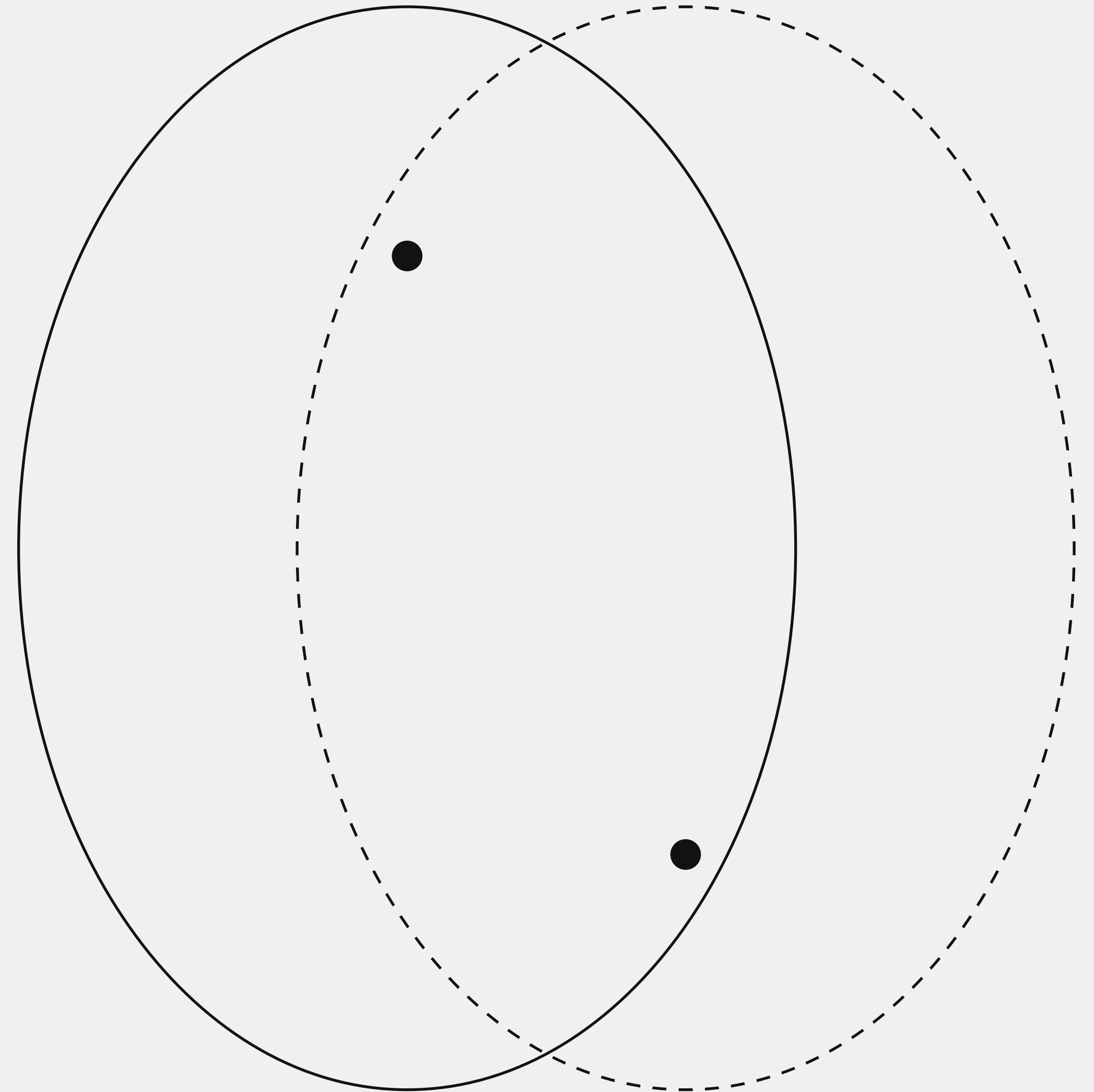


FILLING IN THE UNSEEN

Who fills in the parts we can't see?

