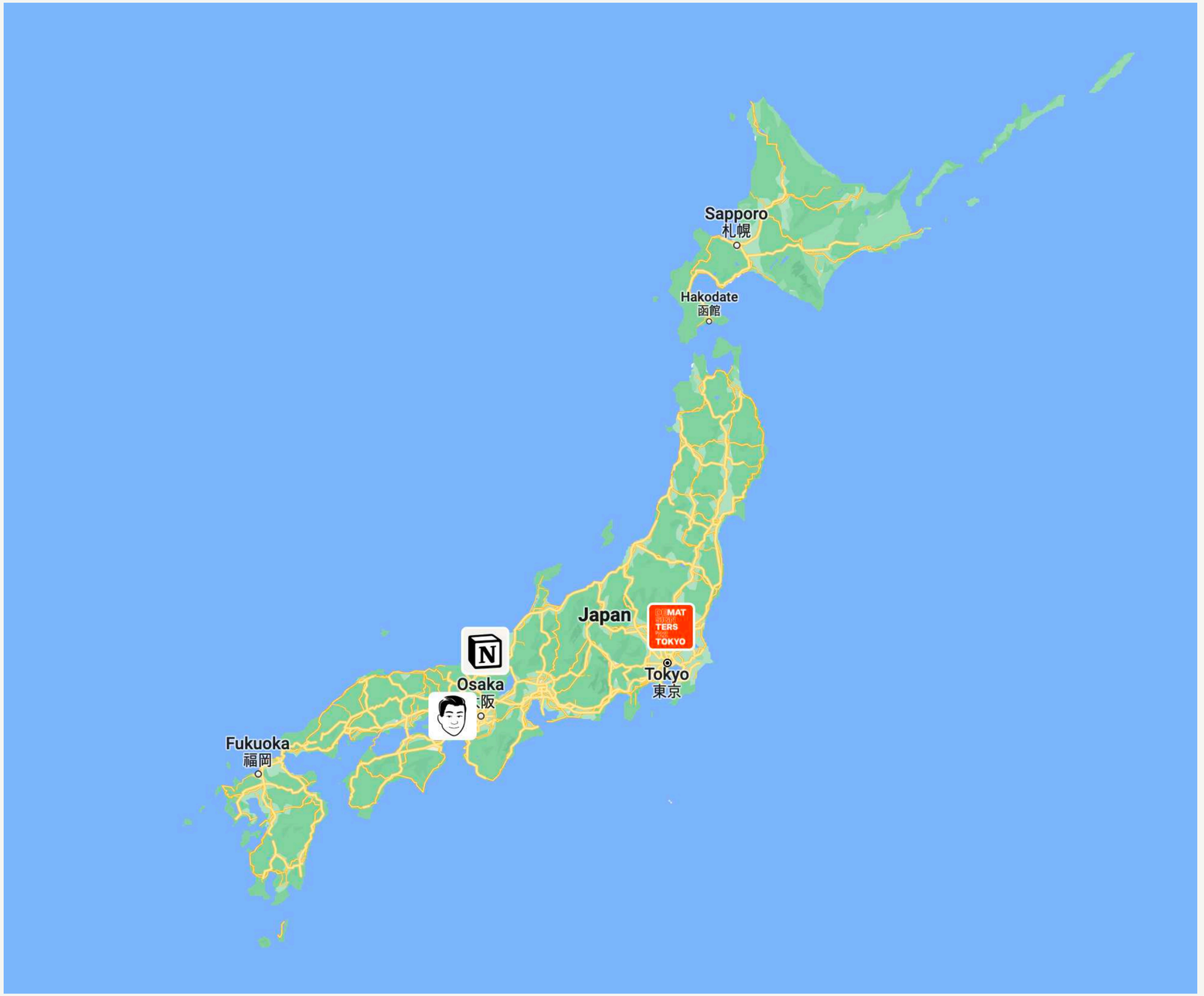
Leveraging mental models in product design

Andrew Lee • @alhyunsoo
Product Design, Notion


Sapporo
札幌
Hakodate
函館
Japan
Tokyo
東京
Osaka
Fukuoka
福岡

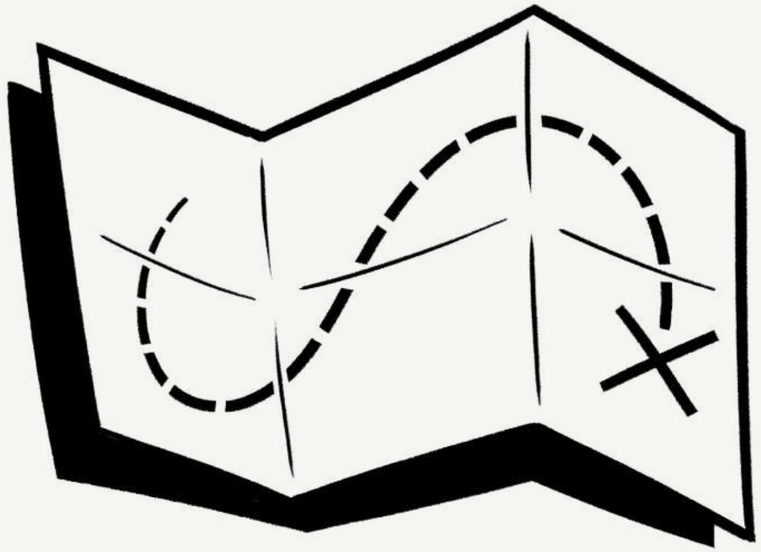
Self-taught designer

Work at Notion; fini Palantir, Acorns

From Japan, Korea, California

Live in Brooklyn, NY

What is a *mental model?*



Framework to understand the world

Add more rigor to your design process

Think more critically
Add structure to process
Build confidence in your designs

Athlete’s mentality

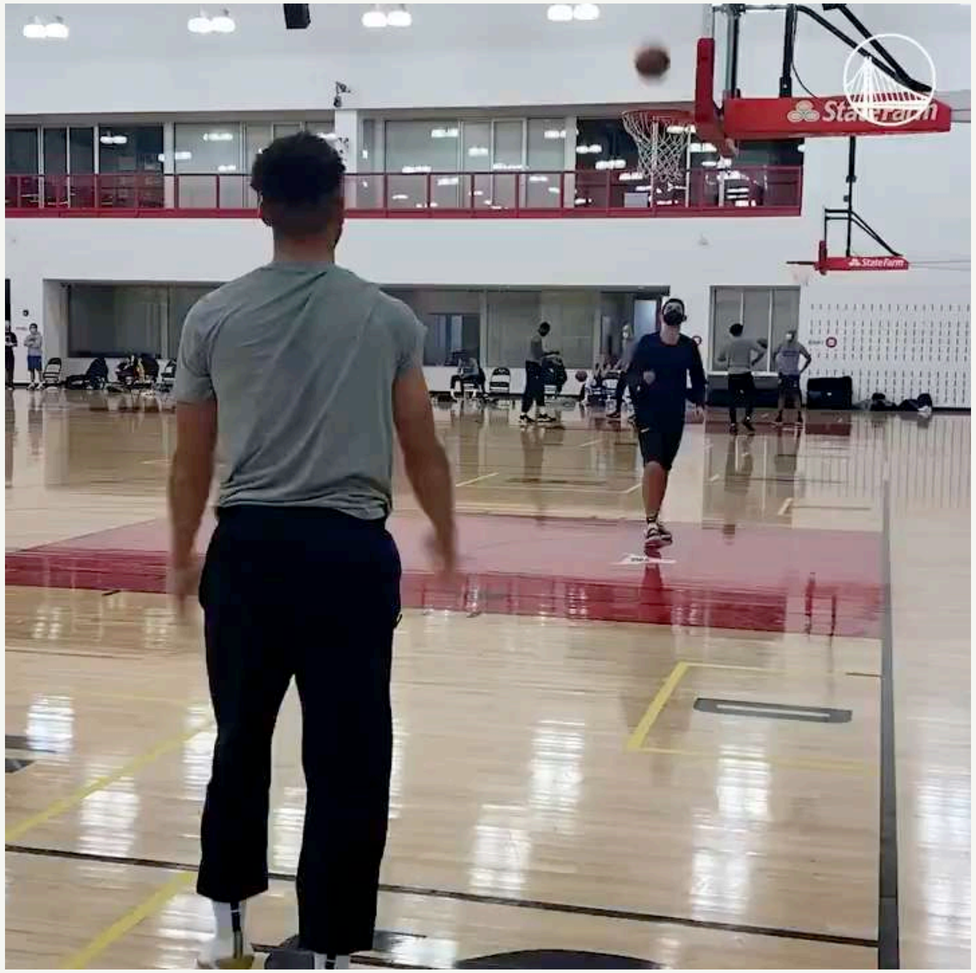
Mental model #1

Treat your design career with the same dedication as an athlete treats their sport

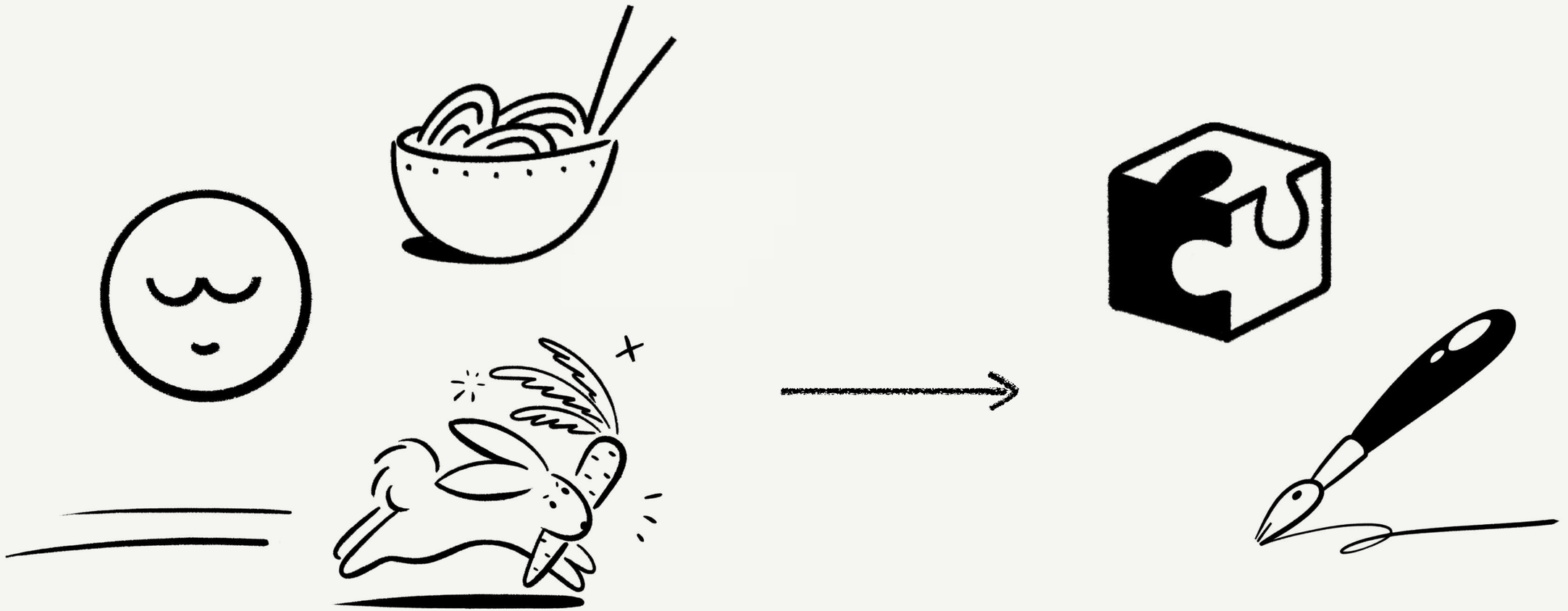
QSI
WAB
SCIS

QSI
WAB
SCIS
PCS

Sabukaru



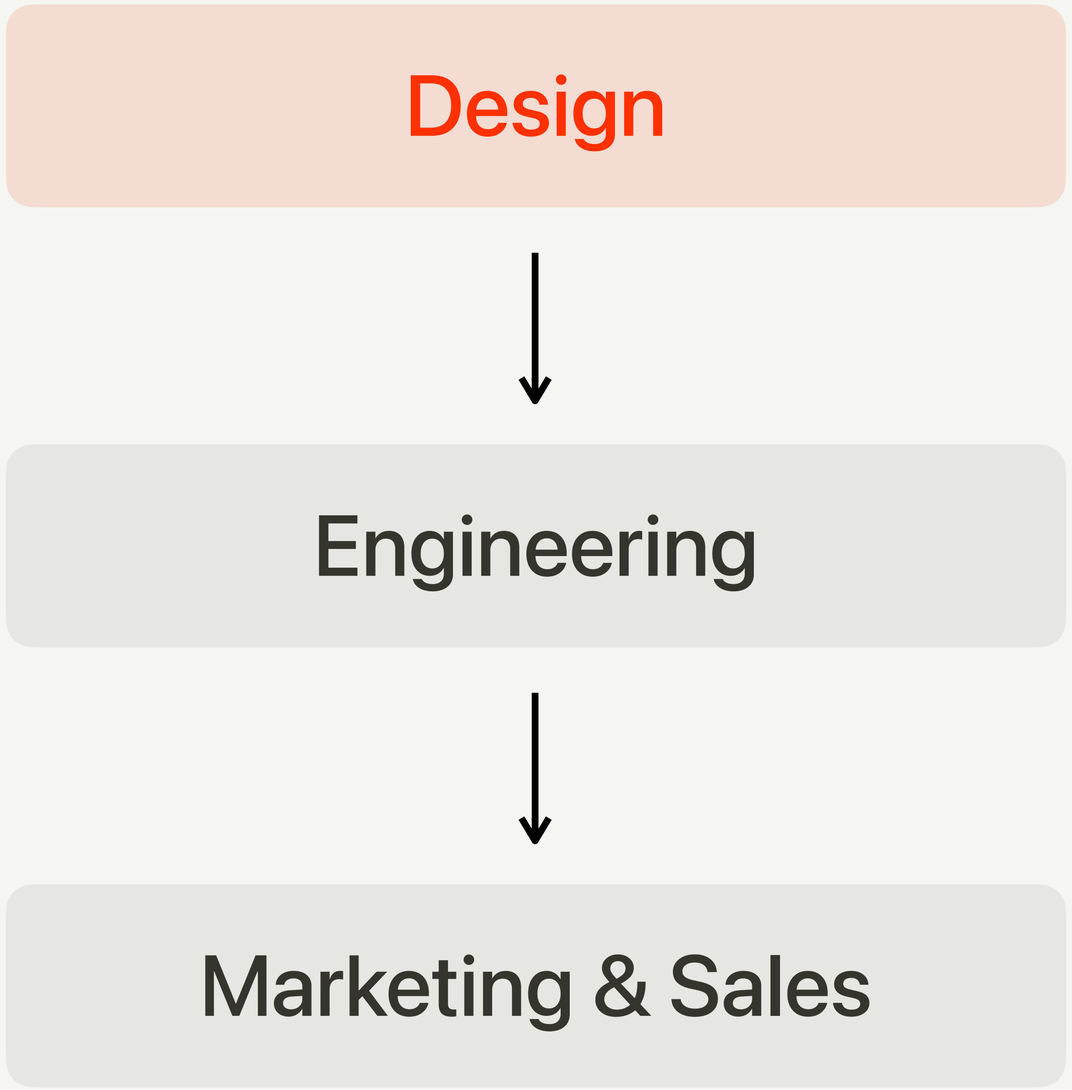
105 three-pointers
2020, Stephen Curry

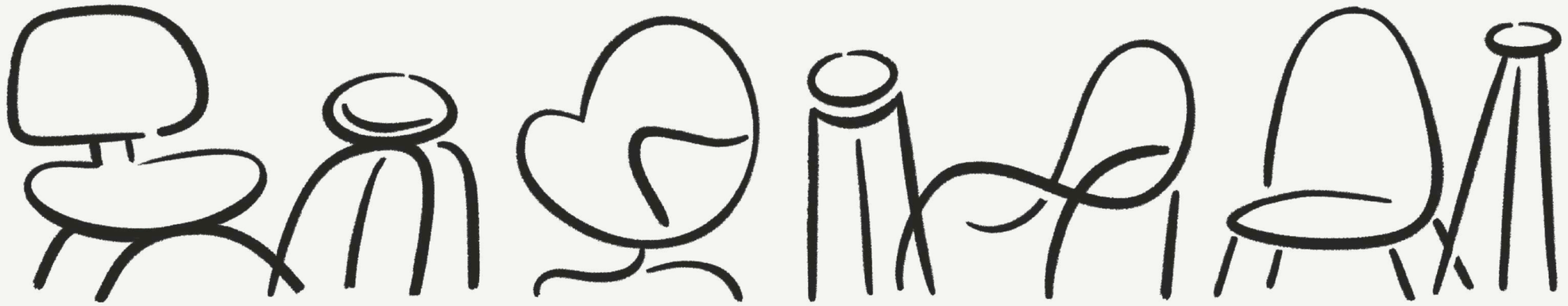


Build the foundation to support your craft

WASHINGTON, D.C.
Bloomberg

Small number of high quality decisions


Design
Engineering
Marketing & Sales



Chair vs city problems

Mental model #2

Be aware of the shape of problem you're faced with; this determines your strategy

