

Next-generation Design Thinking — some comments for the SAP Academic Community

Michael Shanks – Stanford University



Archaeologist, Professor, Stanford University

Faculty Director, Stanford Design Foresight

next-Gen Design Thinking in the Center for Design Research (with Larry Leifer)
— Stanford d.school

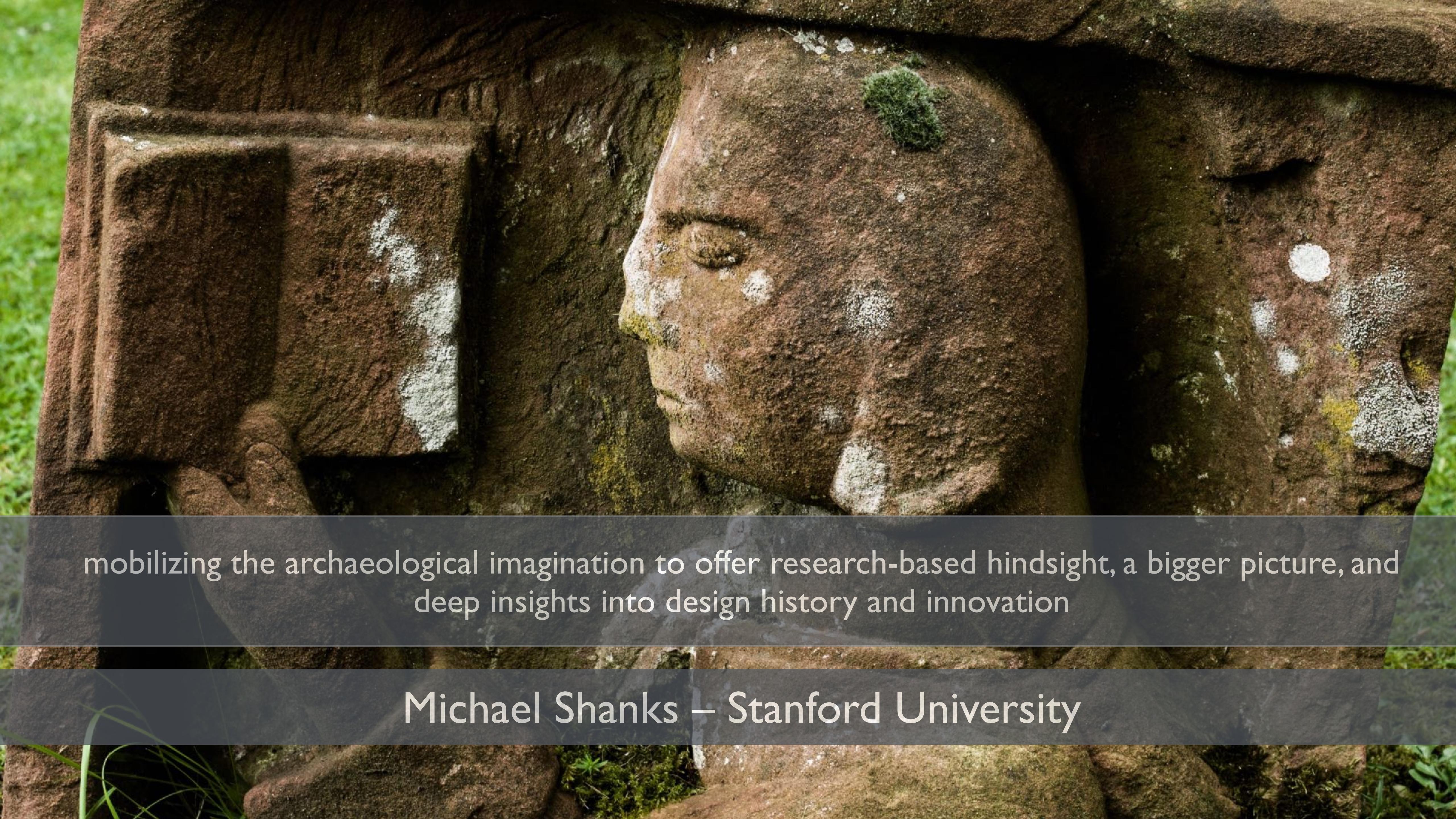
d.global — blended learning in the way of design
—Stanford Continuing Studies



Program in Urban Studies
Program in Science Technology Society
Program in Writing and Rhetoric