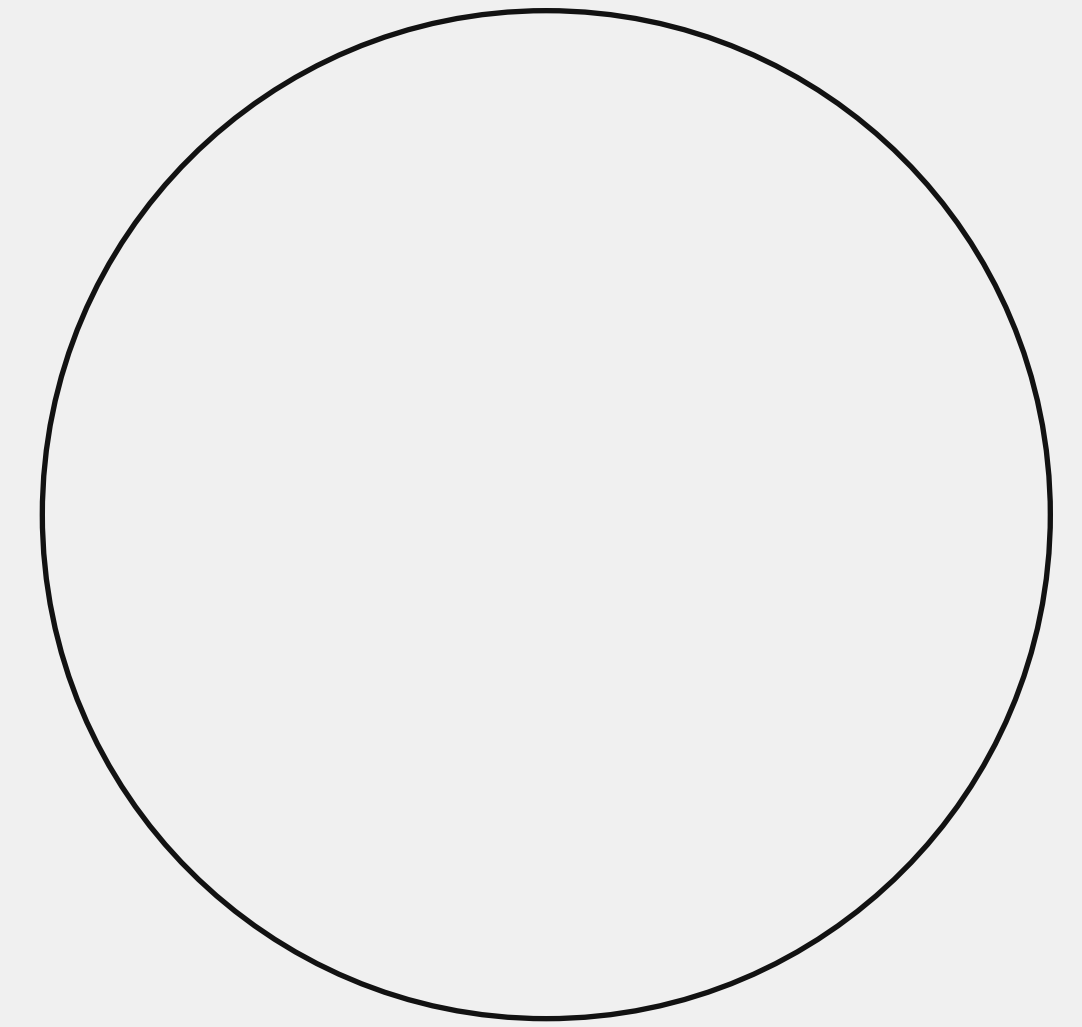


We fill in what we can't see, in our heads.

What if AI fills it first?

What I want to know

How can we design AI that leaves room for each person's own idea, instead of filling the gap for us?



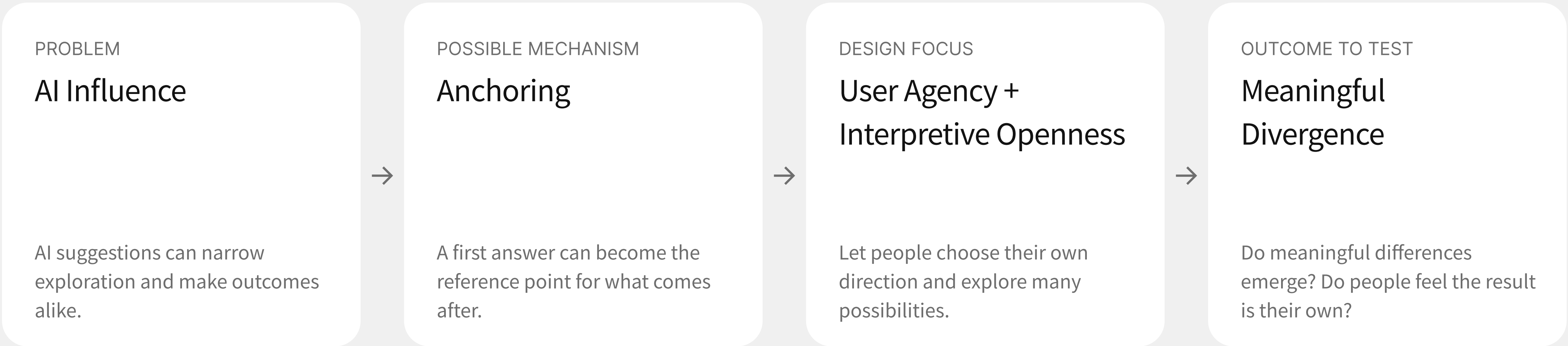
Blank

A place with no answer yet,
so anyone can fill it their own way

Like the next page of a picture book
you haven't turned yet

How the research is built

A model to explore,
not a proven cause and effect.



What links love and AI is one shared interest: how we fill in the gaps.

A

When you picture someone far away

When someone you miss is far away,
you draw them
in your head.

1 FINDING

The picture gets prettier

When we can't see someone often, we sometimes imagine them better than they are.
How we stay in touch changes how much.

Jiang & Hancock, Journal of Communication, 2013

2 THE COST

Reunion reveals a mismatch

If the picture is too pretty,
meeting the real person can surprise and disappoint you.

Stafford & Merolla, 2007

The viewer helps complete the work

Field: Perception / Interpretation

Lens: Filling-in

01 · VISUAL COGNITION

Closure

Gestalt psychology

The brain completes broken shapes and sees one whole.

02 · ART HISTORY

The beholder's share

Gombrich, Art and Illusion, 1960

The viewer finishes the picture with what they know and expect.

03 · LITERARY THEORY

Gaps and blanks

Iser, The Act of Reading, 1976

Much of a text's meaning appears when readers fill its blanks.

If the viewer helps complete the work, each person can complete it differently.

Our brain fills gaps without telling us

When our eyes and ears miss something, the brain fills it in.

01

A tiny hole in the eye



Each eye has a tiny blind spot.
The brain fills it with nearby colors,
so we never notice it.

02

Missing sounds

legi(cough)latures

Covered by a cough → heard as complete

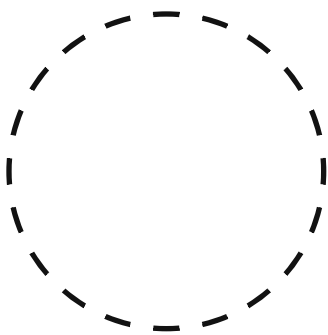
legi _ latures

Left silent → gap noticed

Warren, 1970

03 · AN ANALOGY

What about gaps AI fills?



If AI fills a gap quietly,
we may not even know
there was a gap.

We miss covered gaps, but notice visible ones.

Show only 30%, everyone fills the rest

I showed only 30% of a picture
and asked, "What's in the rest?"

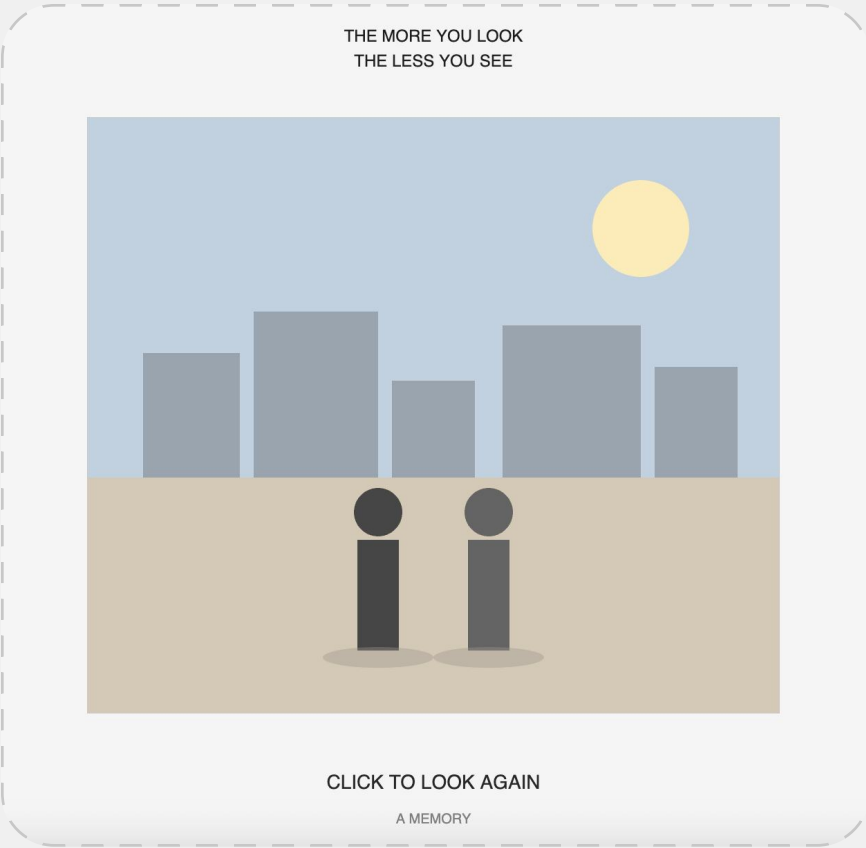
Observed · Each person described a different scene.