6394. P Z.

Materials

Cost

Performance

Assembly

Simplicity

Materials

Cost

Performance

Assembly

Simplicity

Environment

Character

Housing

Energy & Resources

Infrastructure

Transportation

Healthcare

Social Conditions

Political Structure

Context

Problems

Simple

Complex

Form

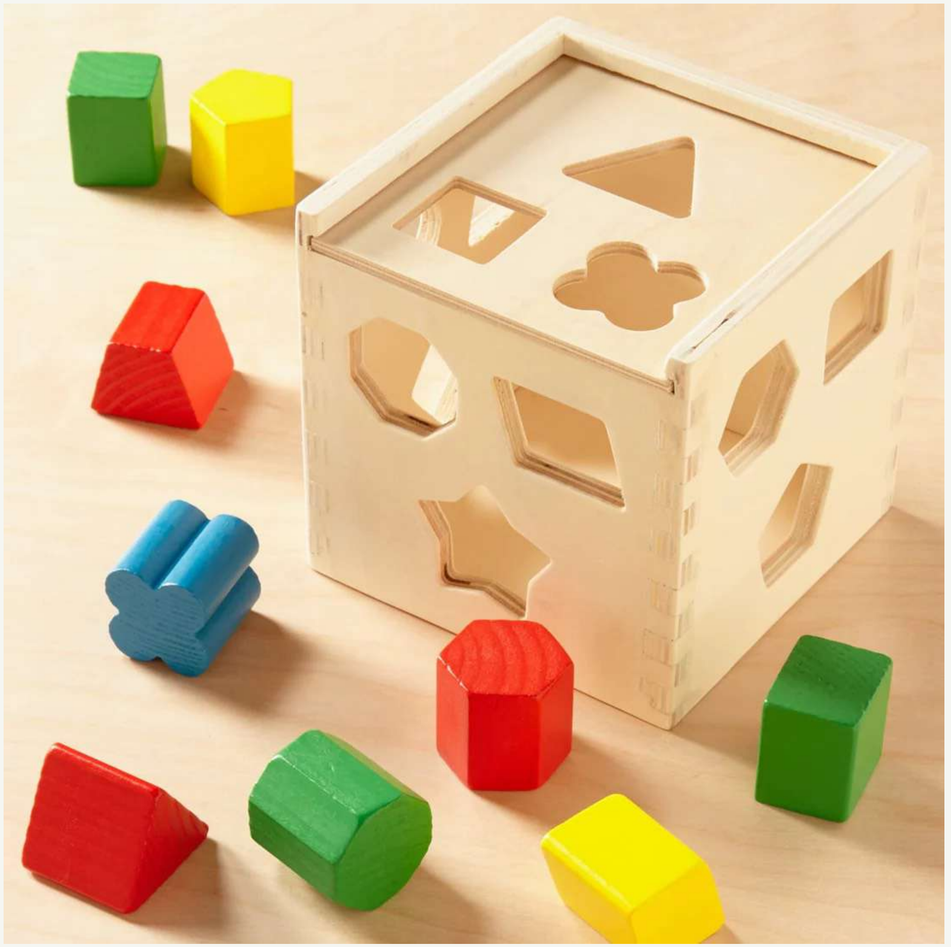
Solutions

“Every design problem begins with an effort to achieve fitness between two entities — the form in question and its context.”

“The form is the solution to the problem, the context defines the problem.

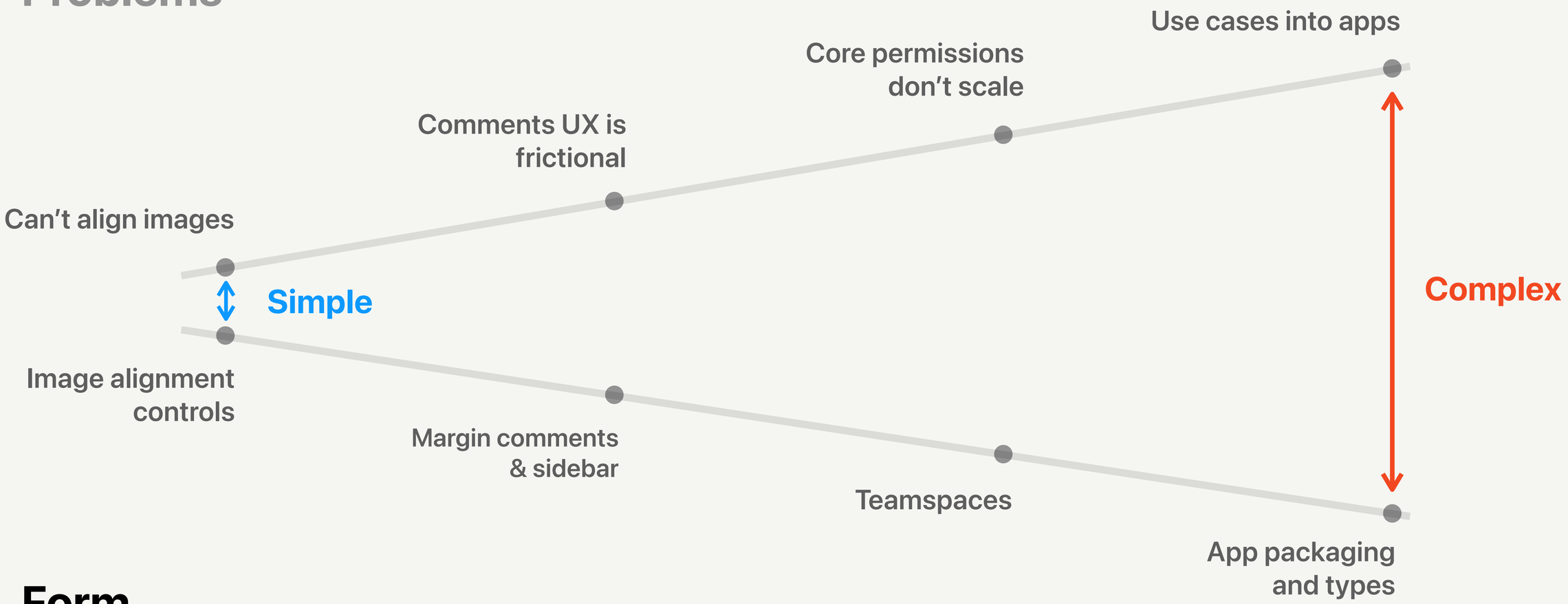
When we speak of design, the real object of discussion is not the form alone, but the ensemble comprising the form and its context.”