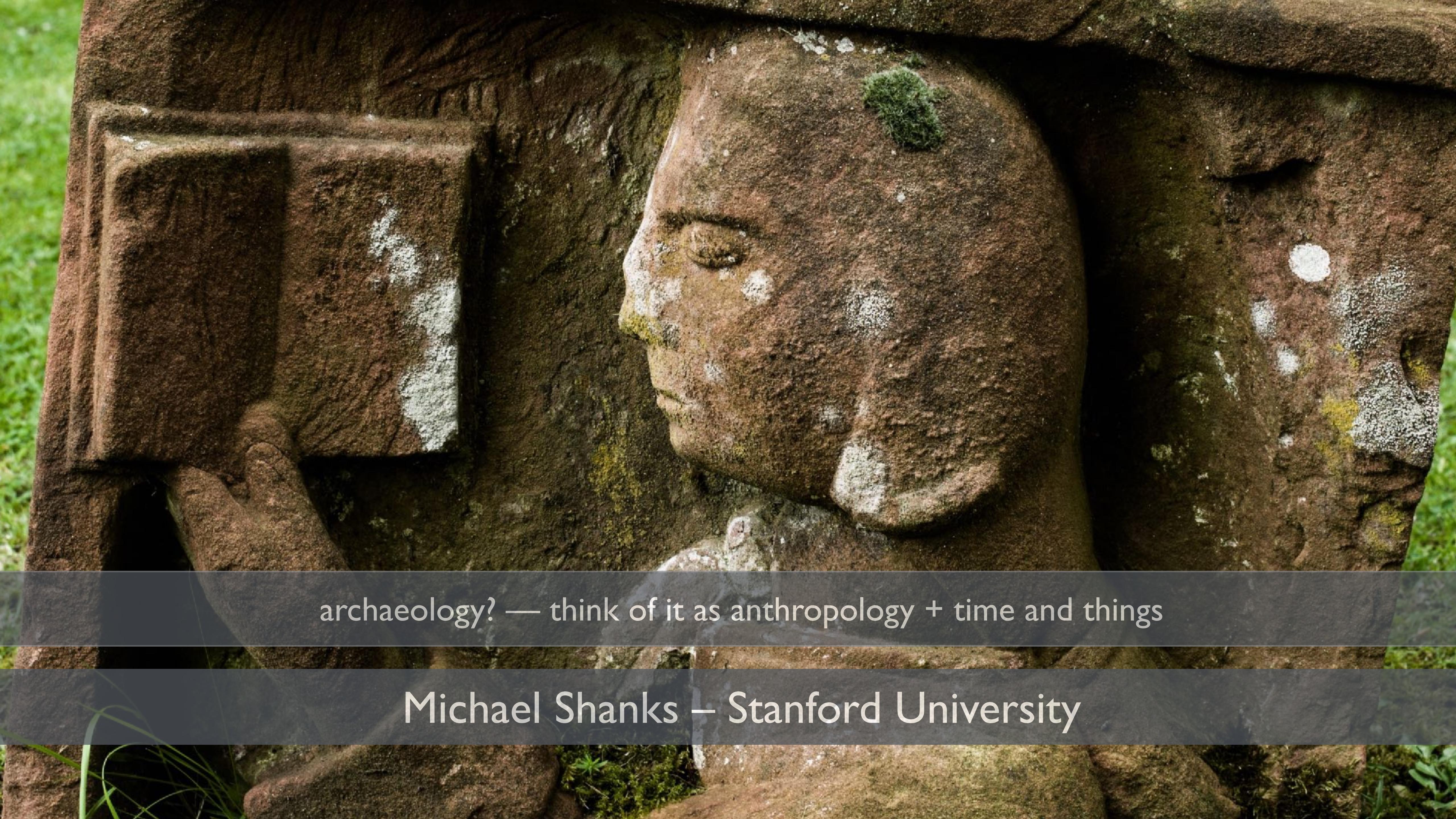
JANUS Initiative — looking back that we might be better prepared for uncertain futures — Business Archaeology

Michael Shanks



mobilizing the archaeological imagination to offer research-based hindsight, a bigger picture, and deep insights into design history and innovation

Michael Shanks – Stanford University



archaeology? — think of it as anthropology + time and things

Michael Shanks – Stanford University



and yes! — I do work in museums and dig up ancient sites

Studio Lab Michael Shanks — Stanford University

some ongoing projects



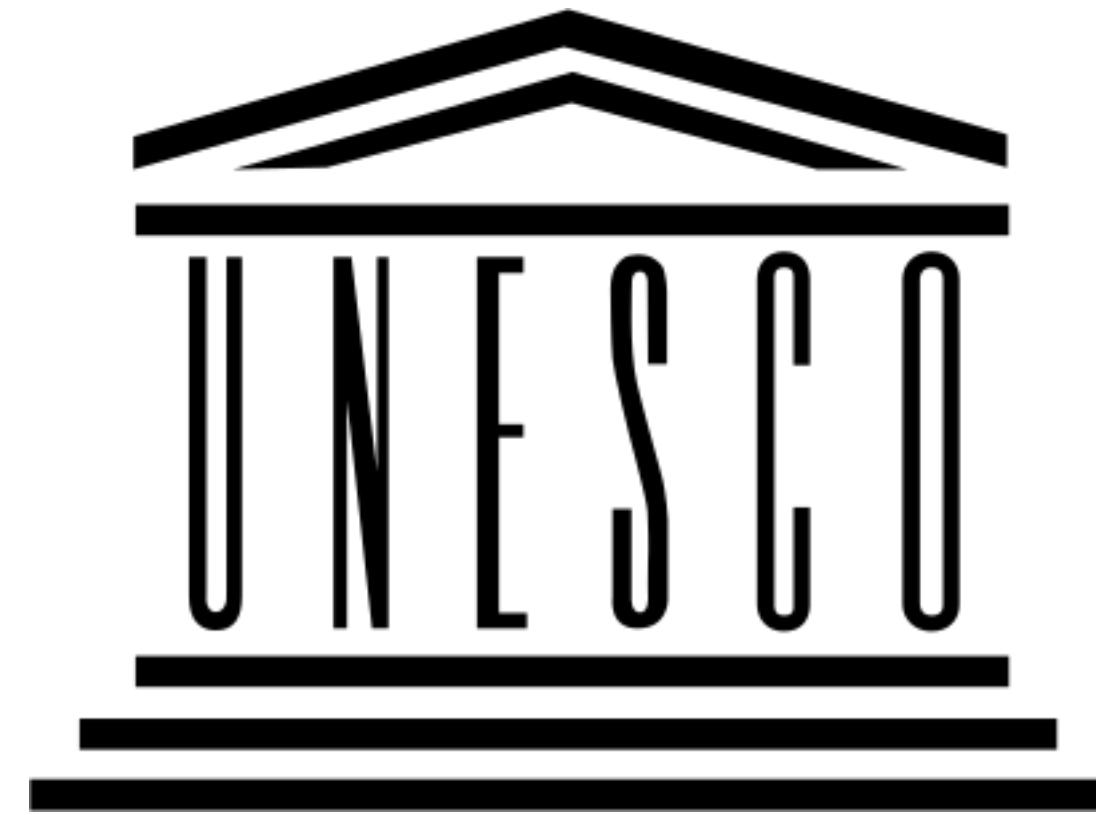
with Kimihiko Iwamura Valley Breeze Consulting