"You have seen 30% of the information."
The screen tells you how much you've seen.

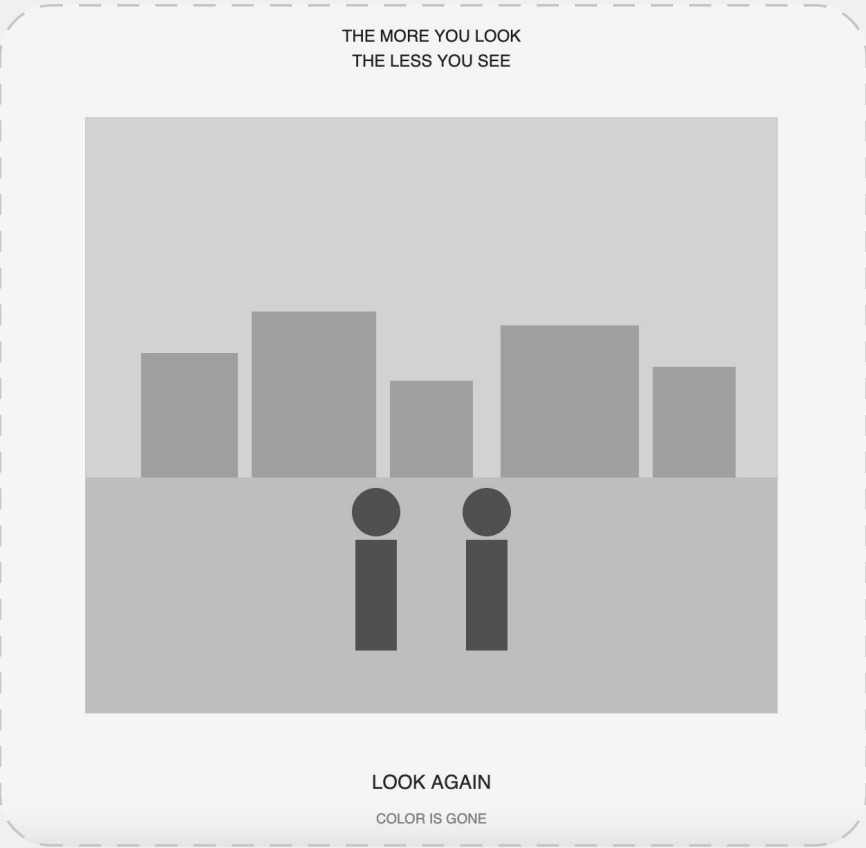


The more you look, the more memory fades

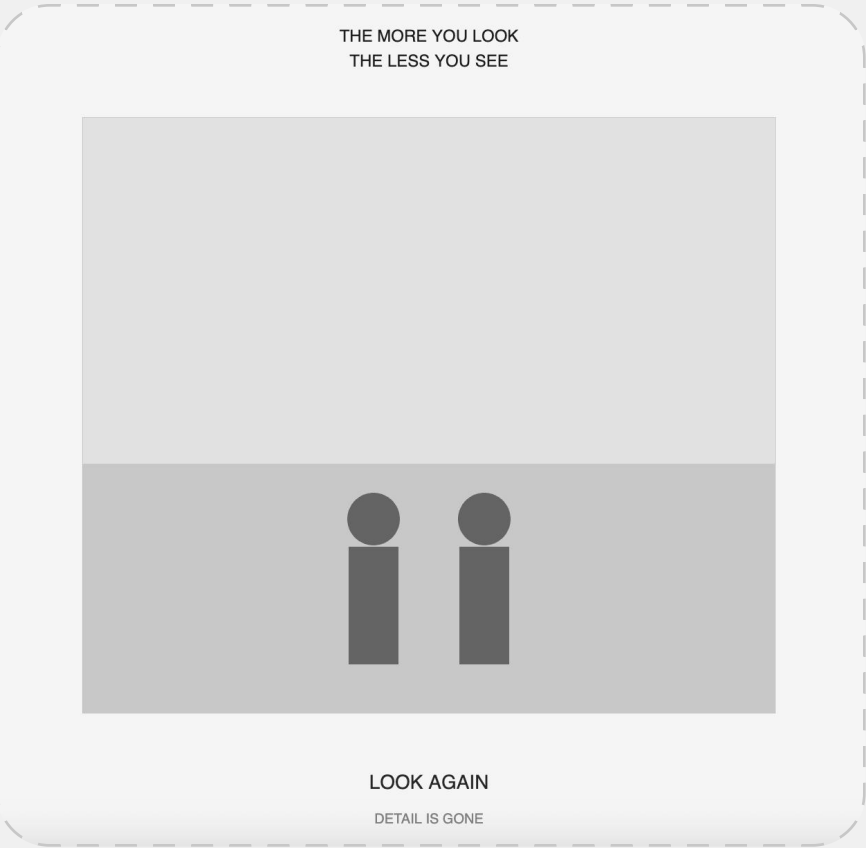
When a memory fades,
what do we fill the gap with?



