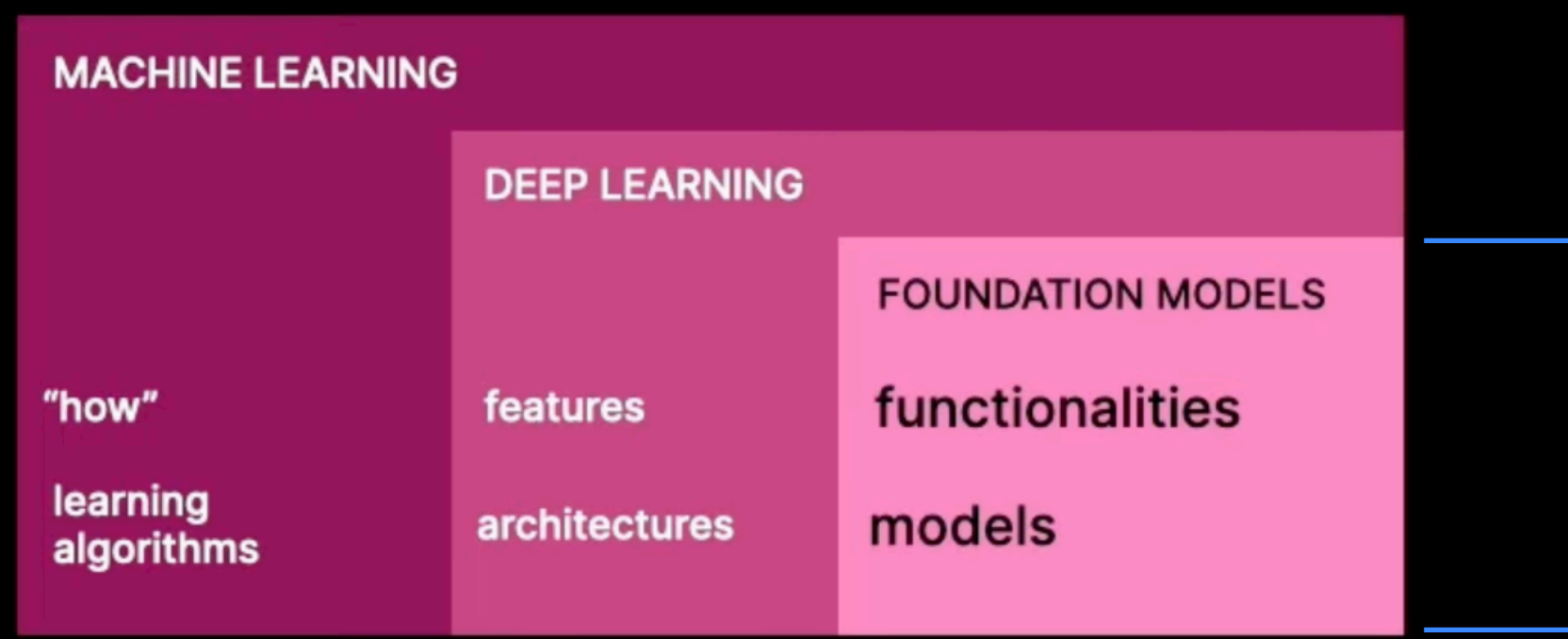


# Stanford HAI "On the Opportunities and Risks of Foundation Model" (2022)



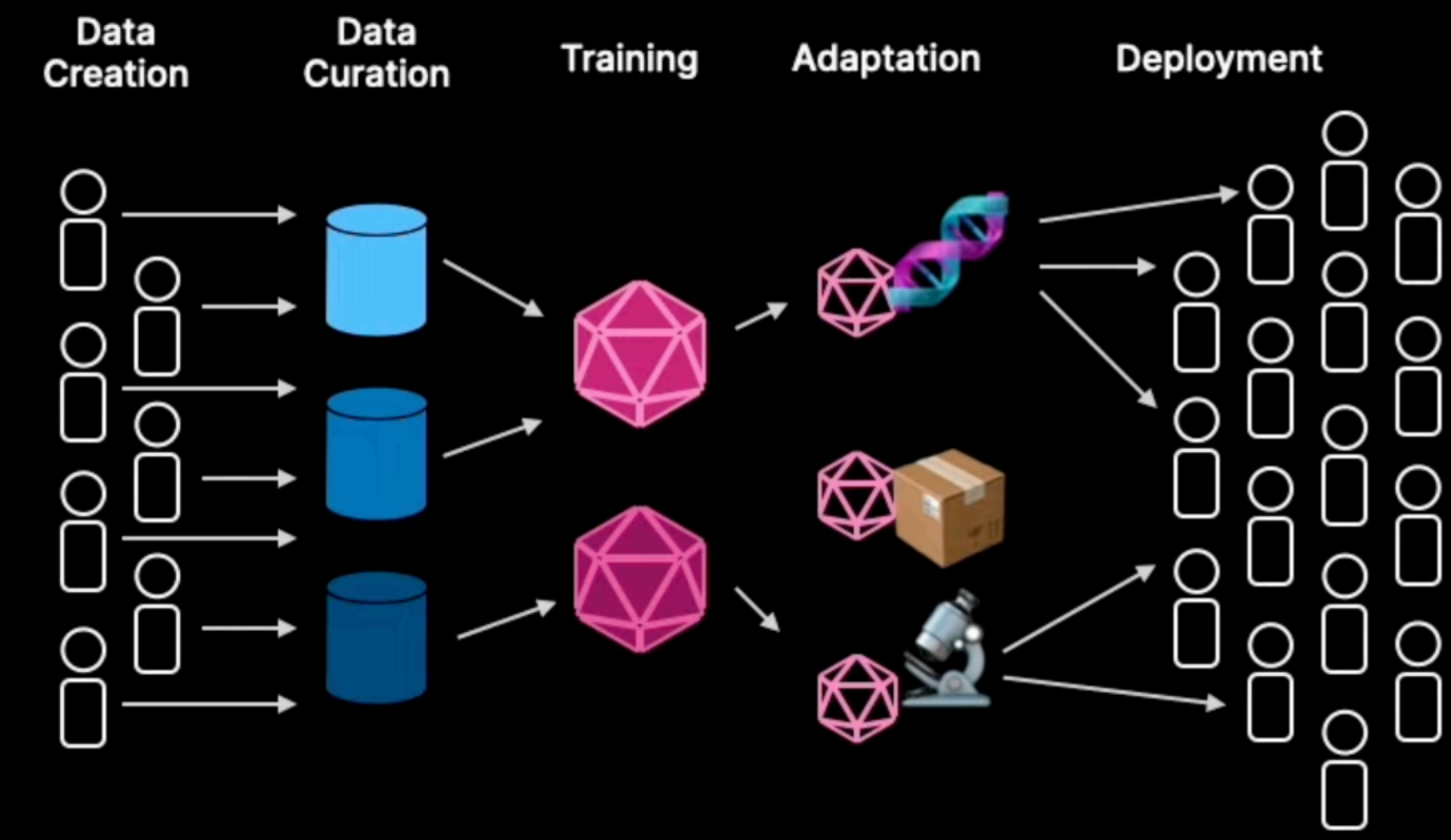
Emergence of  
27 Homogenization of

TIME



1. While new capabilities emerge, our reliance on a more homogenized approach creates a single point of failure.

2. Ultimately, all of this modeling eventually gets deployed to real people. And the implications at the scale of millions are huge.



S  
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Large uncharted data sets are a source of robustness and are an increased risk of poisoning

Foundational models are a security choke point and also an increased attack surface

Downstream apps easier to develop but "dual use" (use for unintended purposes) risk ↑

It's the most comprehensive take on the pros and cons of pretrained foundation models as a ~160 page "weapon of understanding" with 30 pages of references — if you're new to this space, it's a godsend.