Christopher Alexander
Notes on the Synthesis of the Form



Context

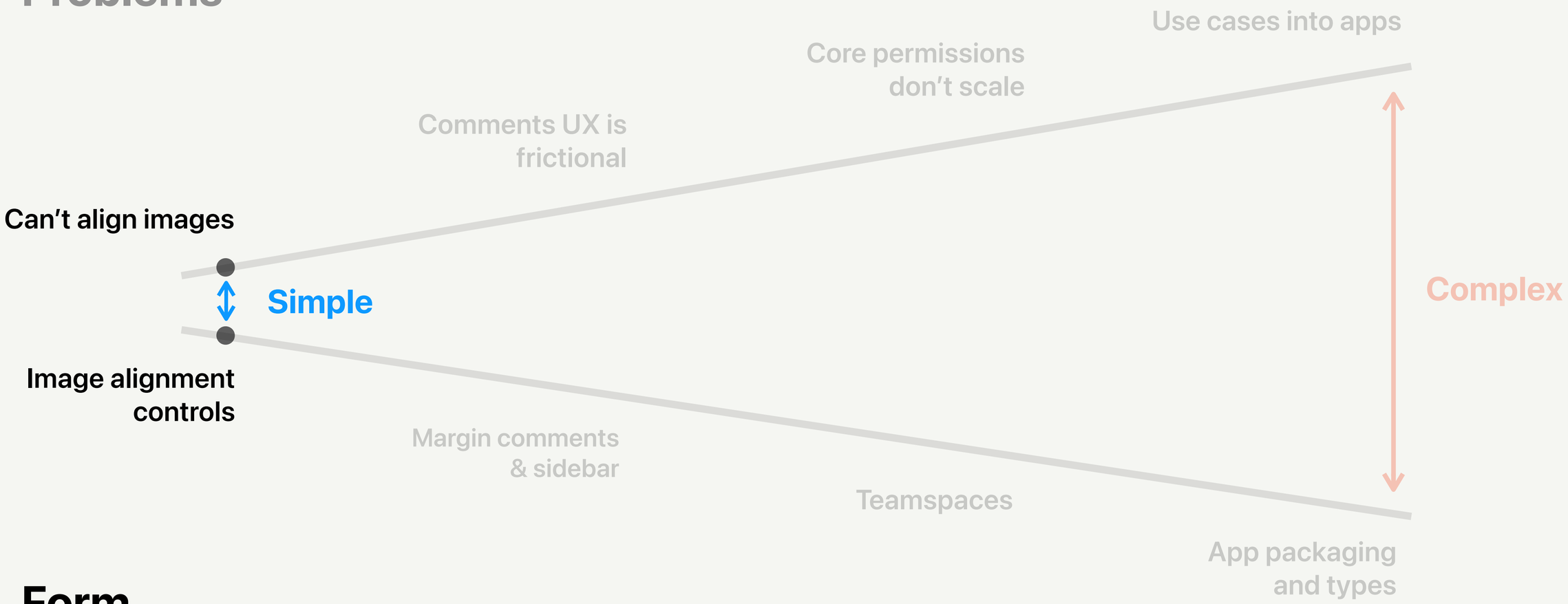
Problems



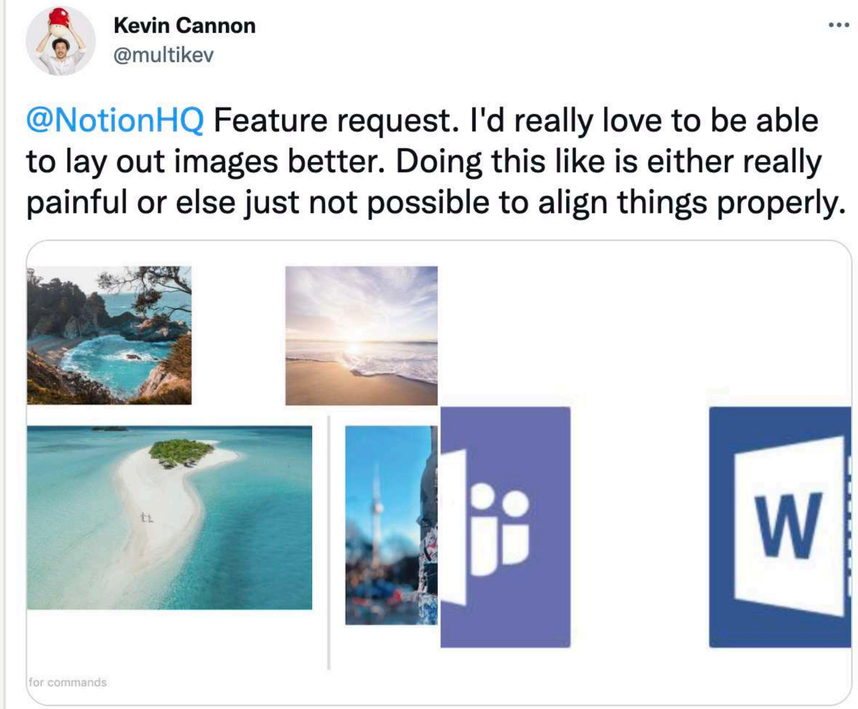
Form

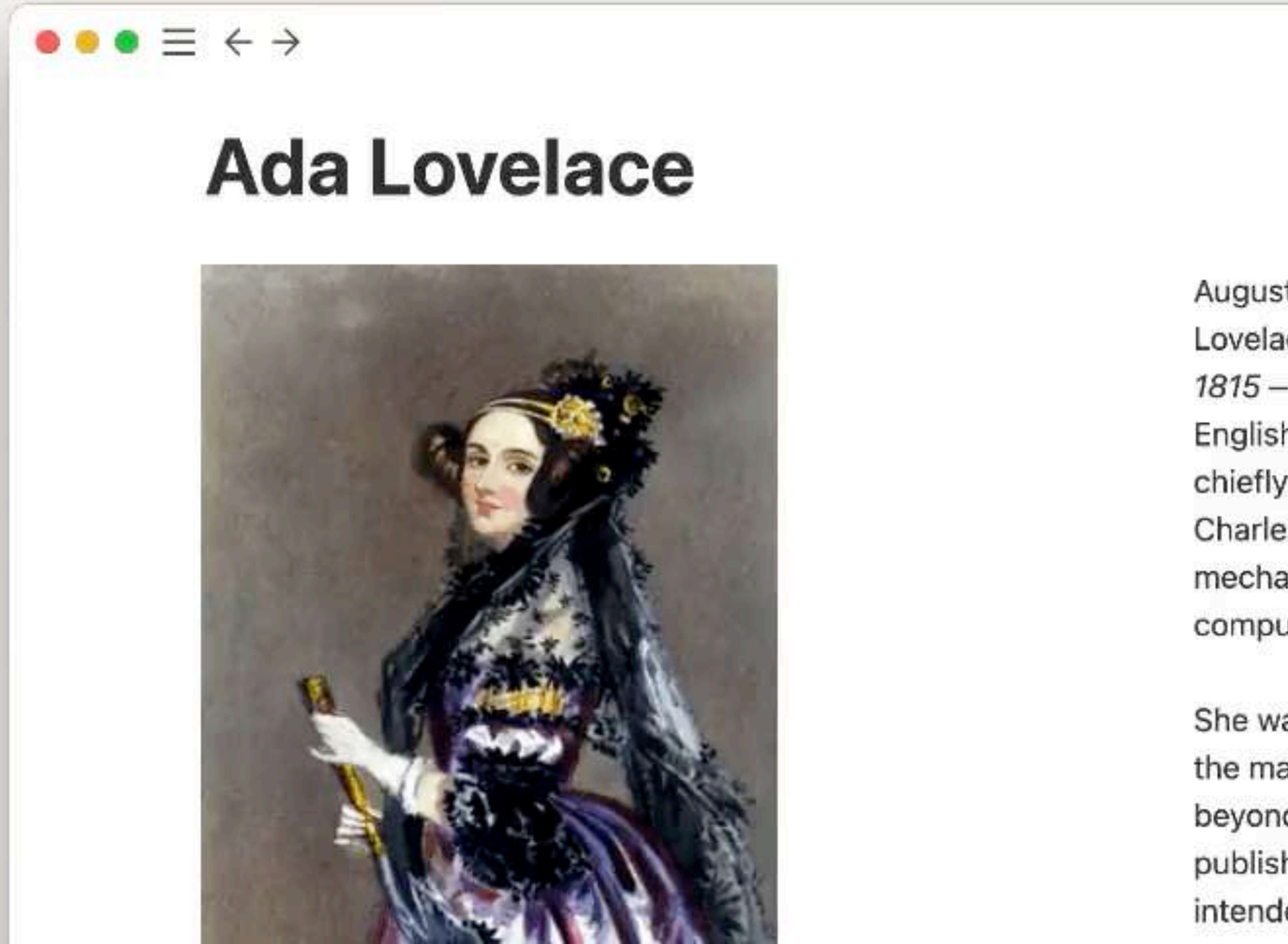
Solutions

Context
Problems



Form
Solutions


Kevin Cannon
@multikev
@NotionHQ Feature request. I'd really love to be able to lay out images better. Doing this like is either really painful or else just not possible to align things properly.
for commands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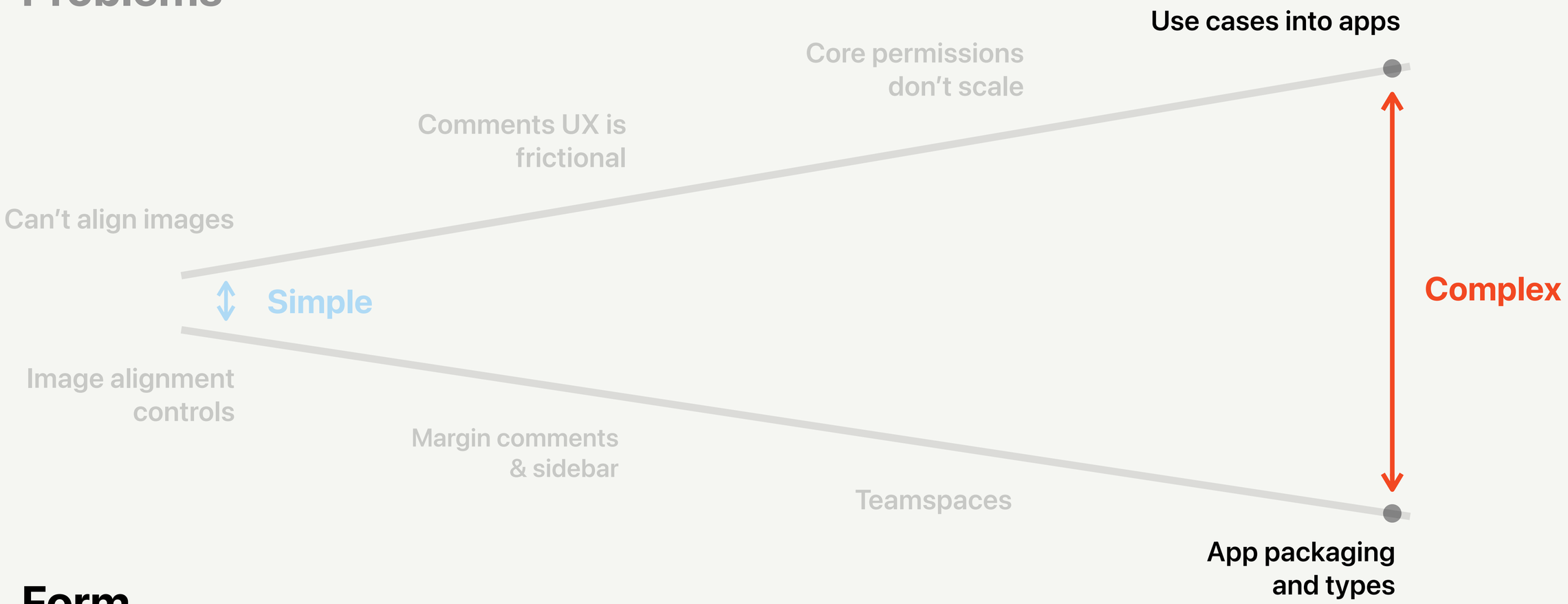
Context
Problems



Form
Solutions

First-order questions

Second-order questions

First-order questions

Second-order questions

Determines the “shape”
Objective and conceptual model
Why? How? Should we?

First-order questions

Second-order questions

Determines the details
Visual design and interaction
Edge cases

First-order questions

Why do we want AI? Should we do AI?
What problem does it solve? New use cases?
What is the conceptual model? How does it work?

Second-order questions

What are the specific interactions and visual design?
Are there any edge cases?
How can we make it delightful?
How do we monetize?

First-order questions

Why do we want AI? Should we do AI?

What problem does it solve or use case does it unlock?

What is the conceptual model? How does it work?

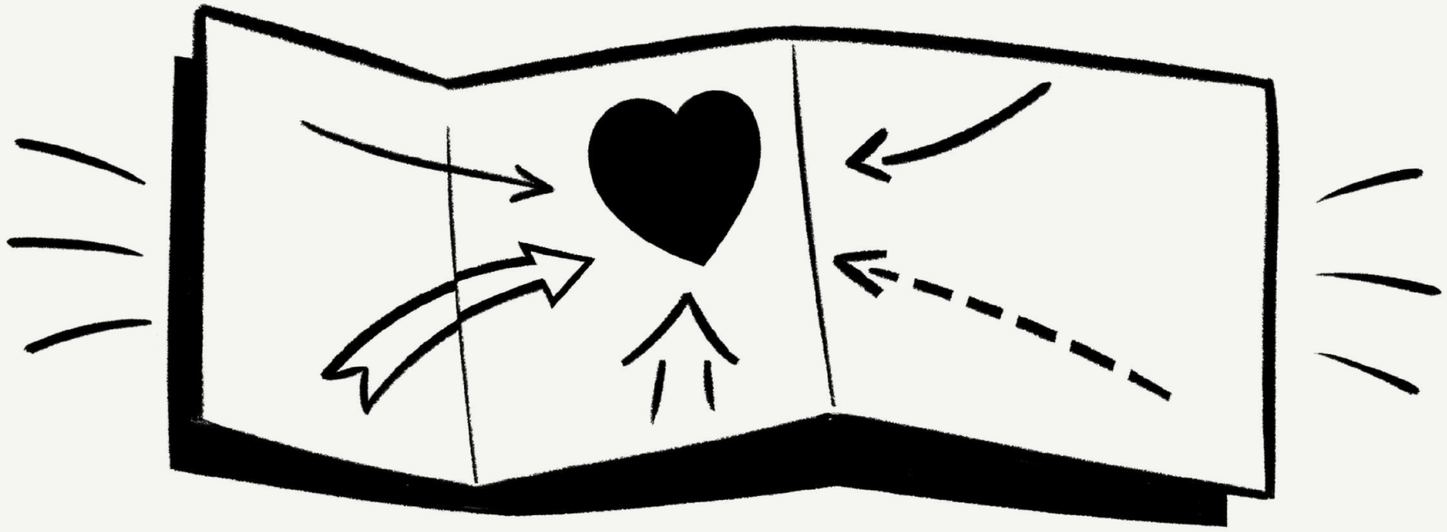
Second-order questions

What are the specific interactions and visual design?

Are there any edge cases?

How can we make it delightful?

How do we monetize?



Inputs and intuition

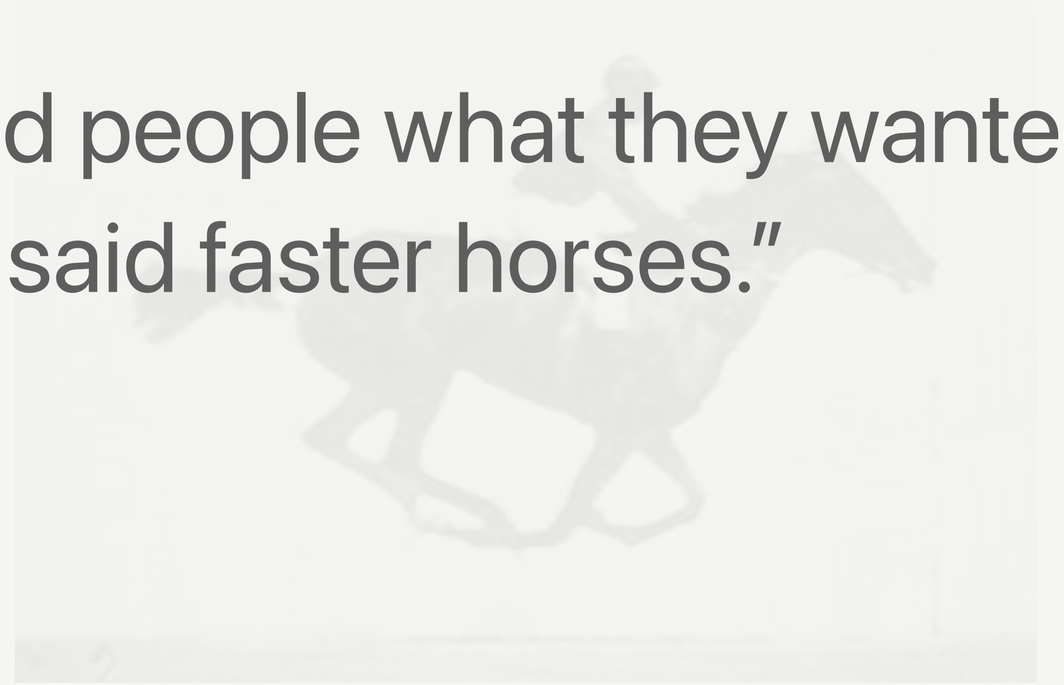
Mental model #3

Use inputs to build confidence in your design; shape of problem determines inputs

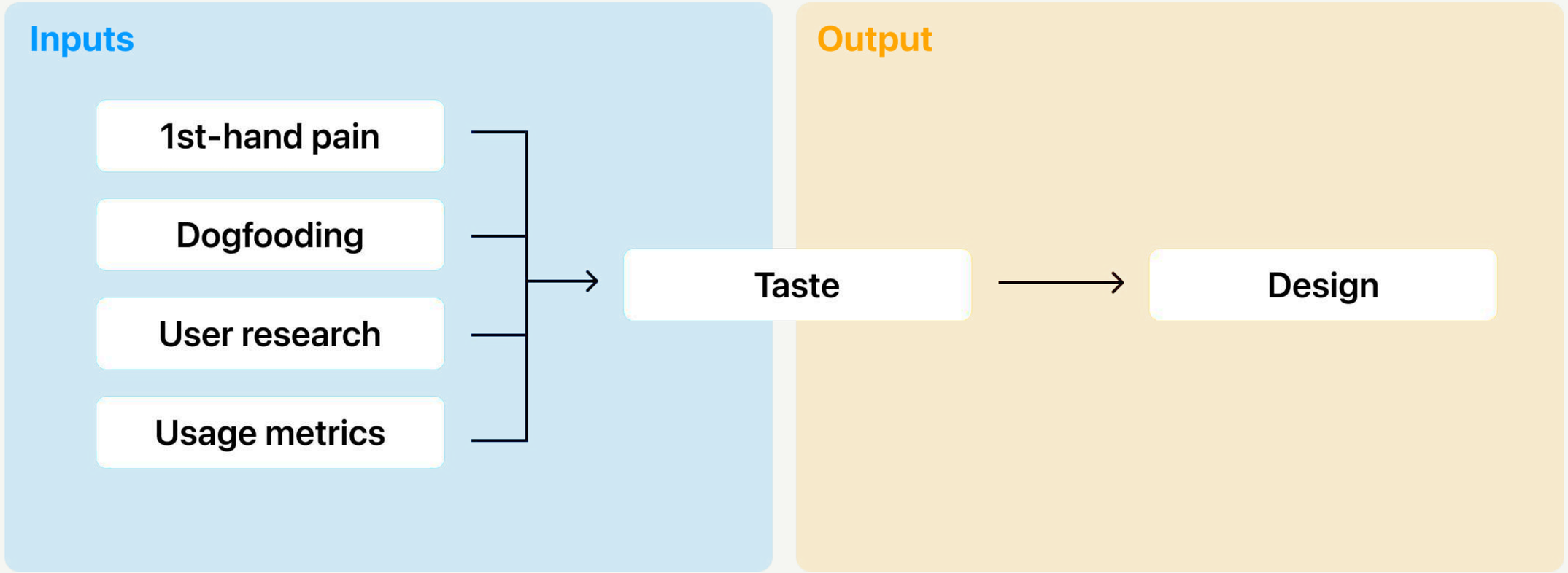
“I notice increasing reluctance to use judgment; executives rely too much on research, and they use it as a drunkard uses a lamp post for support, rather than for illumination.”

David Ogilvy
1983, *Ogilvy on Advertising*

“If I had asked people what they wanted, they would have said faster horses.”



Henry Ford


Inputs
1st-hand pain
Dogfooding
User research
Usage metrics
Taste
Output
Design

Patrick Collison
@patrickc

Replying to @shreyas

IMO the best product will stem from a very strong mental model of the domain and the users. UXR can help you *get* to such a model, and validate it along the way, but it's important to view the syllogism as UXR -> model -> product, not UXR -> product.

7:04 AM · Sep 29, 2021

Have you experienced the problem?

Is the solution reversible?

Is the solution tied to revenue?

intuition

Have you experienced the problem?

Is the solution reversible?

Is the solution tied to revenue?

Have you experienced the problem?

Is the solution reversible? **SPEED**

Is the solution tied to revenue?