01
Memory



02
Color fades



03
Details fade



04
Context fades



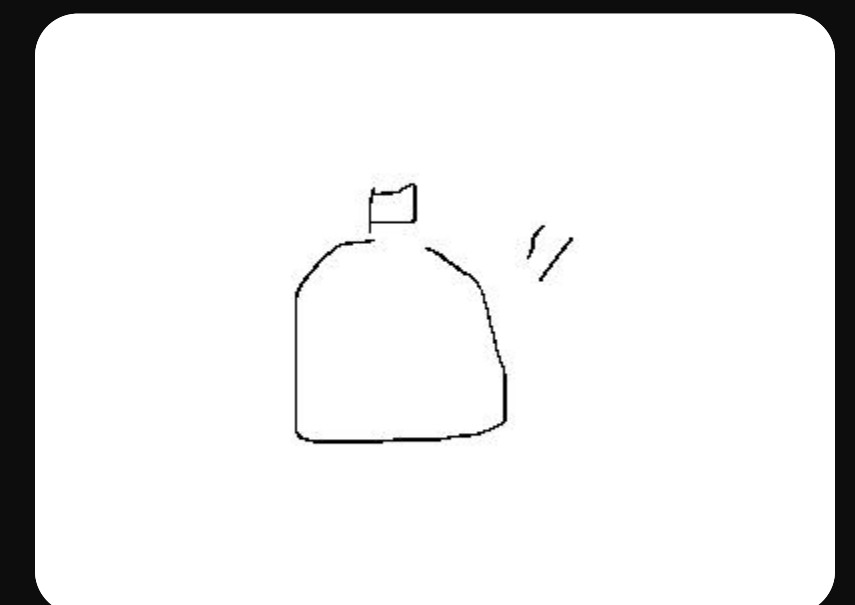
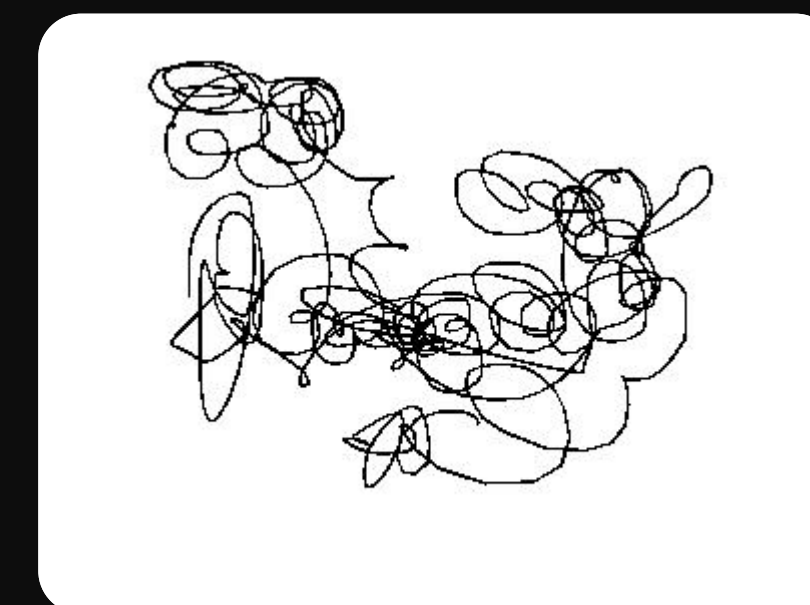
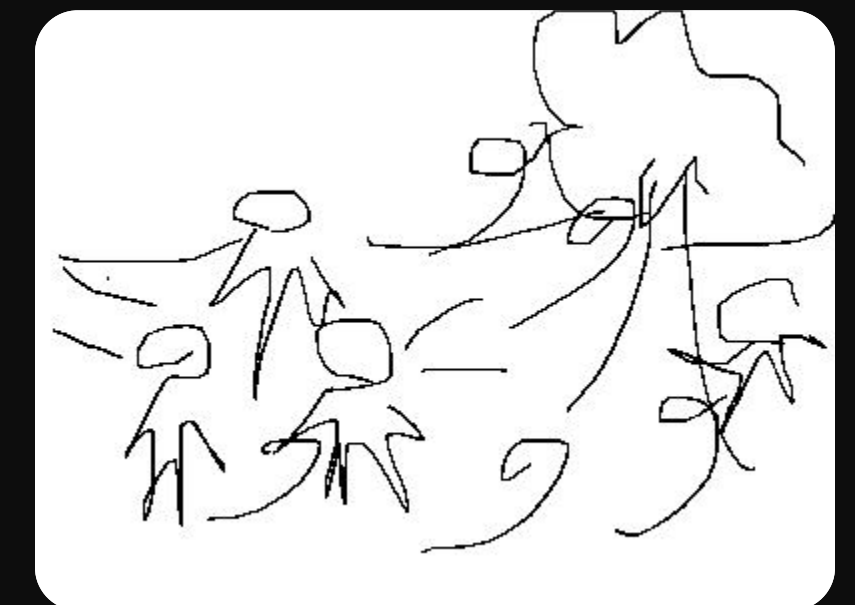
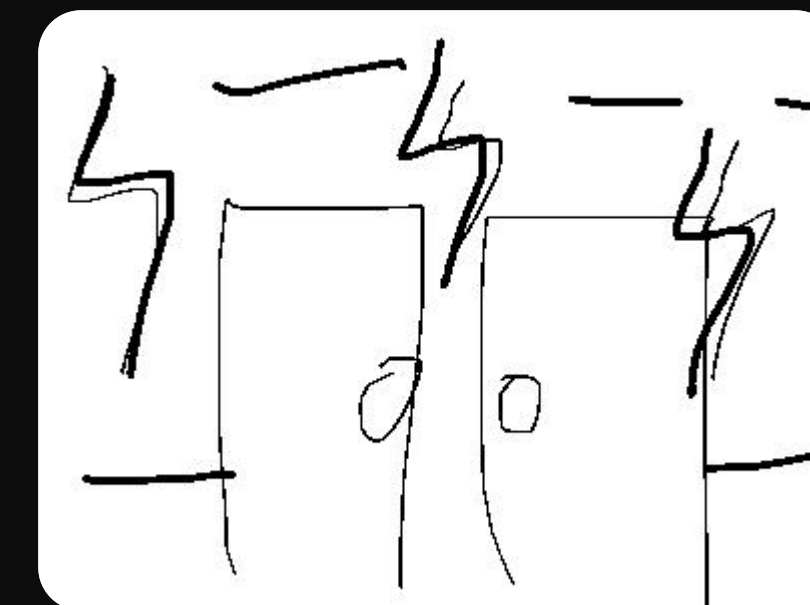
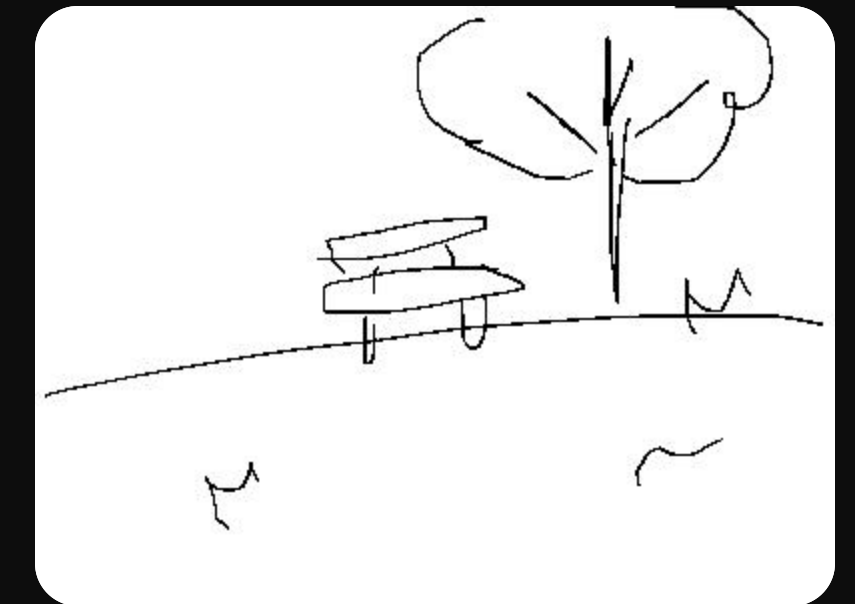
05
What do you still remember?