Source: <https://arxiv.org/pdf/2108.07258.pdf>

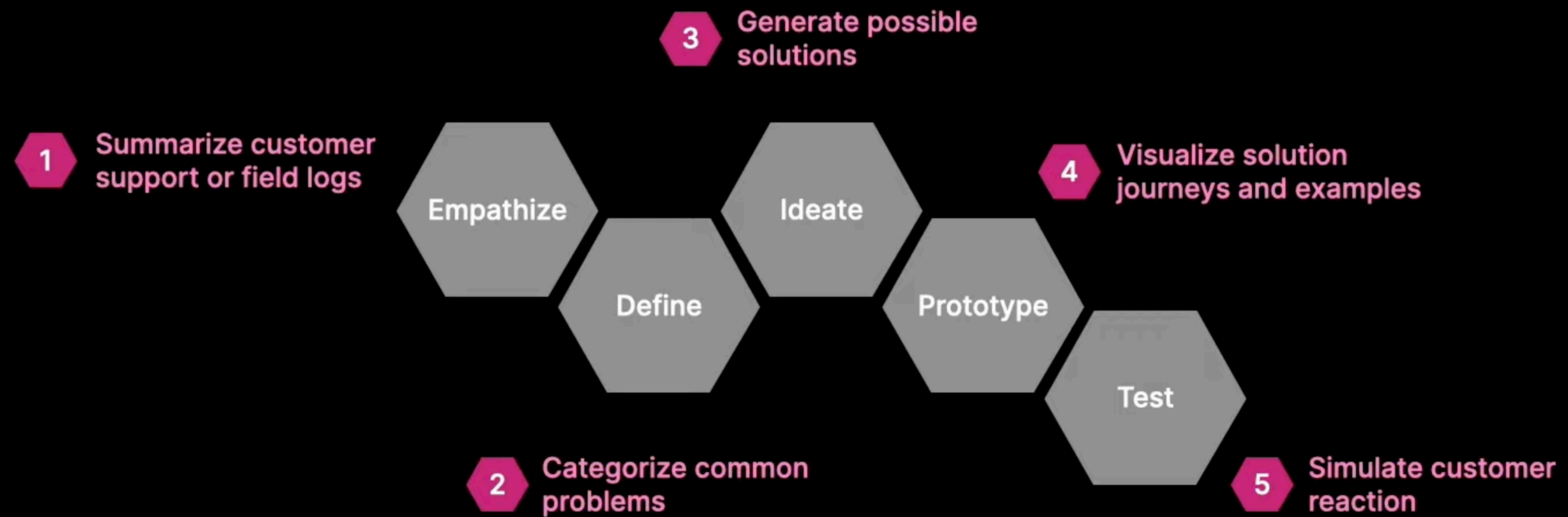
## AESTHETICS

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# How Will Foundation Models Impact Design Thinking?

This is one hypothetical way:



33



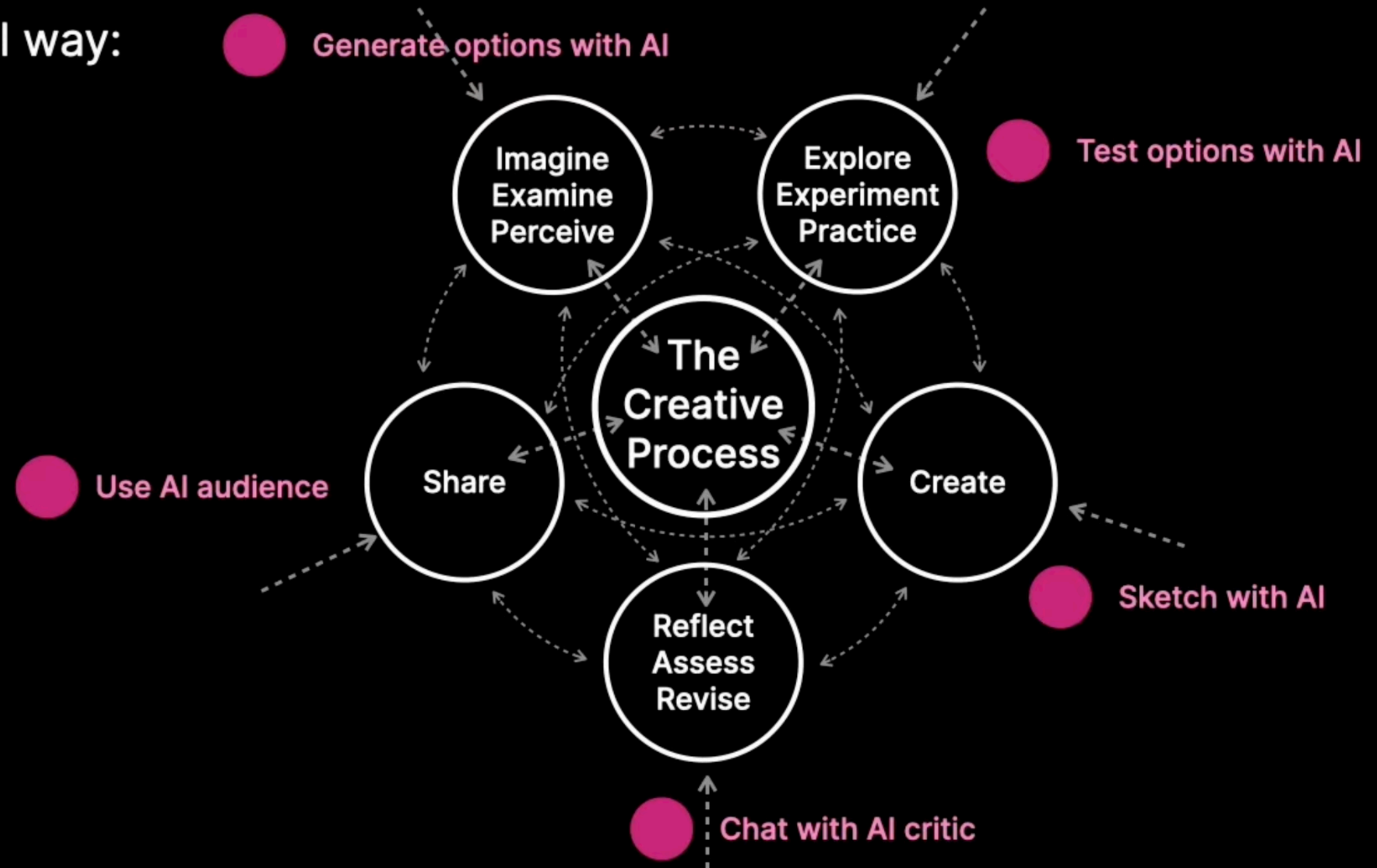
AESTHETICS

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Source: [https://web.stanford.edu/class/me113/d\\_thinking.html](https://web.stanford.edu/class/me113/d_thinking.html)

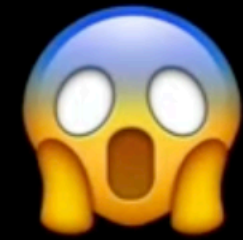
# How Will Foundation Models Impact Classical Design?

This is one hypothetical way:



34

In this new age of partnering with PFMs, we need to keep in mind what we don't enjoy doing versus what we really love to do. Remove the drudgery while increasing your joy.



**“DOES NOT SPARK JOY”**

- Calendar Management
- Making Powerpoint Decks
- Cleaning Data
- Low-priority E-mails
- Competitive Research
- Summarizing
- Monitoring / Alerts
- ...



**“DOES SPARK JOY”**

- Decision Making
- Talking With People
- Learning With Others
- Mentoring / Coaching
- Relationship Building
- Delivering Presentations
- Crafting Strategy
- ...

35

I run a poll regularly in large groups of what people prefer not to do at work versus what they really love doing at work. It turns out there's tons of things that don't spark joy in the workplace. Ya think? <wink>

Source: @johnmaeda

**AESTHETICS**

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**COOKIE**



**LAUNDRY**

2005

*want more*  
Simplicity is about living life with *more* enjoyment and *less* pain.  
(enjoy/consume)

*want less*  
(work/transformation)

**AESTHETICS**

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Think of how to use AI  
to get rid of things you  
don't really want to do.



**LAUNDRY**



**“DOES NOT SPARK JOY”**



So that you have more  
time to do more of  
what you love to do.



**COOKIE**



**“DOES SPARK JOY”**

2023

**AESTHETICS**

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# IMAGINATIVE

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## **Computational Thinking Is Invaluable**

Coding isn't key — but understanding computation will help.

*Learn how to speak machine.*

## **Work Transformation Is Coming FAST**

Prepare for AI-induced shifts in design and tech careers, continually.