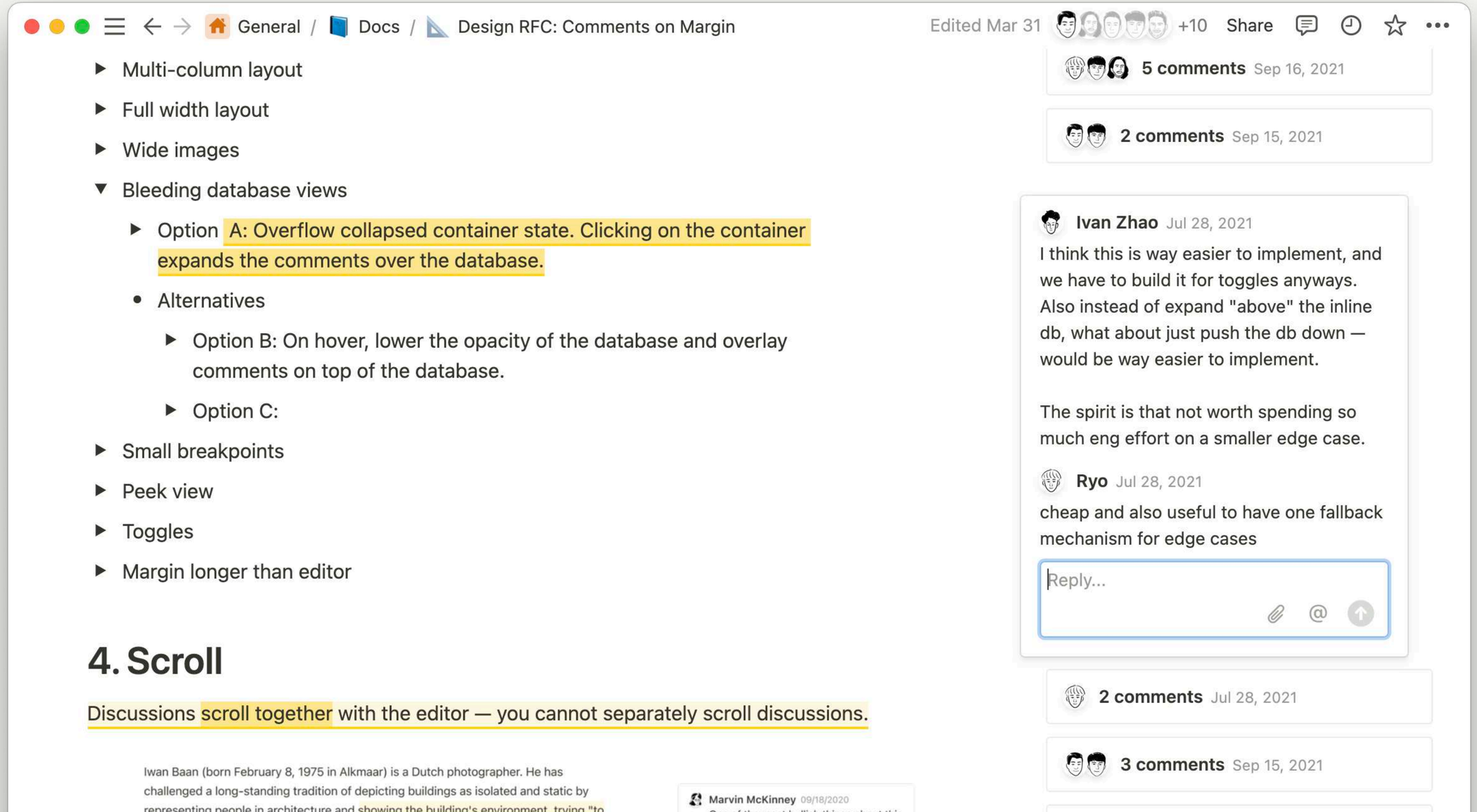
Have you experienced the problem?

Is the solution reversible?

Is the solution tied to revenue?

experimentation

Case 1: Comments



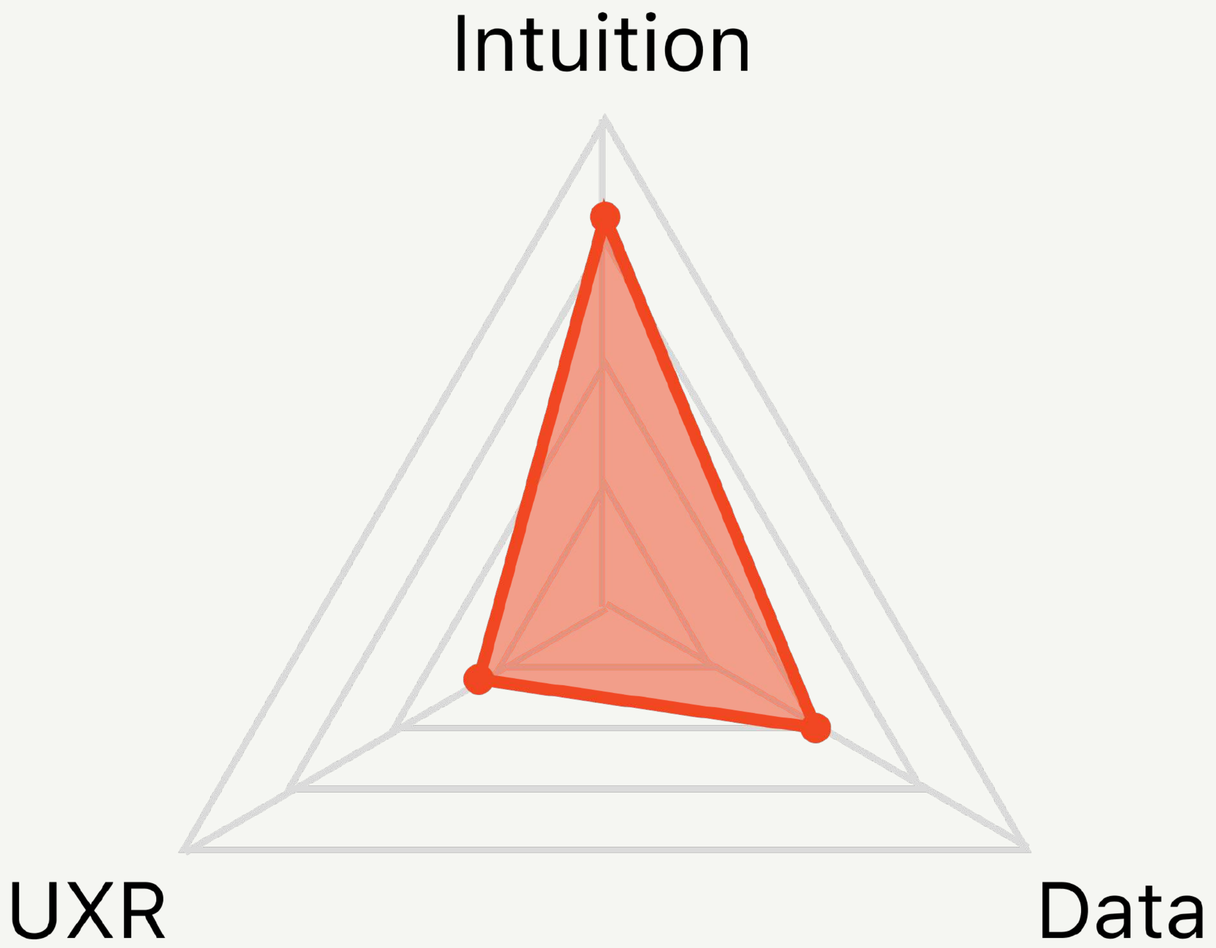
Case 1: Comments

Have you experienced the problem? YES

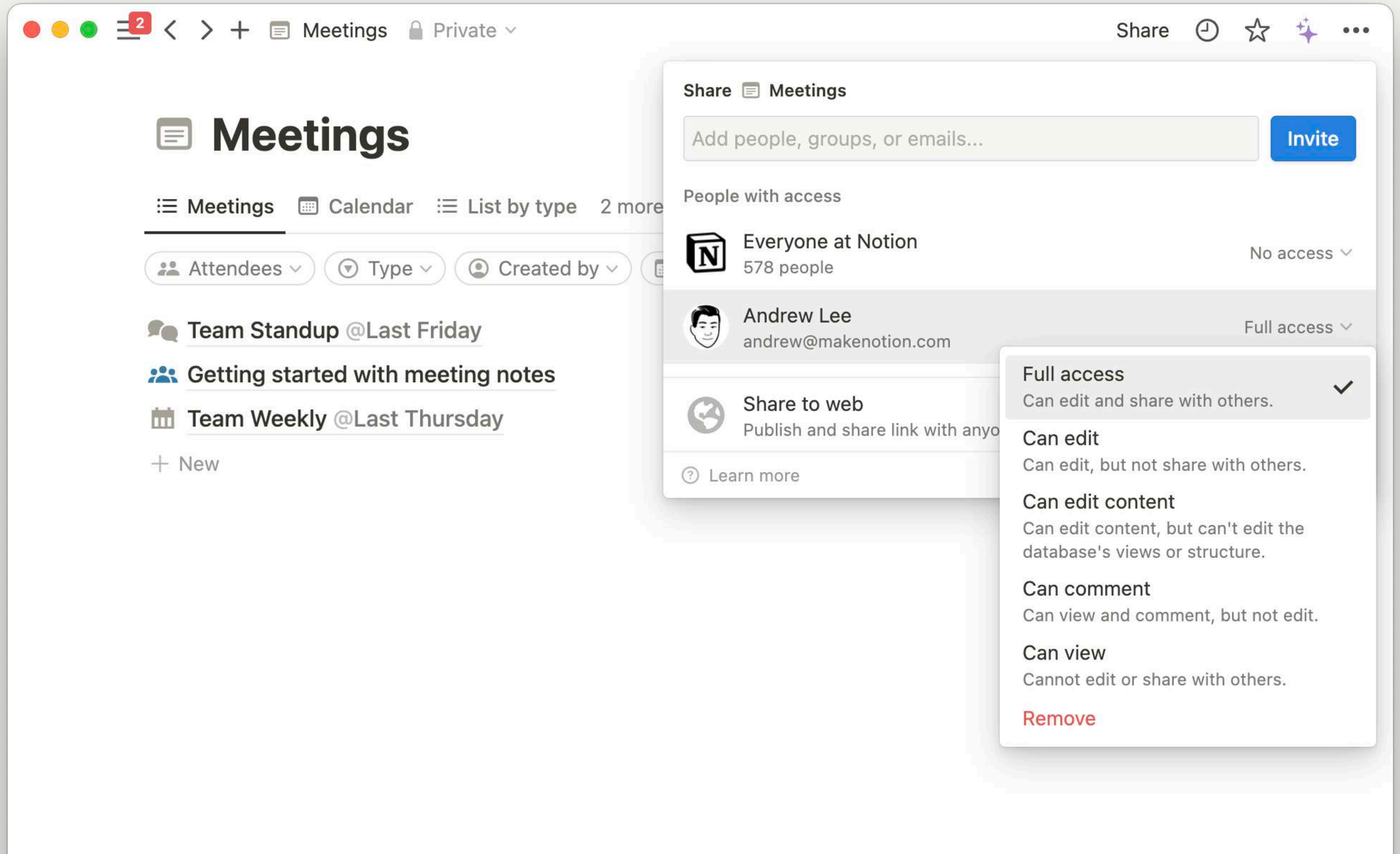
Is the solution reversible? YES

Is it tied to growth / revenue? SOMEWHAT

Case 1: Comments



Case 2: Permissions



Case 2: Permissions

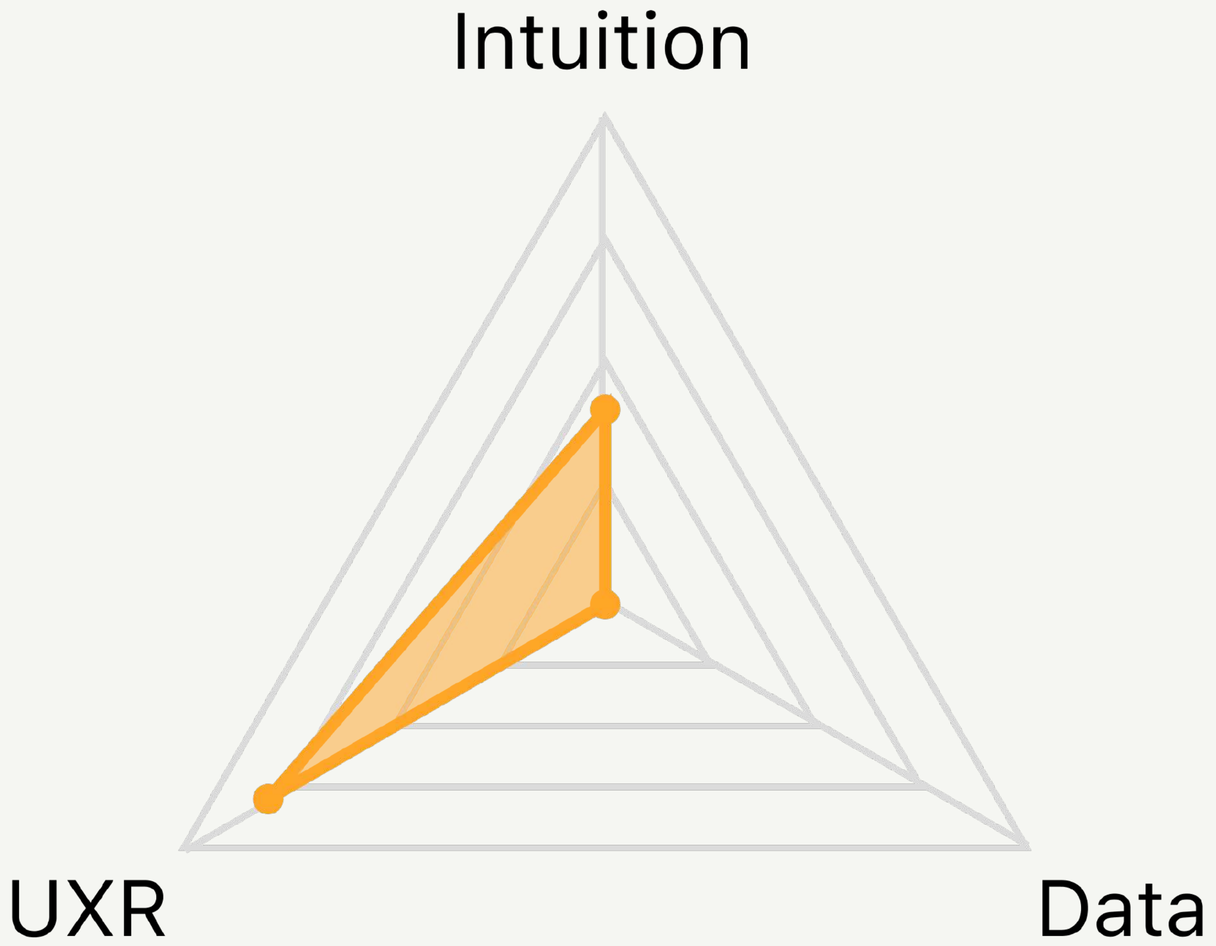
sometimes

Have you experienced the problem?

Is the solution reversible? NO

Is it tied to growth / revenue? NO

Case 2: Permissions



Case 3: Onboarding

Have you experienced the problem? NO

Is the solution reversible? YES

Is it tied to growth / revenue? YES

Case 3: Onboarding

Cancel

How are you planning to use Notion?

We'll streamline your setup experience accordingly.

For my team

Collaborate on your docs, projects, and wikis.

For personal use

Write better. Think more clearly. Stay organized.