building a Digital Commons
— core human values in learning futures
and business ecosystems



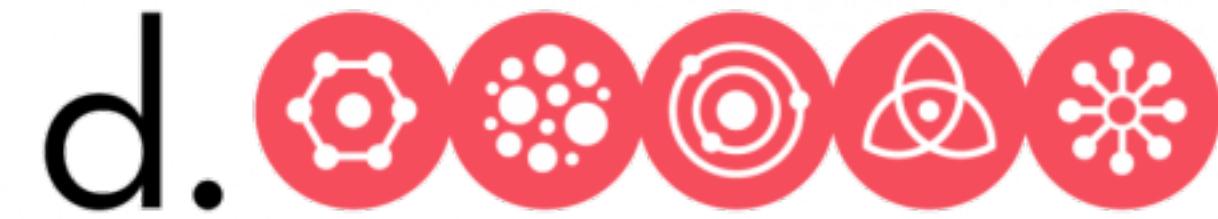
with Kimihiko Iwamura Valley Breeze Consulting

human values in future mobility
— more than tech, more than EV and AV



team leads — Tamara Carleton and Martha Russell

Futures Literacy — decolonizing the future
reframing anticipation through speculative design



HASSO PLATTNER
Institute of Design at Stanford



Digital Engineering · Universität Potsdam

HPDTRP (Hasso Plattner Design Thinking Research Program) —
team lead So Yeon Park

non-verbal performatives in
designing software interactions



JANUS Initiative

team Natalia Pulyavina (Plekhanov Moscow)
Victor Taratukhin (SAP and Muenster)

Chris Ford (Urban Futures — Stanford Center for Design Research)

hind sight informing strategic foresight



Roskilde University

Stanford
ENGINEERING

team leads — Connie Svabo (University Southern Denmark)
Tamara Carleton (Stanford)
Jesper Simonsen (RUC)
Magnus Hansen (RUC)

Creative Pragmatics — a skills-based toolkit for navigating complexity
insights from 50 years of studio-based pedagogy and experiential learning
(project-based learning and Design Thinking)
at Stanford and Roskilde

what is the heart of current concerns?
what do all these projects have in common?

the big picture — if you want to understand innovation

focus on people

not engineering and tech

focus on culture, mindset,
the dynamic processes of organizations and teams
design as project management

of course — Design Thinking is all about people
and our focus tends to be relatively narrow — behavioral psychology, cognitive science,
in human factors, interaction and experience design

expanding the human in human-centered design
— culture and socio-technical systems,
history and memory

security/insecurity and perceiving/assessing risk — precarity
establishing trustworthy information and people
establishing effective collaboration (families, networks, corporations, states)
mobility and reach, migrations and territories, local/global scaling
acknowledging and promoting diversity of every kind

contemporary human experience
— (long-term) insights into our current (COVID) crisis

business as usual seems less of an option now

the limitations of short-term thinking

— the challenge of expanding design-actionable understanding of human experience

what many of us are experiencing for the first time is
the normal in human history

what many of us are experiencing for the first time is the normal in human history

how might we navigate COMPLEXITY and uncertainty
insecurity and who to trust

the limitations of reducing the world to rational deterministic causal relationships

uncertainty and ambiguity are features of complexity, not problems!

the virus is the norm!

complexity



complexity — the case of the Challenger disaster

Newtonian math can get people to the moon
and cannot predict the failure of complex systems