Heard Places

A map made only of sound

Tap the map and you only hear a sound.
Listen, then draw what's
happening there.

From sound alone, people drew a whole place.



Drawings made from sounds at different points

How far from the real place?

How different from each other?

Blanks with an answer, blanks without one

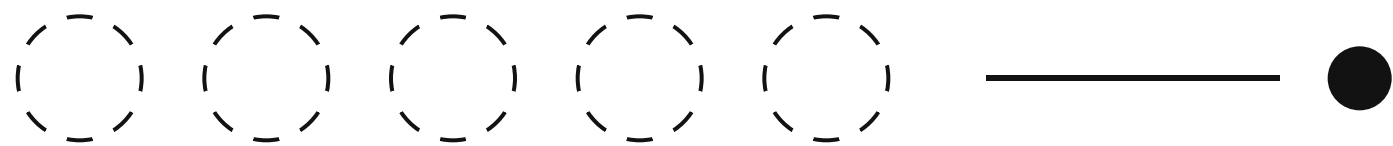
A puzzle and a drawing
are not the same.



BROKEN · MISMATCH

Puzzle

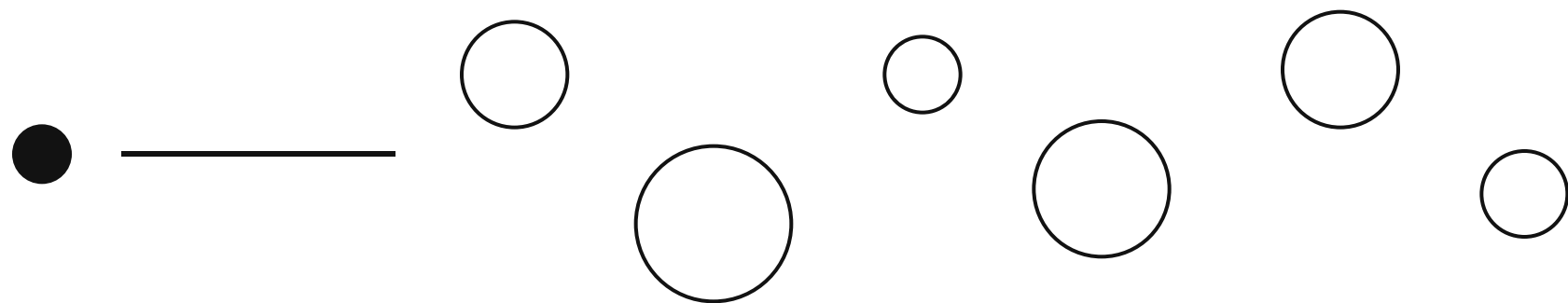
Only one piece fits
Different reveals a mismatch
Ex: lovers meeting again