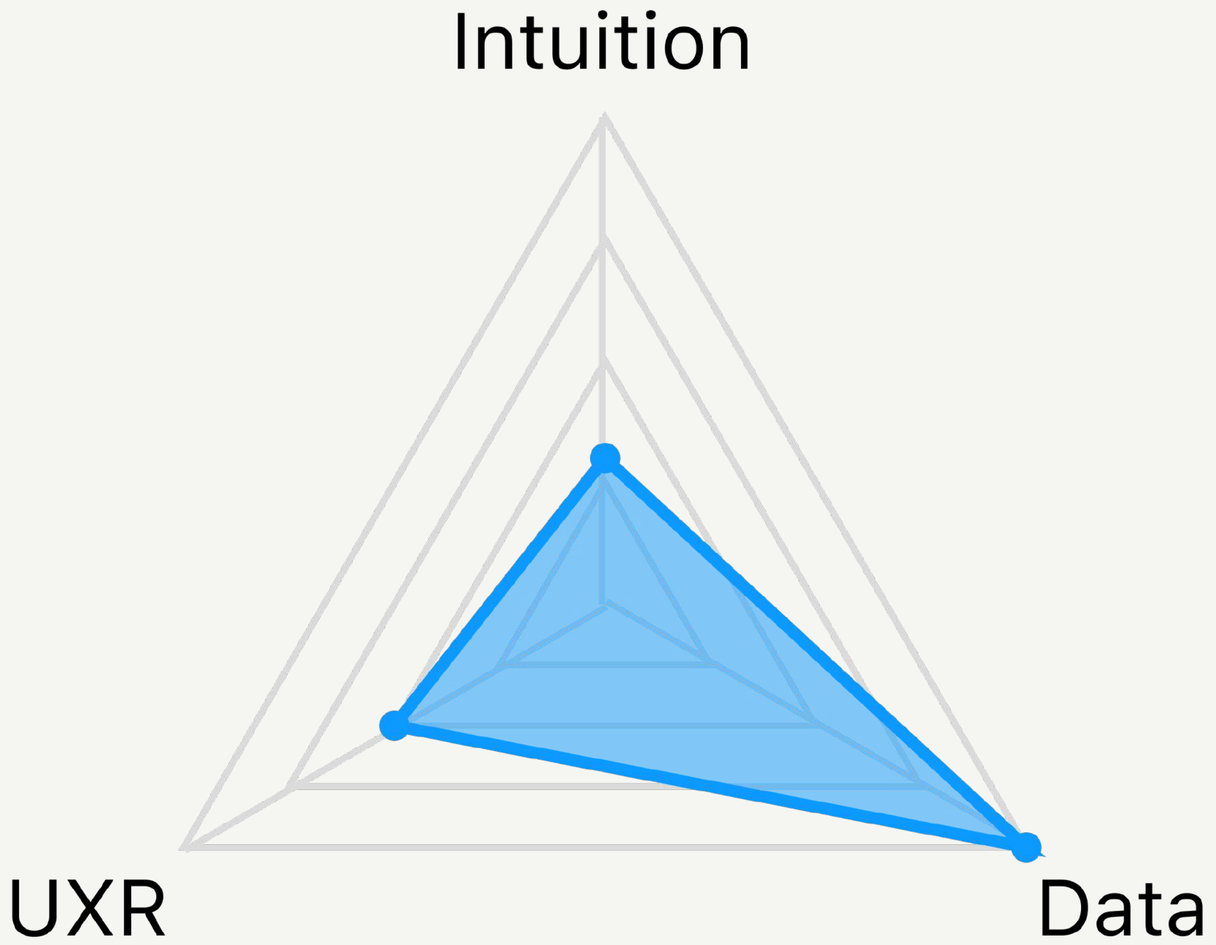
For school

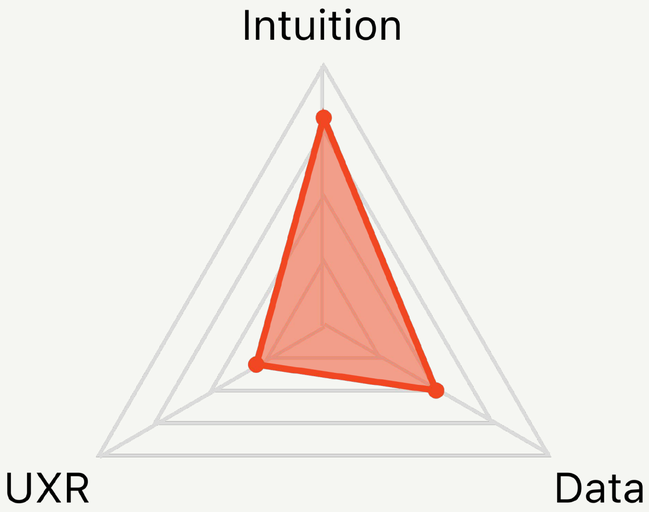
Keep your notes, research, and tasks all in one place.

Continue

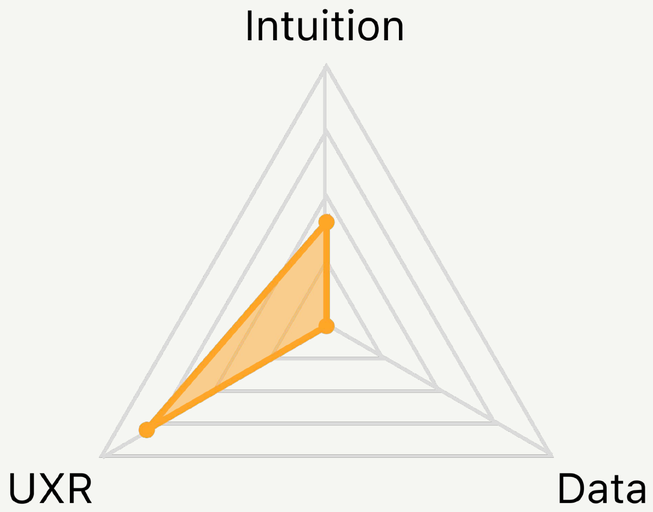
You are currently logged in as **andrew@makenotion.com**. By creating this workspace, you accept that it can be managed by the owners of the email

Case 3: Onboarding

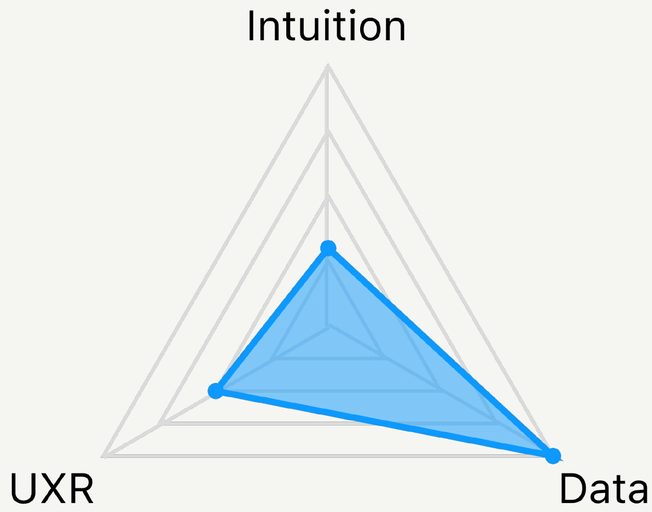




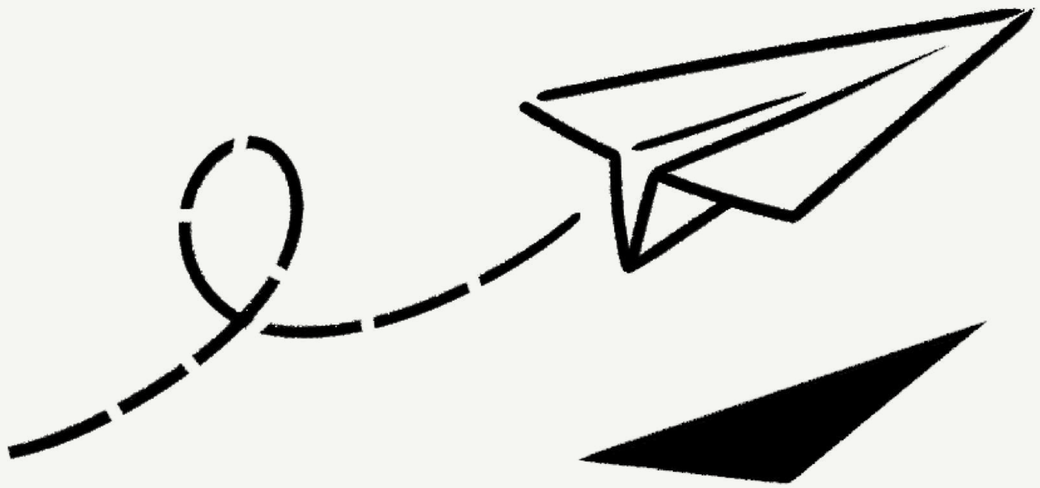
Comments



Permissions



Onboarding

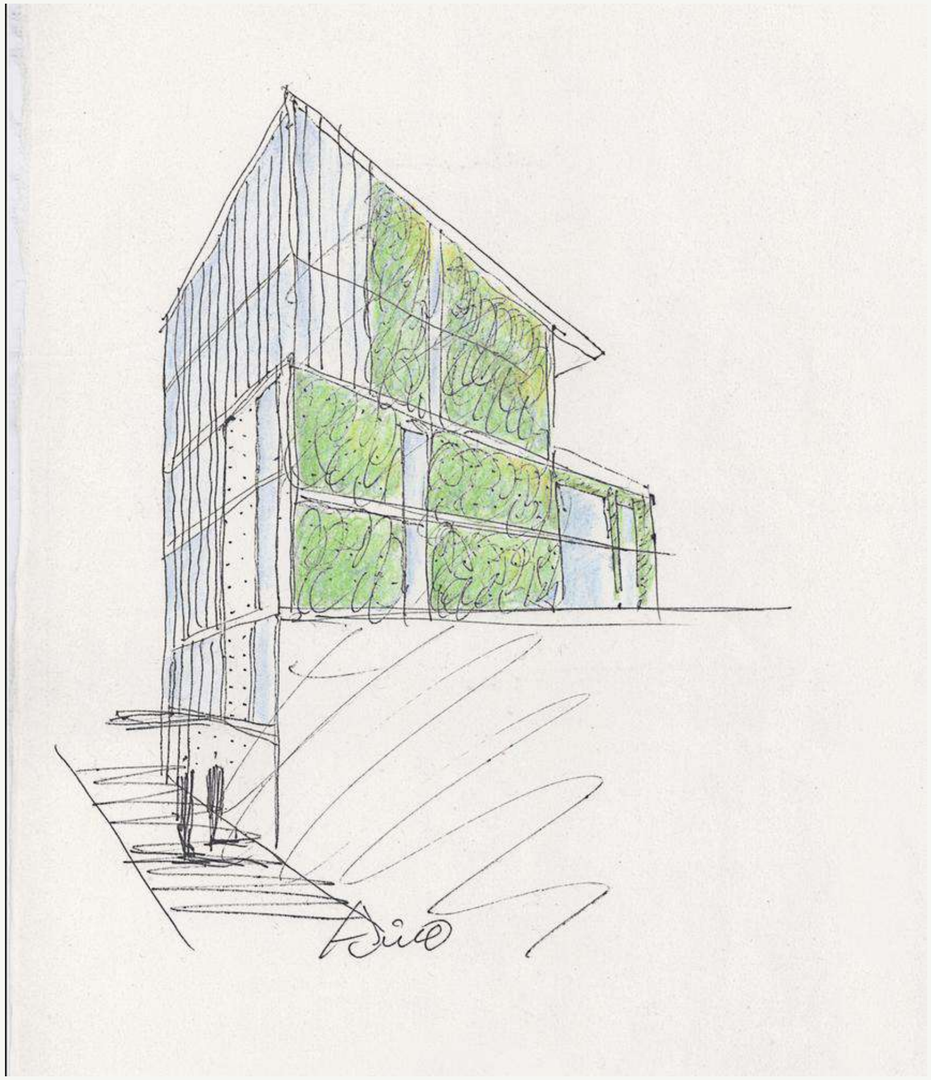


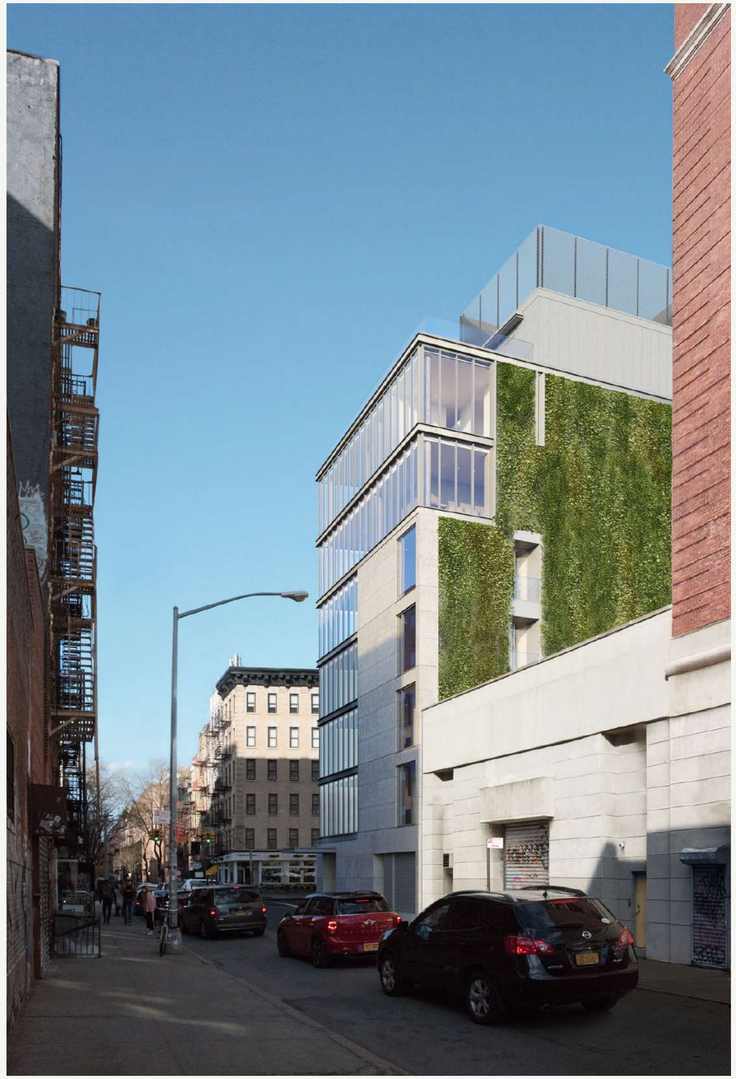
You are what you ship

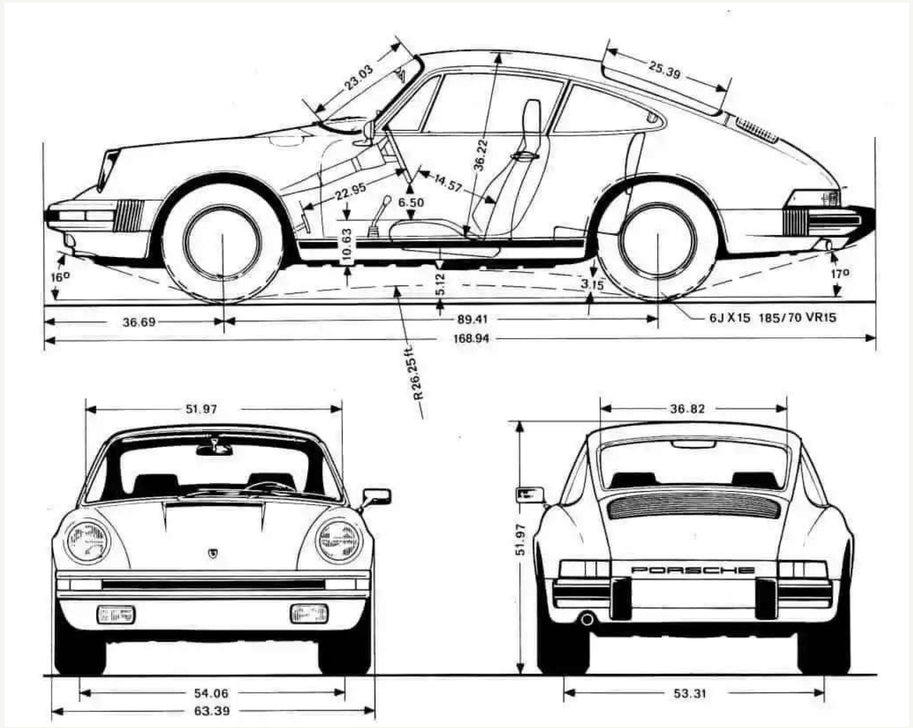
Mental model #4

The final output is what counts (not the Figma file)

What do we *ship* as product designers?