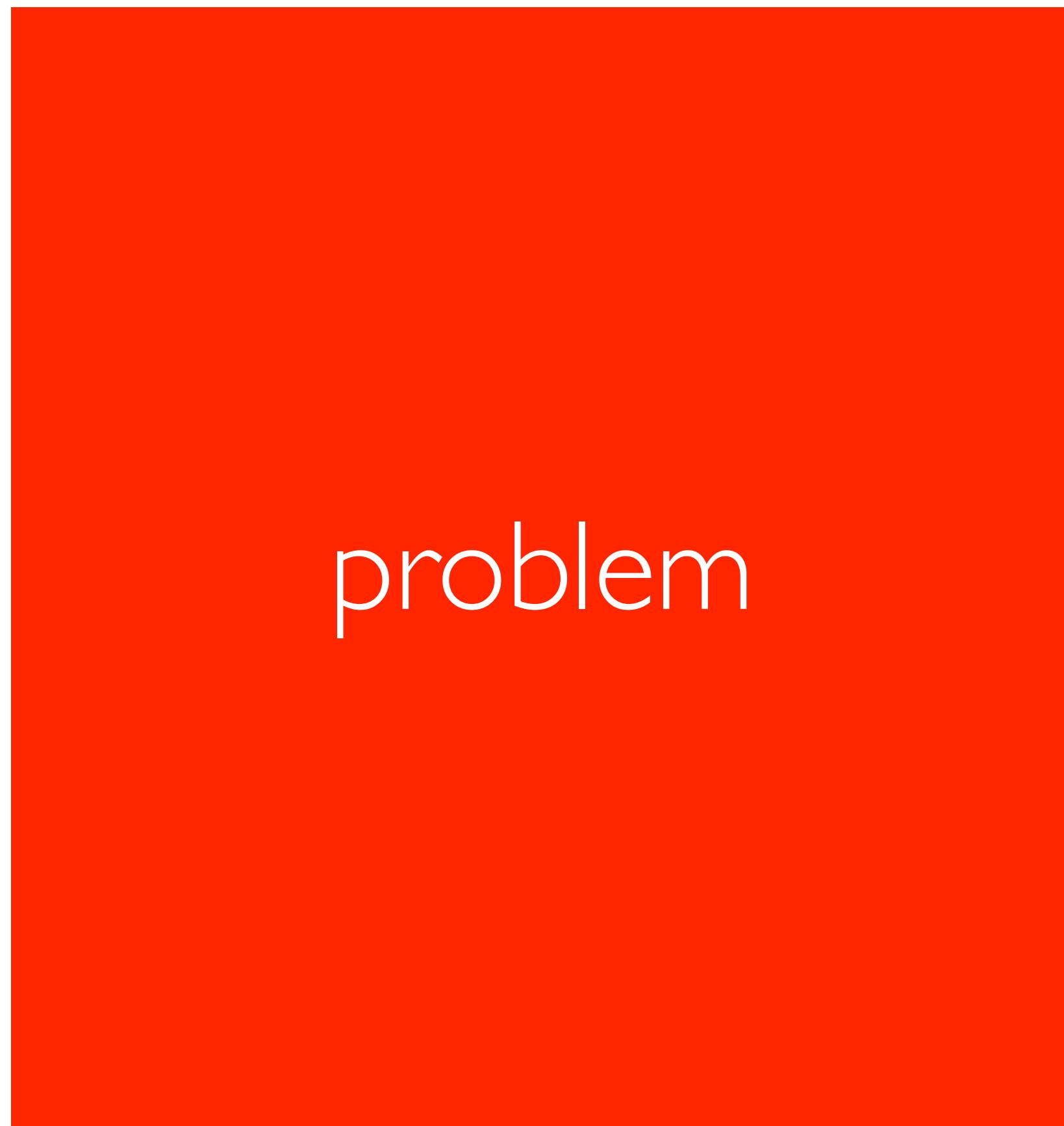
complexity — the case of the Challenger disaster

how might we navigate complexity?