*It's a marathon, not a sprint.*

## **Be Critical Of AI (For Customers)**

Evaluate AI's impact critically; consider fairness and inclusivity.

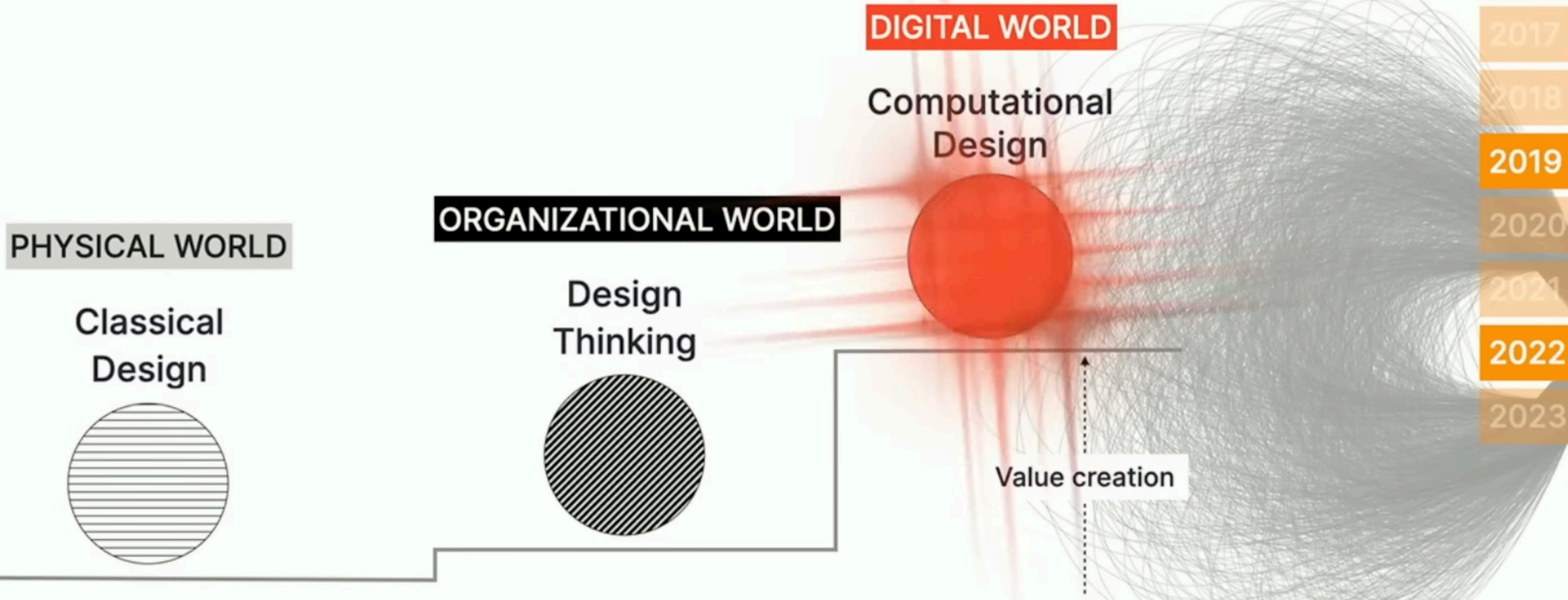
*Show customers the benefits of responsible AI.*





# Design 501: The 4th I.R. introduced a new kind of design. I wrote a book about it in 2019.

Industrial Revolution



The trope of, "Speed, price, quality: you only get to pick two" ... gives way to, "you get all three with computational design!" That means undesirable work can get automated so that you can work on the parts that you want. Finally!

**Resilience**

# Summary

- ▶ Designers tend to care about *people as people*. Instead of just as prospects or customers.
- ▶ Design as a field has evolved to speak more machine, more scale, and more \$\$\$s.
- ▶ A lot of work has been done in the design world to birth a new “aesthetics of ethics.”
- ▶ Speaking human really well will matter more than speaking machine in this next chapter.
- ▶ But it’s not mainstage because it doesn’t sound like “time or \$\$\$s saved” or “new \$\$\$s.”
- ▶ Next year’s report will center around the business value of this new kind of design.
- ▶ Good luck to us all!