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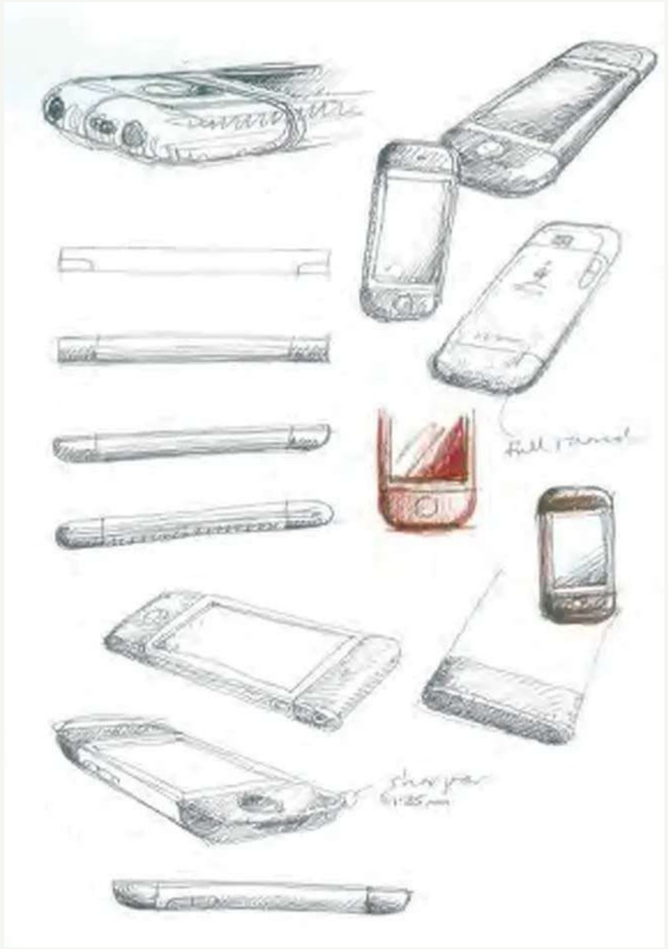
MARTINI RACING



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Maps
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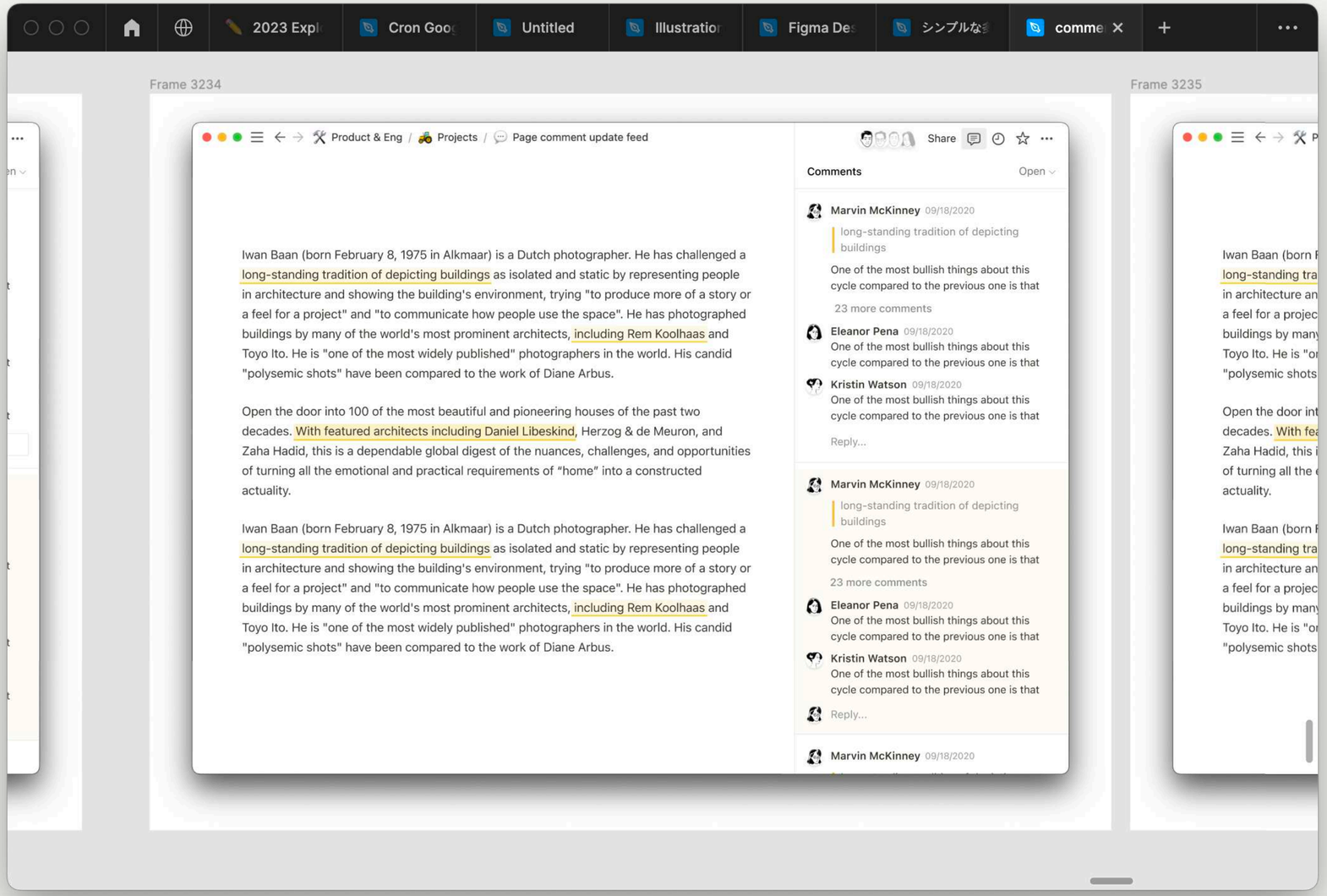
iTunes
Phone
Mail
Safari
iPod


Frame 3234
Frame 3235
Product & Eng / Projects / Page comment update feed
Share
Comments
Open
Iwan Baan (born February 8, 1975 in Alkmaar) is a Dutch photographer. He has challenged a long-standing tradition of depicting buildings as isolated and static by representing people in architecture and showing the building's environment, trying "to produce more of a story or a feel for a project" and "to communicate how people use the space". He has photographed buildings by many of the world's most prominent architects, including Rem Koolhaas and Toyo Ito. He is "one of the most widely published" photographers in the world. His candid "polysemic shots" have been compared to the work of Diane Arbus.
Open the door into 100 of the most beautiful and pioneering houses of the past two decades. With featured architects including Daniel Libeskind, Herzog & de Meuron, and Zaha Hadid, this is a dependable global digest of the nuances, challenges, and opportunities of turning all the emotional and practical requirements of "home" into a constructed actuality.
Iwan Baan (born February 8, 1975 in Alkmaar) is a Dutch photographer. He has challenged a long-standing tradition of depicting buildings as isolated and static by representing people in architecture and showing the building's environment, trying "to produce more of a story or a feel for a project" and "to communicate how people use the space". He has photographed buildings by many of the world's most prominent architects, including Rem Koolhaas and Toyo Ito. He is "one of the most widely published" photographers in the world. His candid "polysemic shots" have been compared to the work of Diane Arbus.
Marvin McKinney 09/18/2020
long-standing tradition of depicting buildings
One of the most bullish things about this cycle compared to the previous one is that
23 more comments
Eleanor Pena 09/18/2020
One of the most bullish things about this cycle compared to the previous one is that
Kristin Watson 09/18/2020
One of the most bullish things about this cycle compared to the previous one is that
Reply...
Marvin McKinney 09/18/2020
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One of the most bullish things about this cycle compared to the previous one is that
Reply...
Marvin McKinney 09/18/2020

▸ **Future considerations**

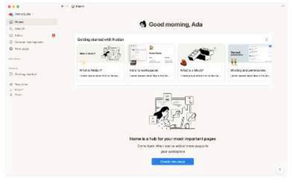
4️⃣ Education and onboarding (not blocking for launch)

New user experience/empty states

*Will work with Acquisition team to create a seamless transition between onboarding and first time landing in home

New personal workspace creator

- Notion education that links to onboarding pages, Notion Training videos, or articles
- Empty state with create page CTA
- Optional
  - Suggested templates



Personal home
Last modified by Jenny

Comments Open

John Hurley May 14

> 4️⃣ Education and onboarding

For non-new users, Home could be a fantastic place for **"what's new"**. One of our biggest challenges with new feature adoption right now is essential zero in-product surface area. Education does not end with new users! **cc** @Owais Khan

Ekin Oflazer May 15

good call — we'll think about that. cc @Jenny Liu

Jenny Liu May 15

good idea! we'll have to be careful not to spam users too much in their homepage

John Hurley May 15

Totally - and I dont think Home is the only option for Whats New. Could be an Inbox, Updates, or wherever else we're considering user education!

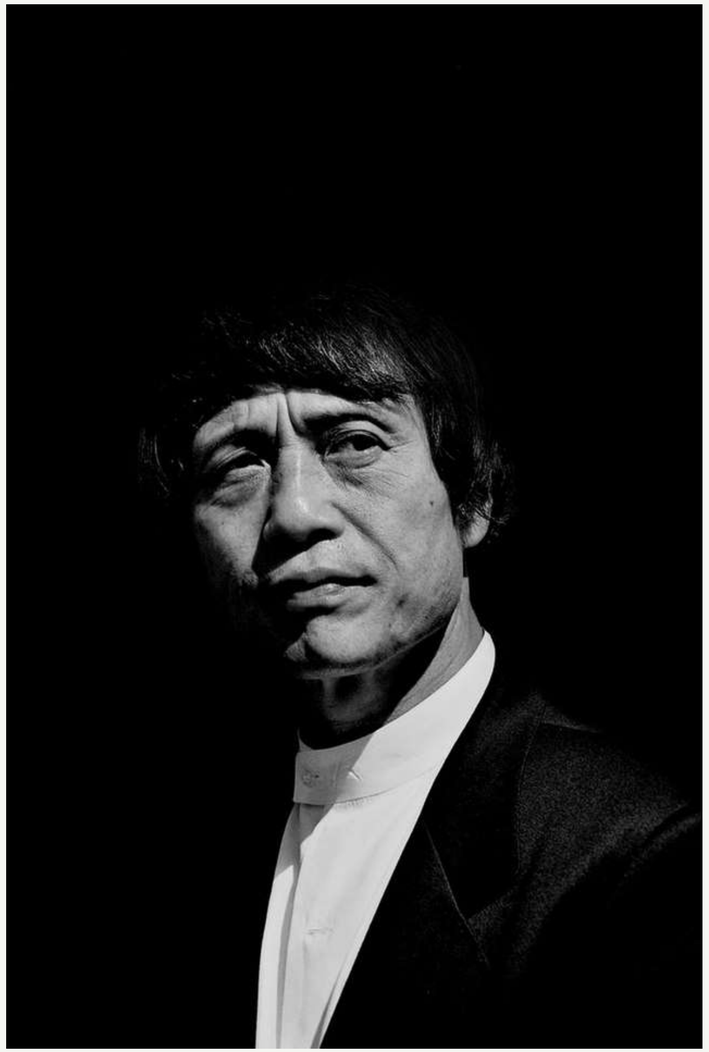
Lauryn Isford May 15

+1, I just left a similar comment above - tagging you

Reply...

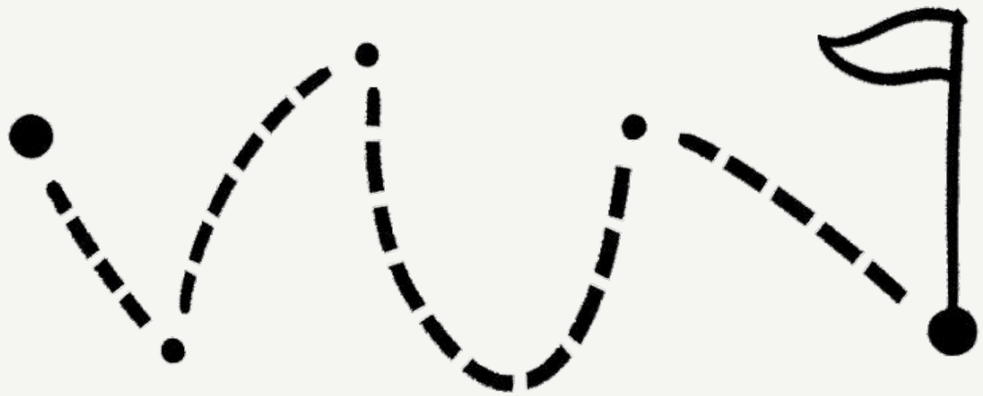
Lauryn Isford May 15

We're responsible for the end *shipped* outcome



“Architecture cannot exist without relationships between people. I see myself more like a composer of an exciting, dynamic orchestra rather than a lone artist in a studio.”