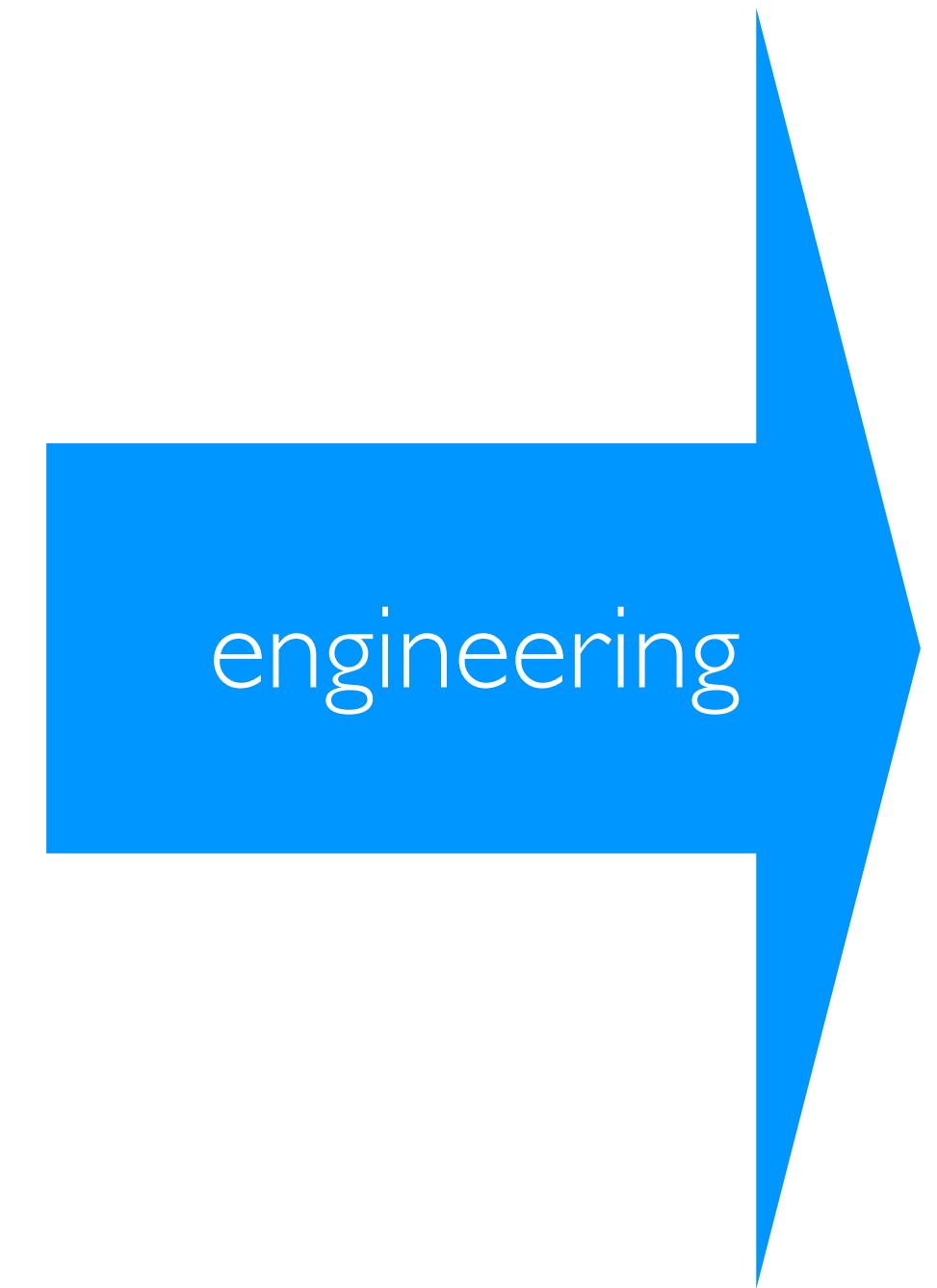
being aware of mindsets is critical

the world treated as a series of problems for which fixes/solutions may be engineered through data capture, information analysis, rationalization, parsing of behavior, application of algorithms involving transparency (sensors everywhere monitoring/mediating everything), quantification, optimization, elimination of ambiguity

the problem of a problem-solution (engineering) mindset
— it will never be enough and will always fail



problem



solution



what's the attitude to the future in this engineering problem-solution mindset?

can we fix it? — yes we can!

a problem-solution mindset has been very successful
— for certain kinds of challenge



common also are the failures of a problem-solution mindset
the Segway assumed the problem of commuter congestion was simple, not complex

creative innovation is *never* primarily about technology

it's about people (well, human lifeworlds treated as complex adaptive systems)

human-centered design/creativity

embrace ambiguity, complexity, uncertainty

all predictions will fail

we need an imagination toolkit for future world building

— Futures Literacy — Creative Pragmatics

— next-generation Design Thinking

the toolkits and mindsets are all round us, and time-served
usually under-realized

Design Thinking and Project-Based Learning - experiential learning
- Dewey, before and after

Science and Technology Studies - how knowledge gets built, engineered, applied
in a pragmatist understanding

a future building toolkit centered on open exploration
of matters undefinable and uncertain