BLANK · DIVERGENCE

Drawing

No single answer to match
Different is okay
Ex: drawing a place from a sound



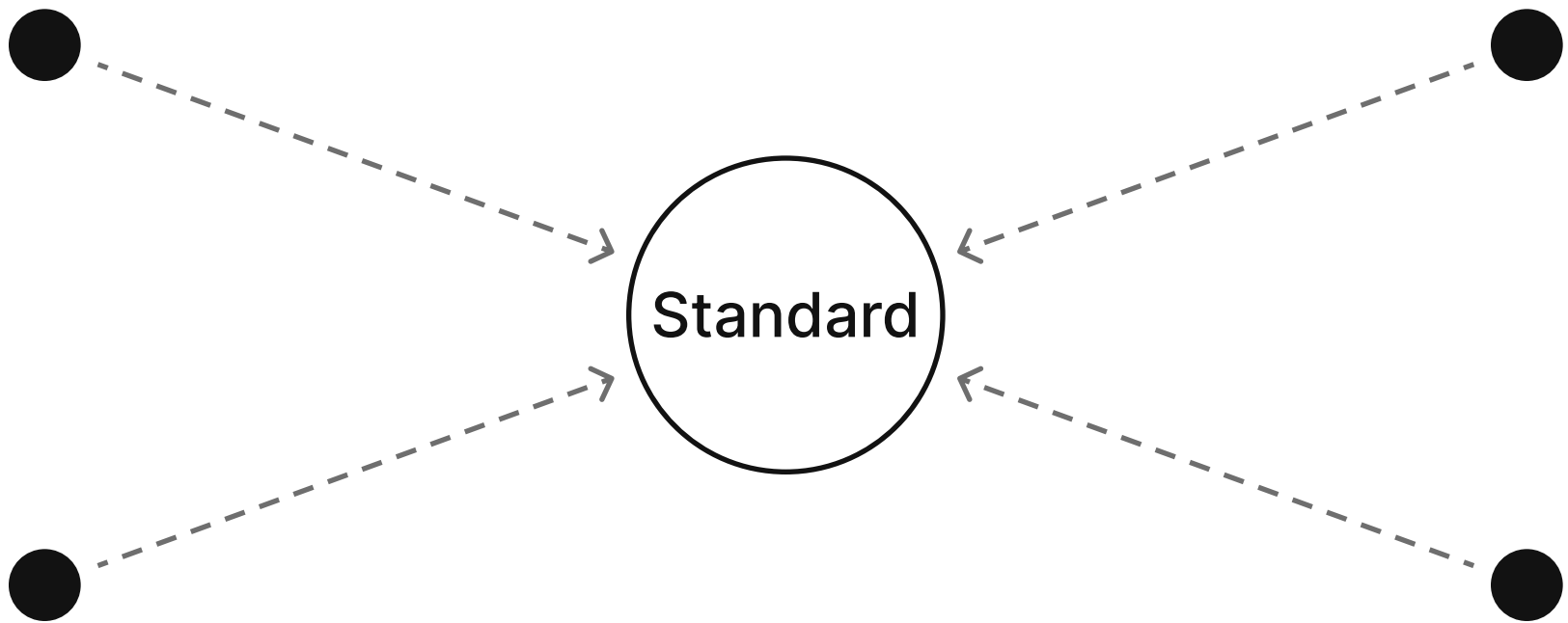
Filling goes two ways

AI's first answer can become the shared standard.
Idealization and imagination are not opposites.
What matters is the direction of filling.

○ e.g. IDEALIZATION

Converge

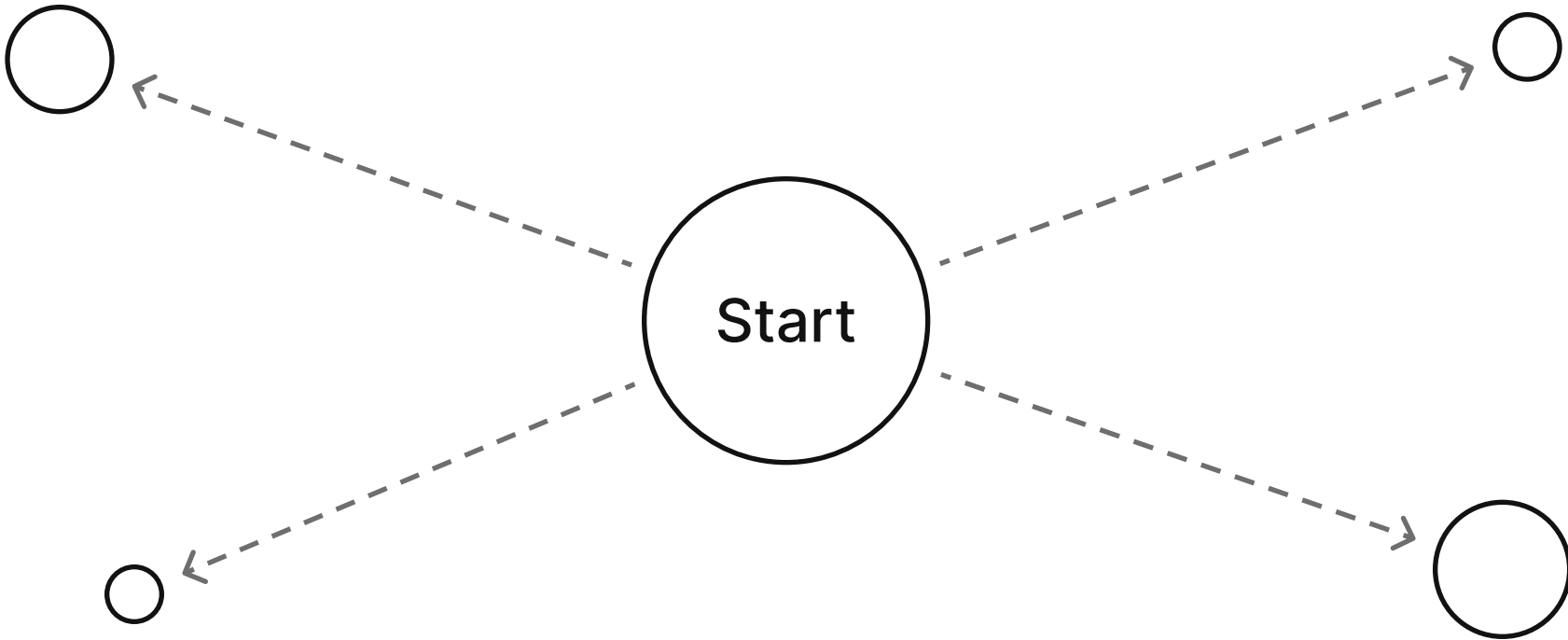
When we share a standard, our pictures grow alike.



○ e.g. IMAGINATION

Diverge

From one start, each person goes a different way.



With AI help, results can start to look alike

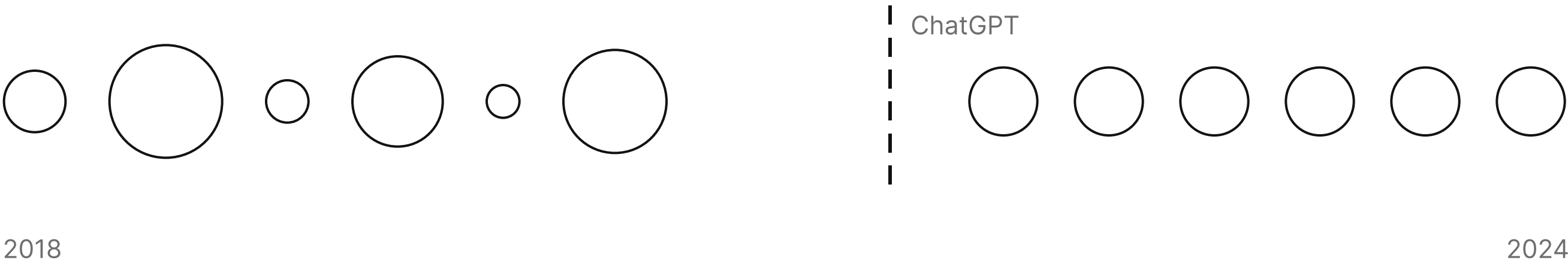
Each person does better,
but together they can look alike.

1 Writing

Writing that goes through AI can start to look alike

A study of a very large amount of writing found that after AI, writing that used to differ person to person became more similar.

Sourati et al., Nature Human Behaviour, 2026
The more AI edited a text, the less it sounded like its writer.



2 Stories

Better alone, alike together

People who got AI ideas wrote better stories.
But the stories were more alike.

Doshi & Hauser, Science Advances, 2024

Each one ↑ Difference across all ↓

The first answer becomes the anchor

But if we design AI differently, this can change.