Tadao Ando
2012, *Conversations with Students*



Clean slate to progress

Mental model #5

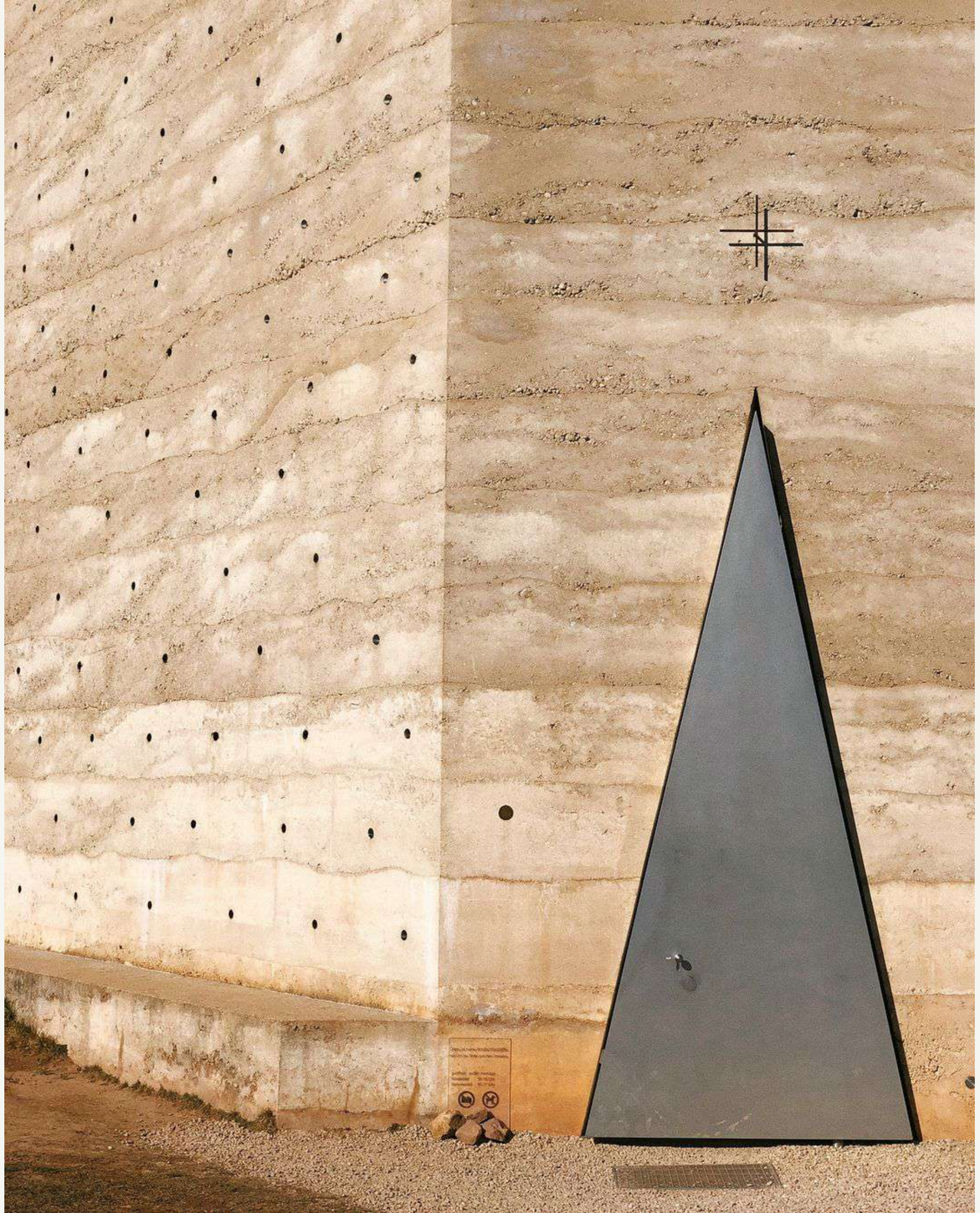
Step away to make progress; seek awesome architecture for inspiration

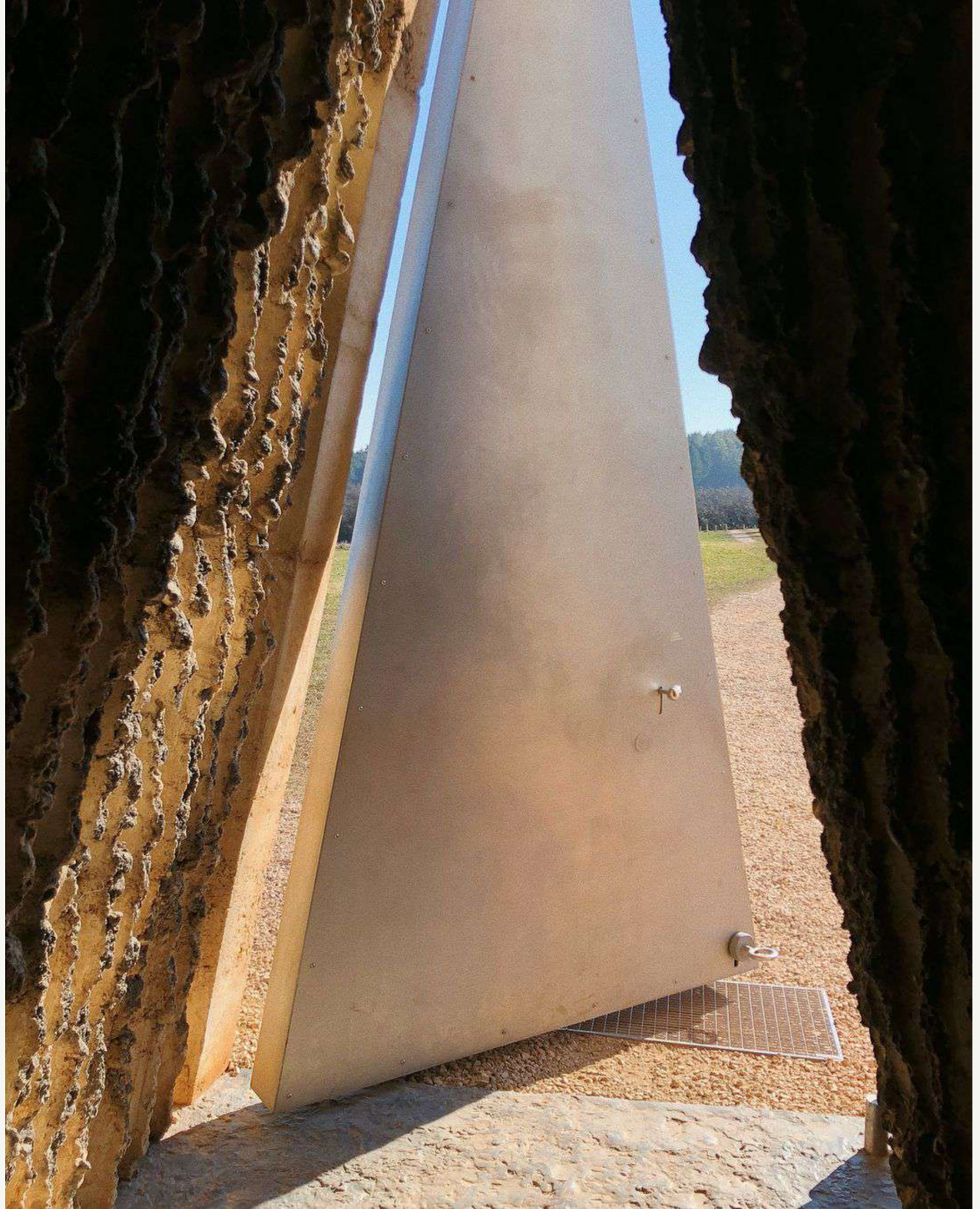
Step away to make progress; seek **awesome** architecture for inspiration

late 16th century
(in the sense ‘filled with awe’)

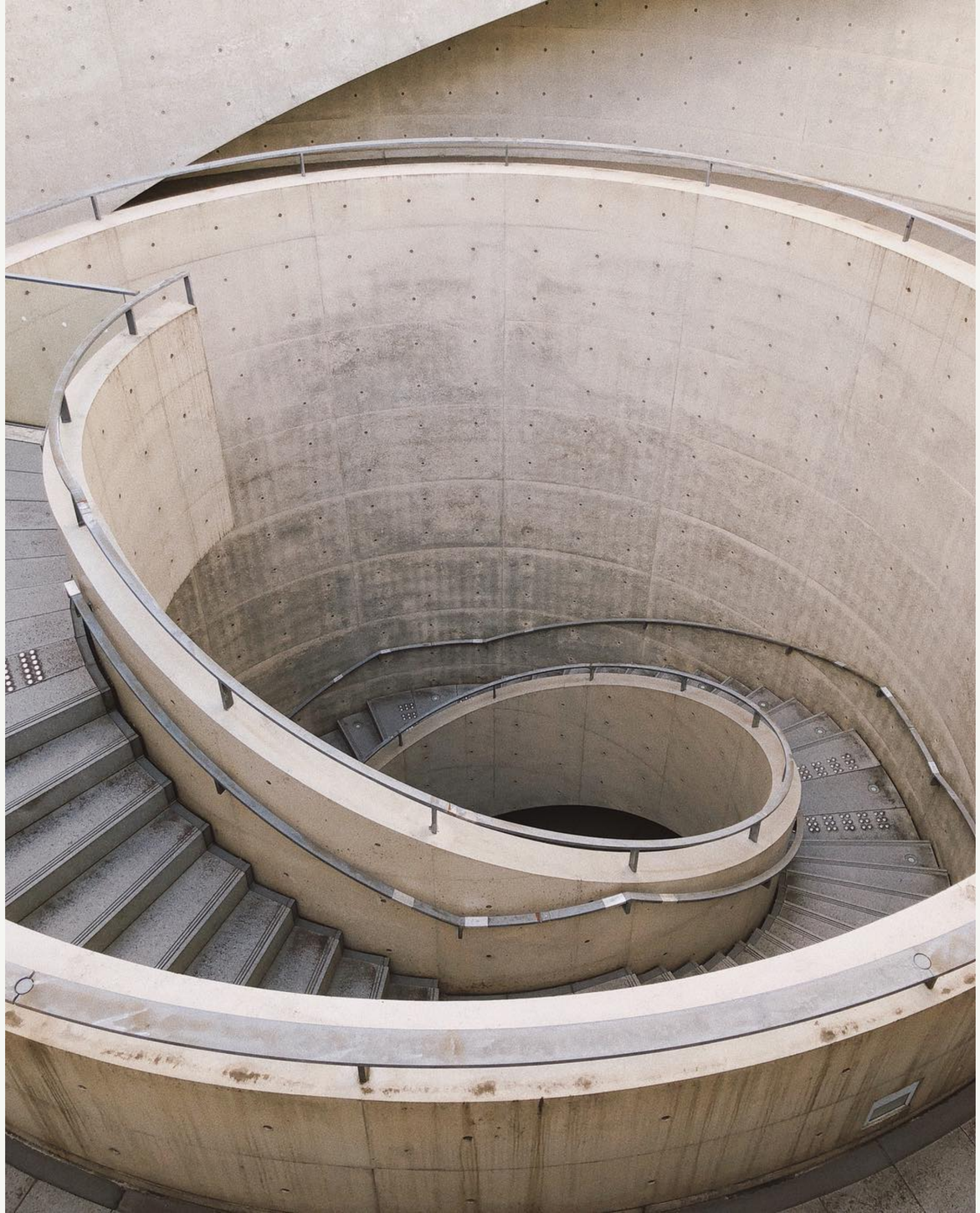
Bruder Klaus Chapel
Germany, Peter Zumthor