THE DESIGN THINKING PLAYBOOK

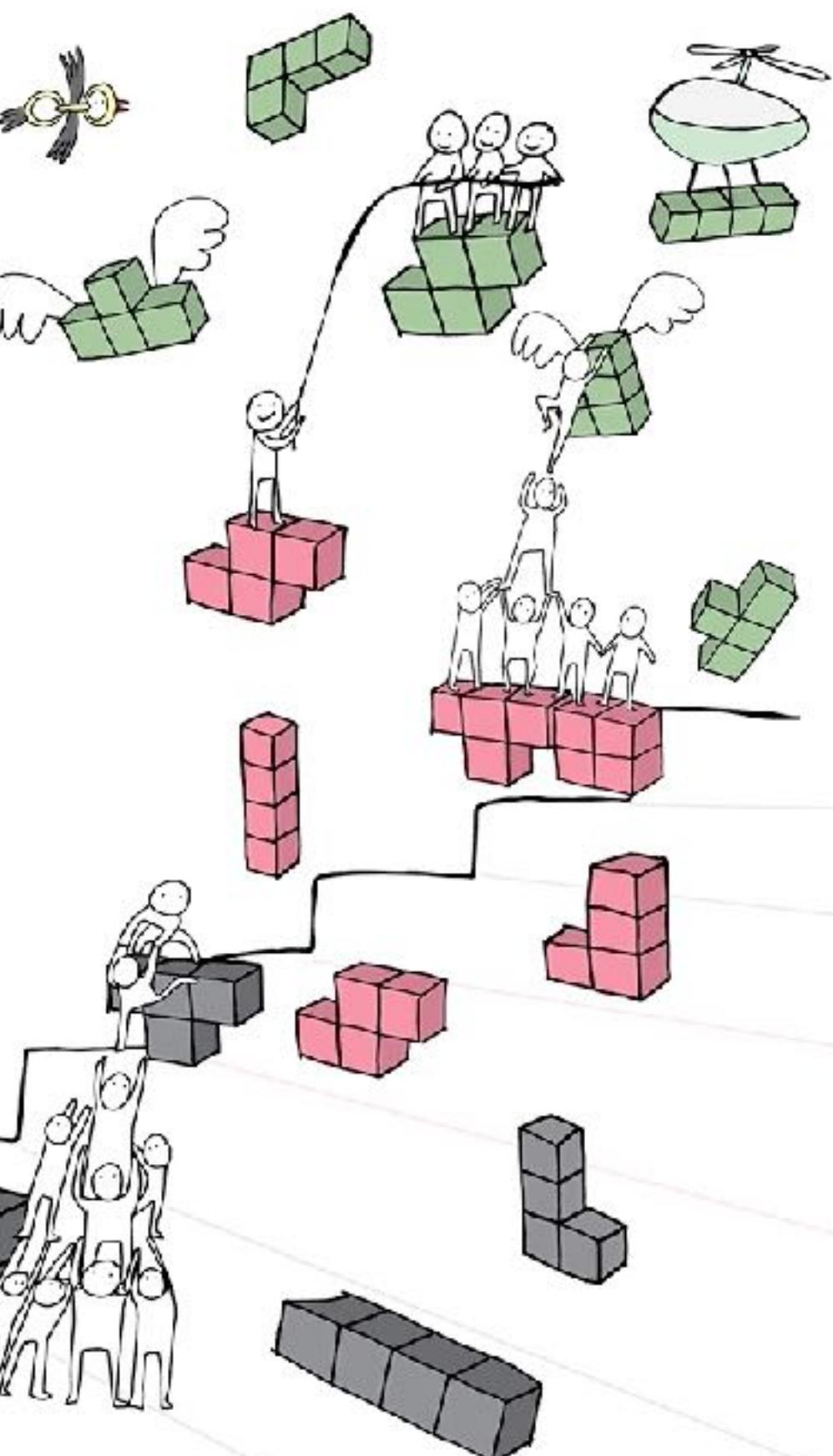
MINDFUL DIGITAL TRANSFORMATION
OF TEAMS, PRODUCTS, SERVICES,
BUSINESSES AND ECOSYSTEMS

BY:

MICHAEL LEWICK PATRICK LINK LARRY LEIFER

DESIGN: NADIA LANGENSAND

WILEY

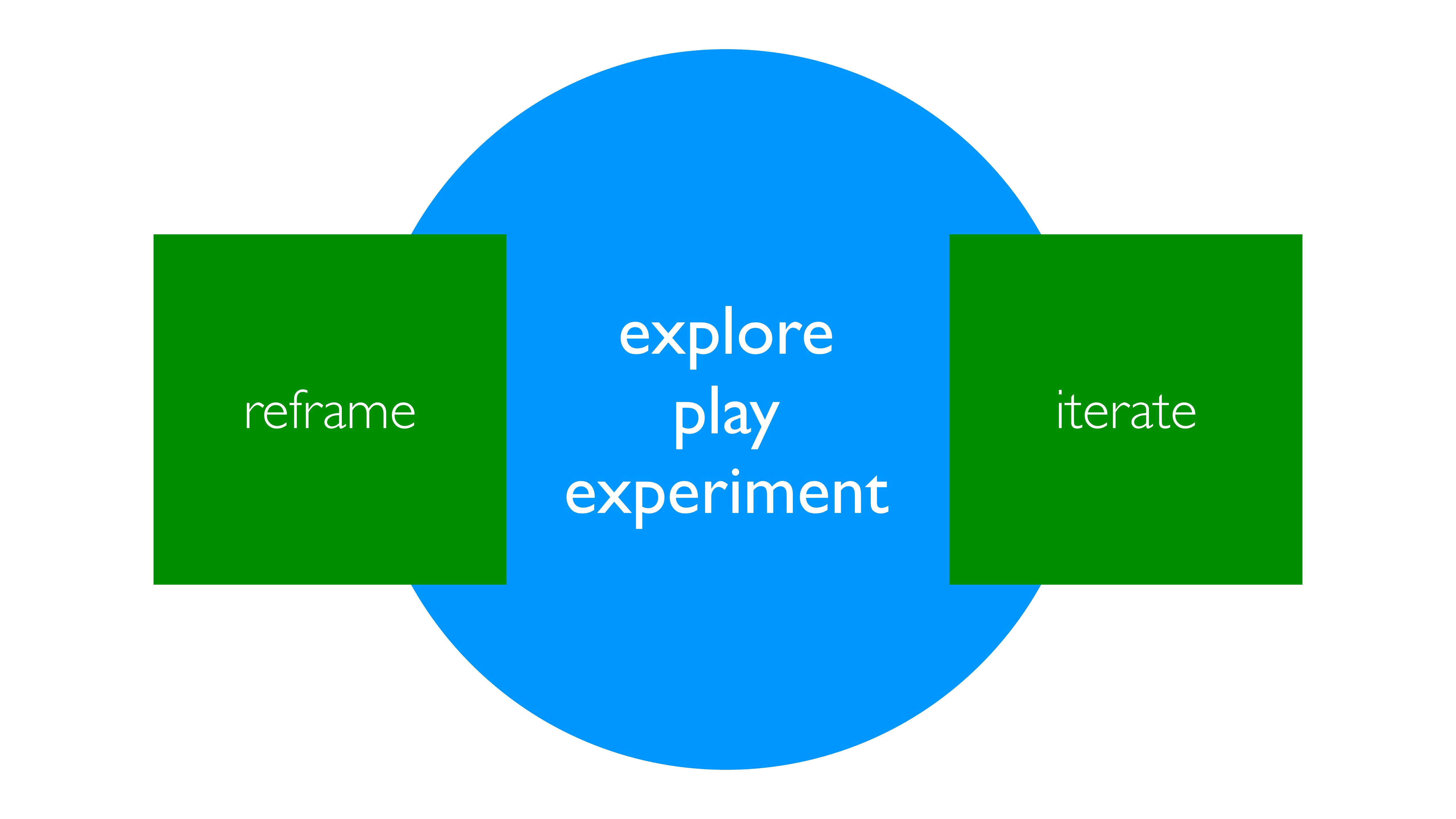


PLAYBOOK FOR STRATEGIC FORESIGHT AND INNOVATION

A hands-on guide for modeling,
designing, and leading your
company's next radical innovation



tools and techniques
from Stanford



explore
play
experiment

reframe

iterate

how might we nourish such a mindset,
build such a toolkit?

a still under-realized methodology

(think of participatory research such as ethnography
think of atelier-based studio-based learning)

practice-based research — research-based practice

convene teams for collaborative co-creation

skeptically scrutinize (research) what happens

— all the projects just mentioned

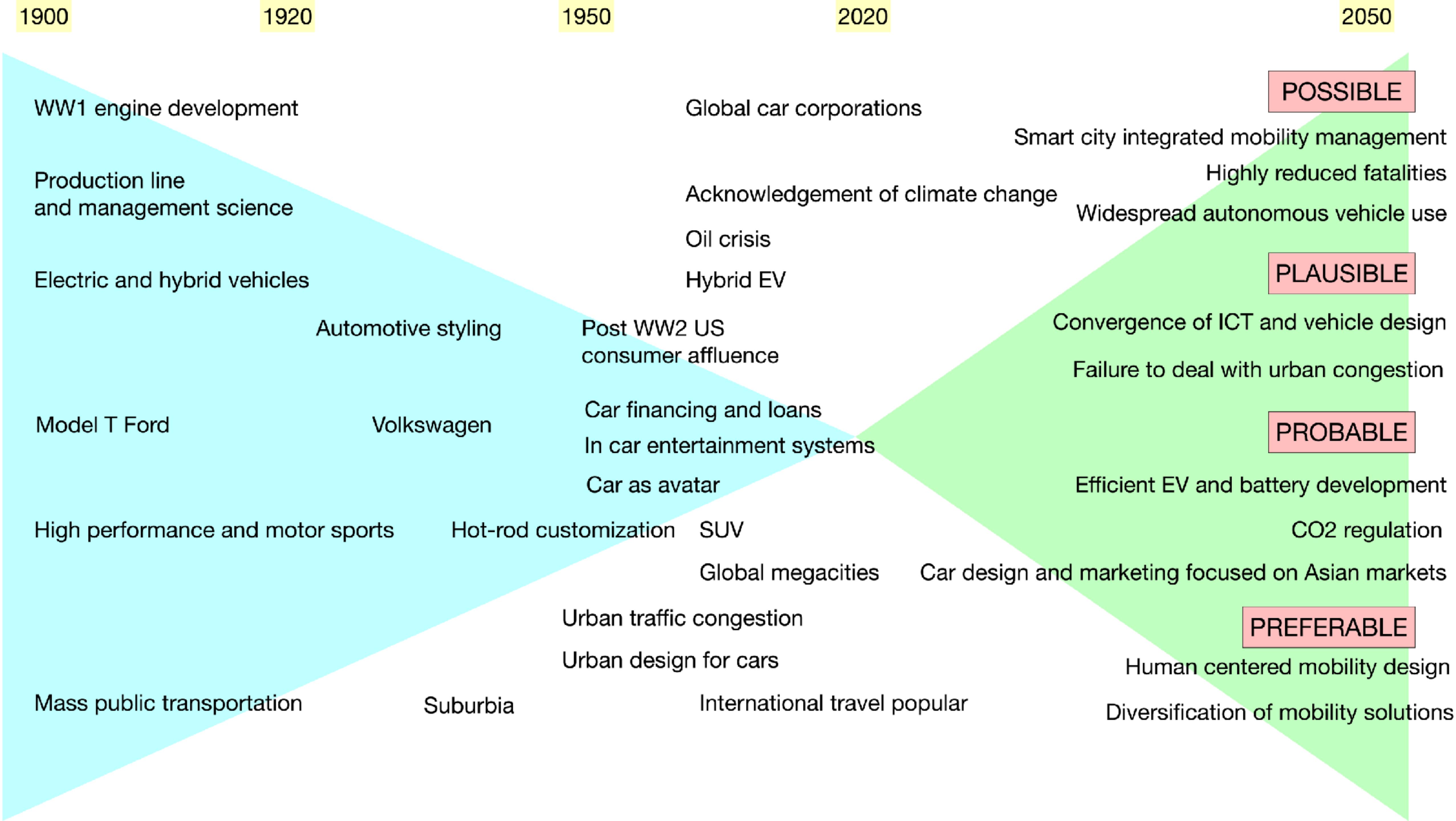
mindful making to learn

case — anticipating the future of mobility

workshops generated two Janus Cone timelines which plot different sets of factors and values associated with mobility