What might make them alike?

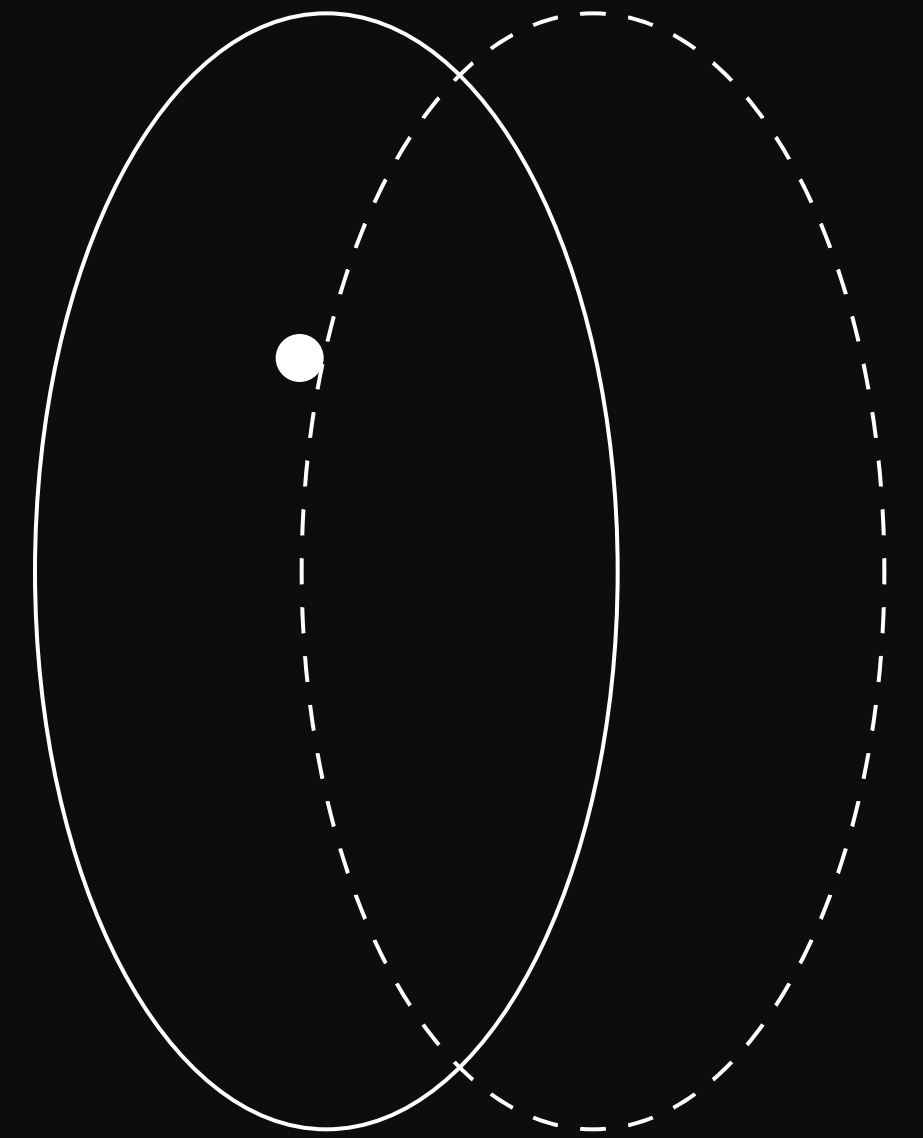
- ① AI generates answers from patterns learned from data
- ② Our thinking leans toward the first answer we hear
- ③ Everyone starts from the same answer

What can change it

- ① Tasks with a fixed answer become more alike
- ② AI that shows many ideas changes this
- ③ I need to be able to edit and delete

What we may be losing isn't the power to imagine,
but the room to diverge.

**What if AI didn't fill the blank for us,
but left room to imagine?**



**Room to imagine
has to be made on purpose.**

Give people a starting point,
not a predetermined answer.

Different is not enough

Meaningful divergence: different interpretations of the same blank, each still tied to it and meaningful to the person.

01 · CONNECTED

Contextual relevance

Is it tied to
the given blank?

02 · PERSONAL

Personal meaning

Does it reflect my own experience,
values and intentions?

03 · DIFFERENT

Interpersonal diversity

How different is it from
other people's answers?

Asked about a rainy day, "the buildings turn into jelly" is strange, not meaningful.

Leave the outcome open, not the information empty

Simplicity gives an answer.
Emptiness gives a place.
(after Kenya Hara)

01 · NOTICE IT

Make the gap visible

Glitch (Menkman) · Kintsugi

Show breaks and traces
instead of hiding them.

02 · LEAVE IT

Don't fill in advance

Emptiness (Kenya Hara) · Ma

Emptiness leaves room
for the user to fill.

03 · STRUCTURE IT

Give a foothold

The Open Work (Umberto Eco)

Openness inside a structure, like a jazz
lead sheet: same chords, different solos.

Less information is not the point. A decided outcome is what closes the blank.

Five principles for AI that leaves blanks

Principles that carry hints from my experiments over to AI.

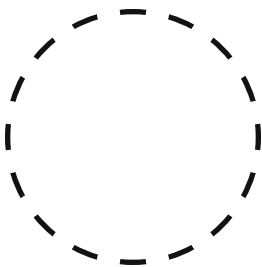
Principle	In simple words	Hint from
① Show the gap	Show what AI filled and what I fill differently	Brave Pressure · "30% seen" label The More You Look · the fading process
② No one right answer	Never says "This is the answer"	Heard Places · sound only
③ Give a hint	A small hint, so it's not too hard	Brave Pressure · showing only 30%
④ I choose	I can pick, edit, or throw away what AI says	To test in the next AI experiment
⑤ Different is okay	Different is okay, if it connects to the sound and means something to me	Heard Places · drawing from sound

Same sound, three conditions

Three groups hear the same sound.
I compare no AI with two different
ways AI can help.

01

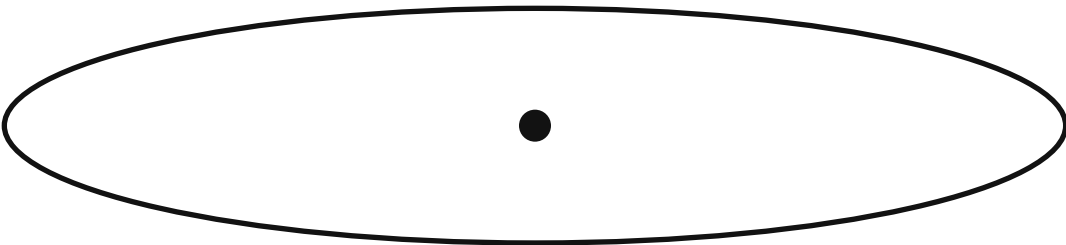
No AI



Listen alone,
think alone, write.