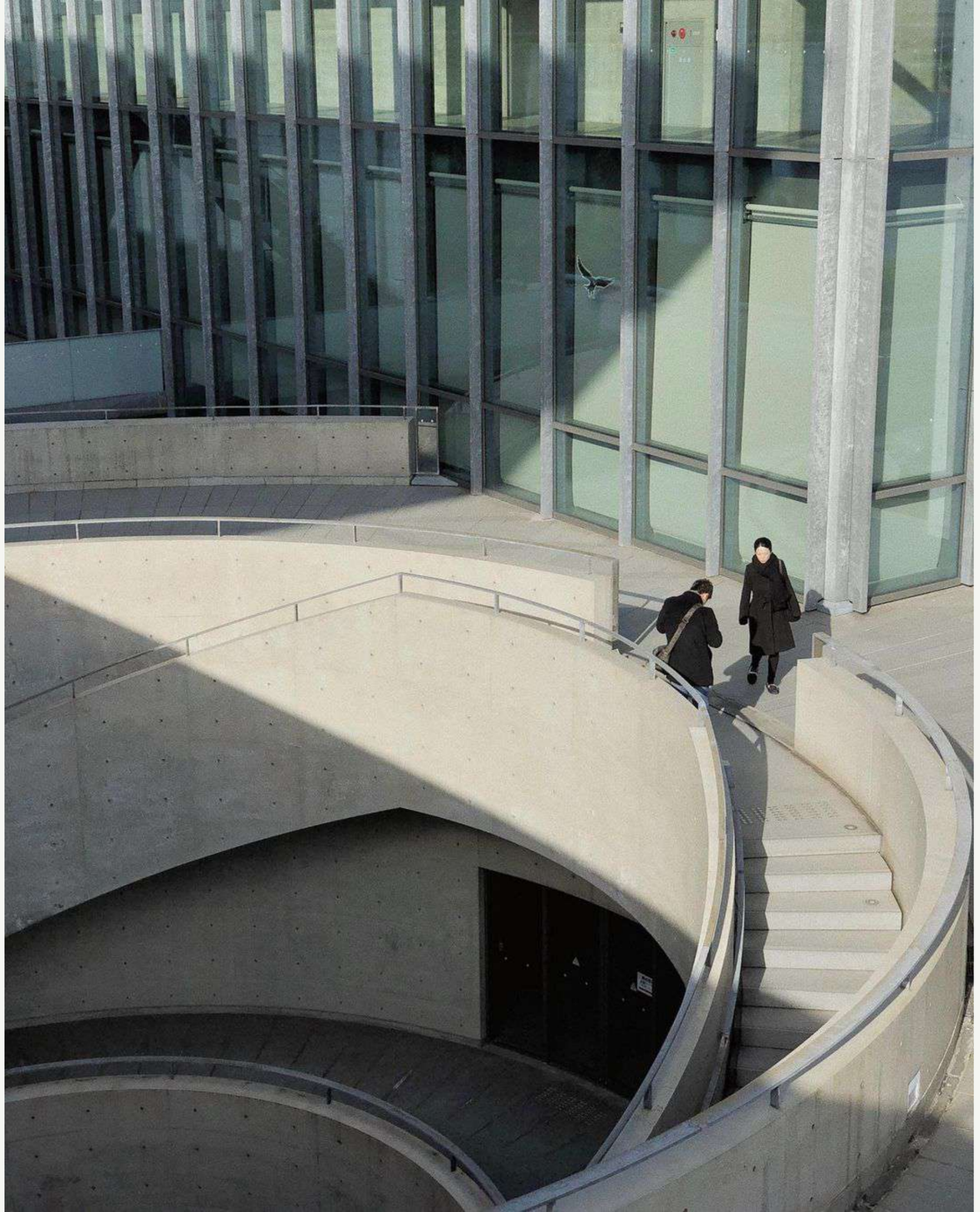
Samuel Ludwig





Hyogo Prefectural Museum
Japan, Tadao Ando

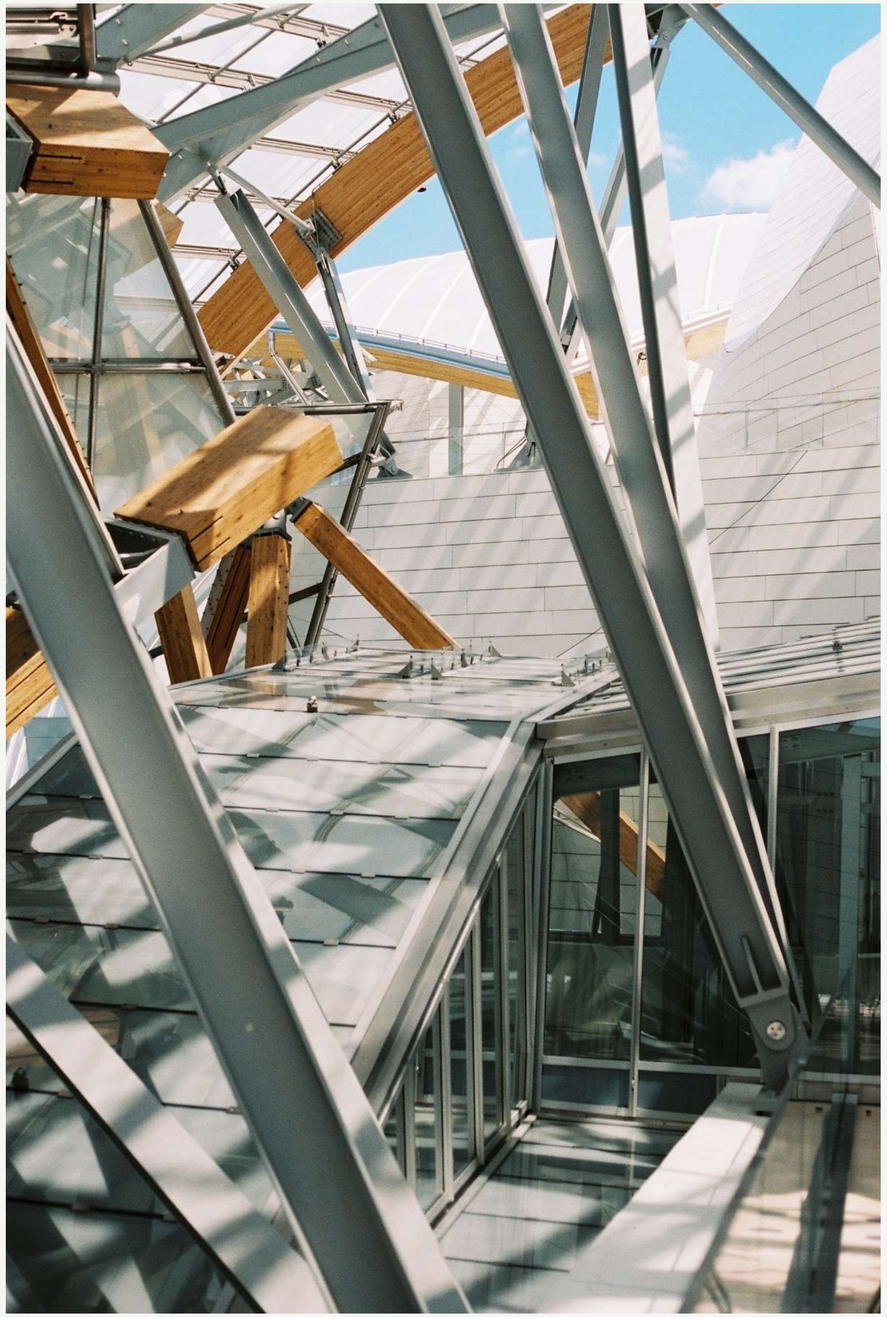




Teshima Art Museum
Japan, SANAA

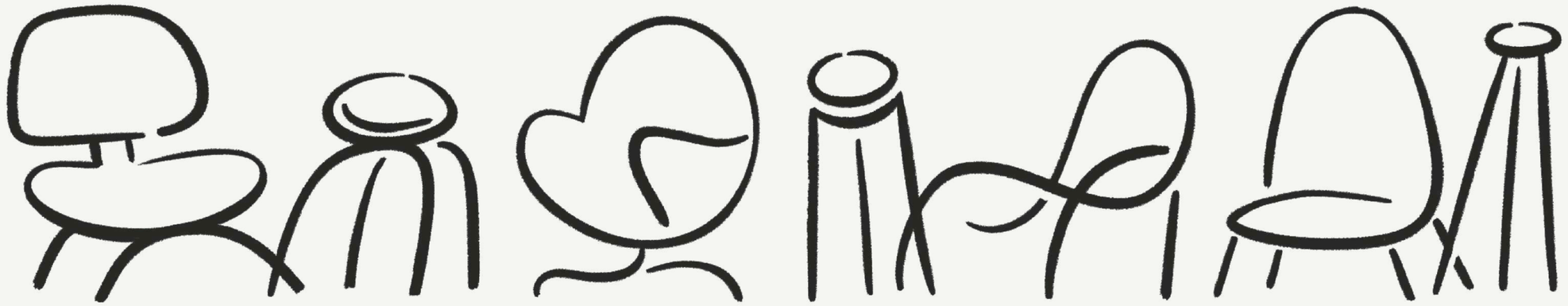
Iwan Baan

Fondation Louis Vuitton
France, Frank Gehry



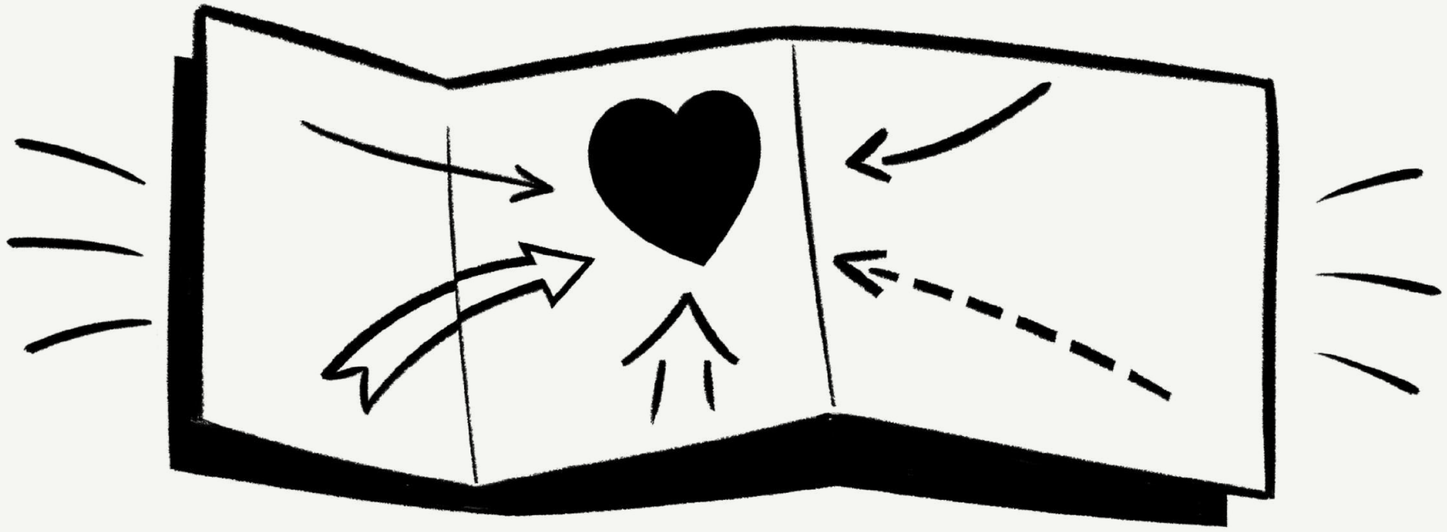
Athlete’s mentality

Mental model #1



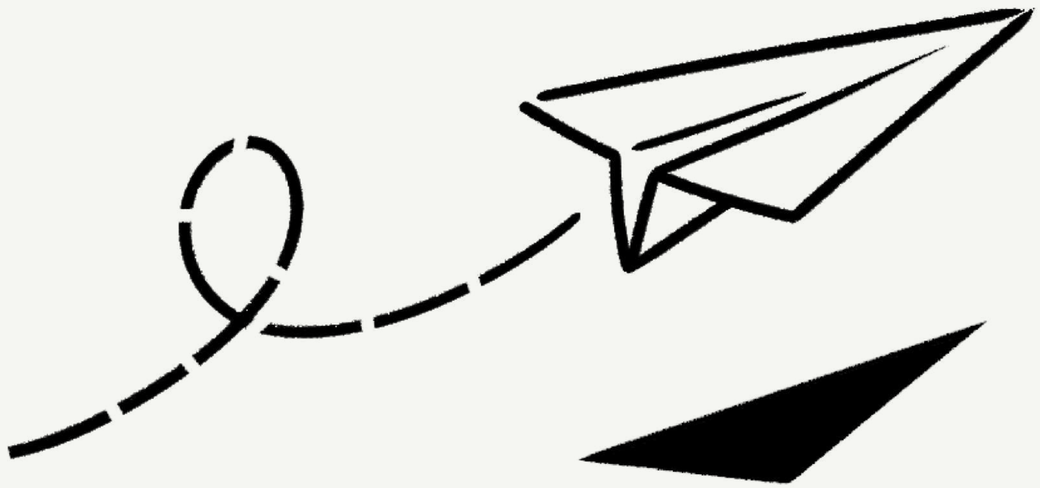
Chair vs city problems

Mental model #2



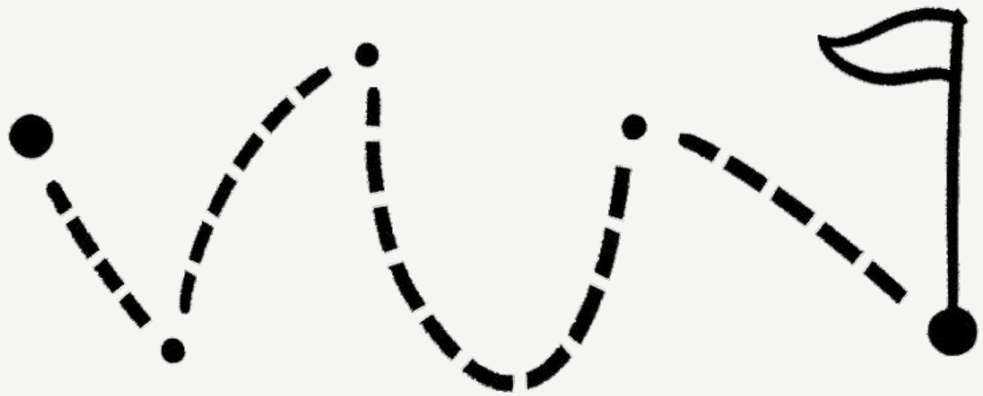
Inputs and intuition

Mental model #3



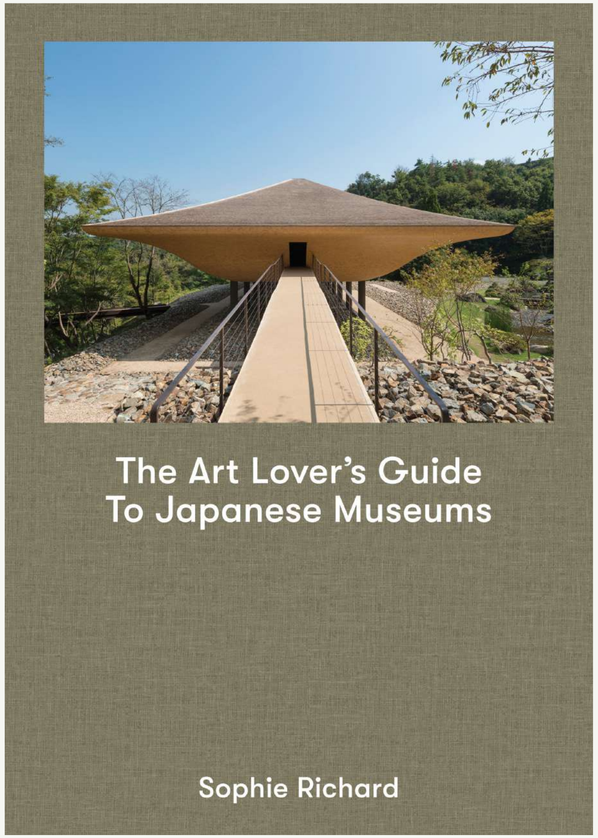
You are what you ship

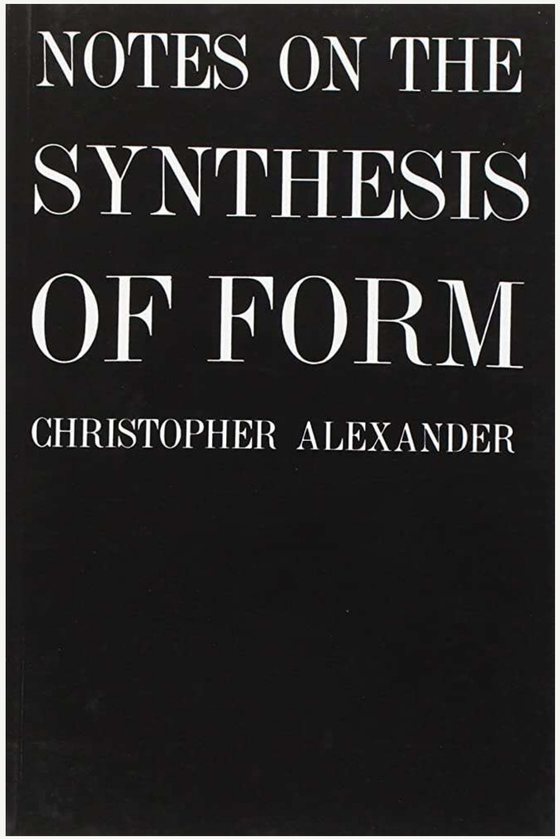
Mental model #4

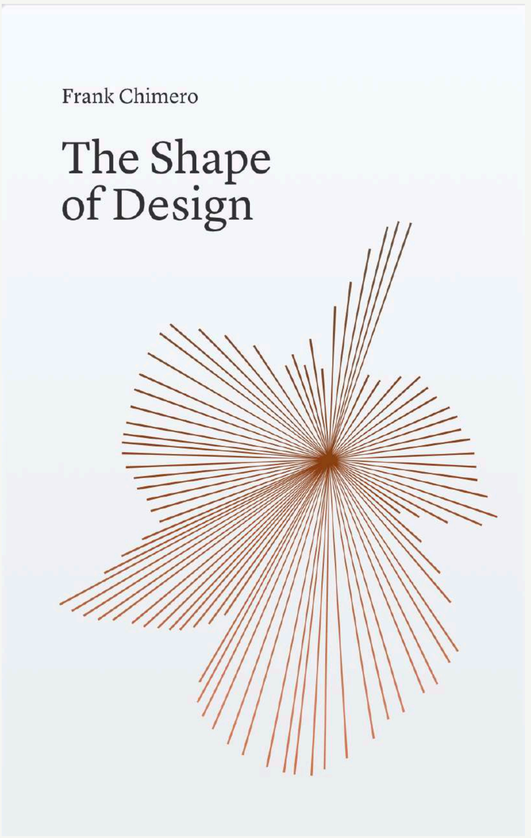


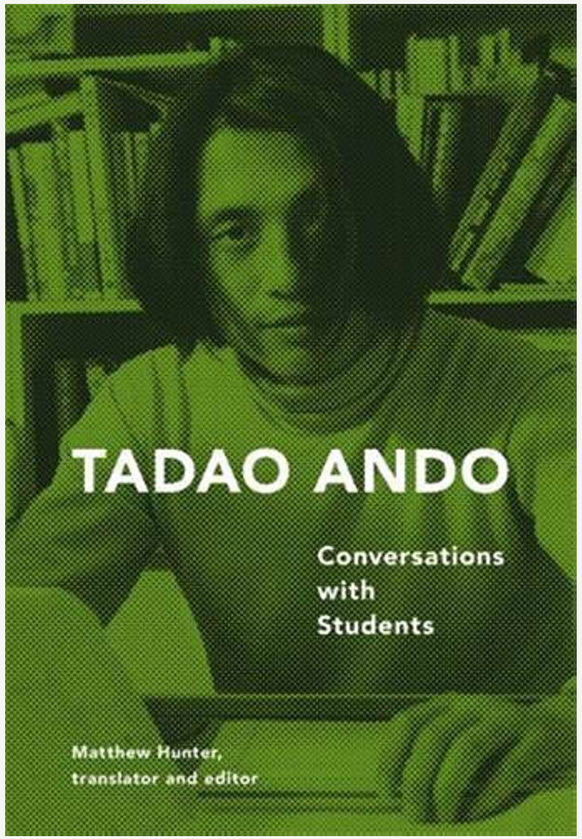
Clean slate to progress

Mental model #5


The Art Lover's Guide
To Japanese Museums
Sophie Richard


NOTES ON THE
SYNTHESIS
OF FORM
CHRISTOPHER ALEXANDER


Frank Chimero
The Shape
of Design


TADAO ANDO
Conversations
with
Students
Matthew Hunter,
translator and editor

Thank you

Andrew Lee • @alhyunsoo
Product Design, Notion