human-centered = focus on culture, experience and values

historical perspectives on mobility values



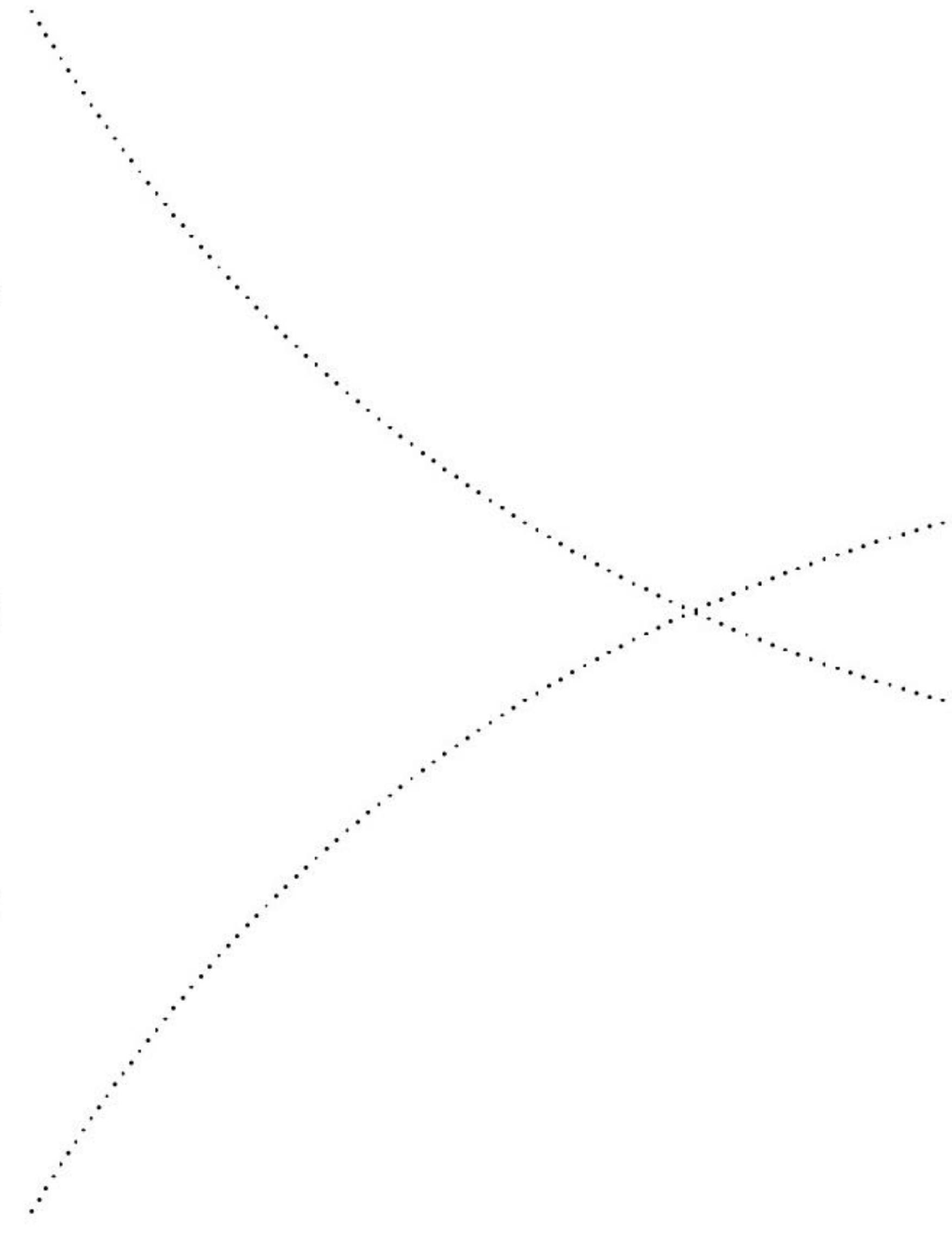
workshop

design studio

corporations
international markets
regulatory environments
labor politics

globalism
popular culture
time space compression
personal autonomy

soul



power train

ownership

autonomy

co-presence
ubiquitous networks
performance
community/society
information & energy flows
cyborgs and robots

ethics/politics

automobility

imagination tool-kits for future worldbuilding

tell future stories — about people



Biophilia ?

next-generation Design Thinking

augmenting the psychology of cognition and affect

augmenting the social psychology of norms, ethics and values

augmenting STEM with socio-cultural socio-technical modeling and speculative design
of complex adaptive systems

researchers tend to try to understand the world
— the point is to change it!