02

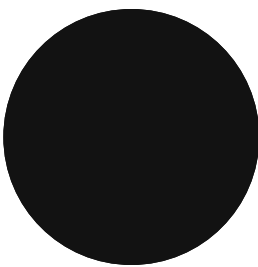
AI that asks



AI asks questions like
"What's the weather there?"
Answering may help me find my own ideas.

03

AI that answers first

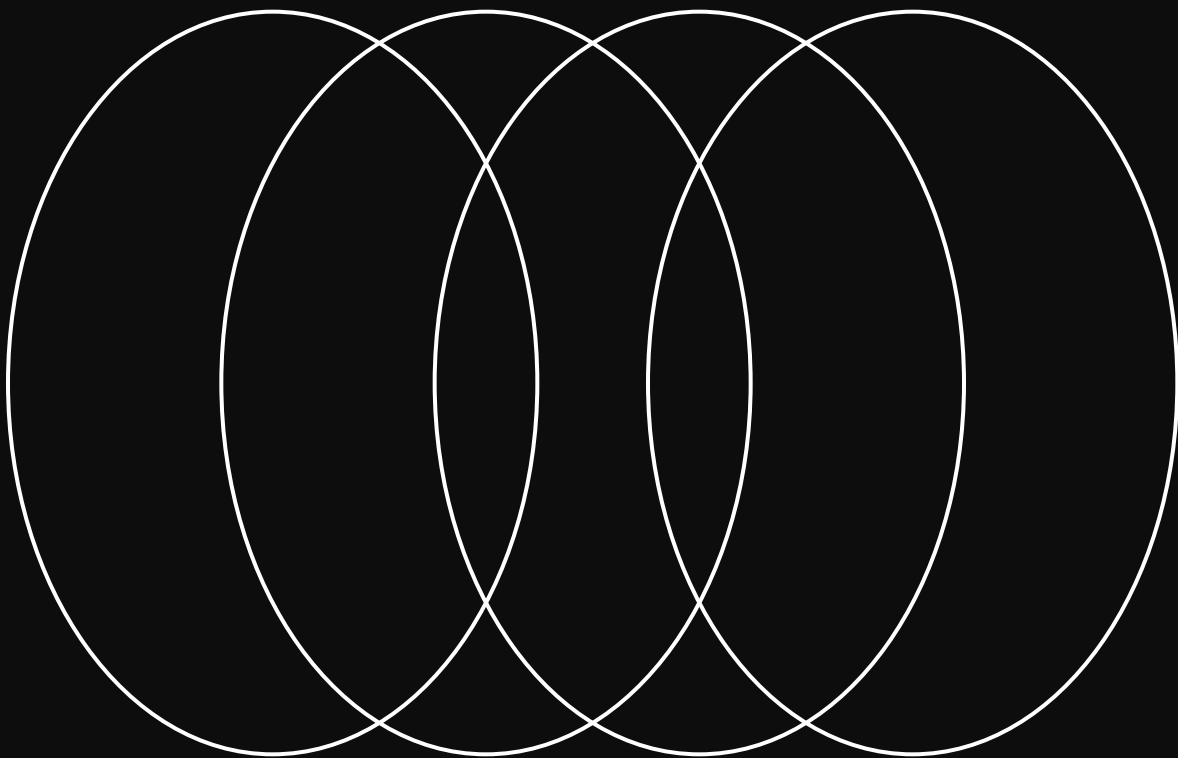


AI says first,
"This is a rainy market."
Then I write.

What will I look at?

Good "difference" has all of 1 to 3.

No. 4 is asked separately.



① Is it different?
How different are people's answers from each other

Different

② Is it tied to the sound?
Random isn't enough. It has to relate to the sound

Connected

③ Does it mean something to me?
Does it hold my own memory or experience

Personal

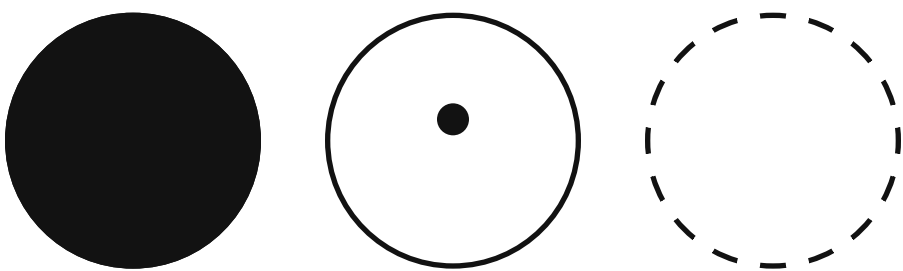
④ Does it feel like mine?
Do I feel I made it,
not the AI
Mine

Toward a tool that makes room to imagine

Starting from small experiments, I'll build a tool where people can freely think differently.

01

Three-condition experiment

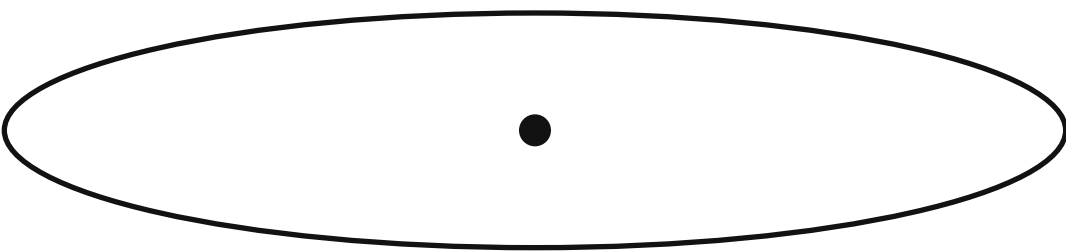


Compare three conditions and see which gives more varied, meaningful ideas.



02

Five principles

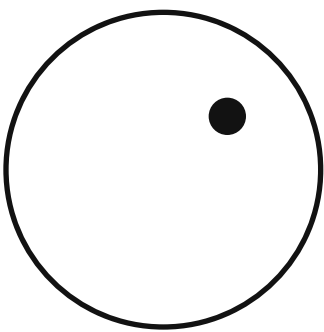


Refine the principles with the results.



03

?



?

Thank you