SYNTHESIS • ASU

SHA XIN WEI

PROTOTYPING ALTERNATE SOCIAL FORMS

places : home | street | city

occasions: learning | meal | play

infrastructures: finance | governance | energy

wicked problems

- **<u>Every</u>** representation omits **essential** aspects of situation
  - Divide and conquer makes it worse
    - Solutions become problems
    - Solutions don't generalize
    - Only way to test is *in vivo*
- **We solvers are part of the problem**

Plato's (divided) Republic

✓ Philosophy

✓ Music + dance

perform articulate

~~Poetry: copy of copy of thing; Representational art~~

4

master wicked problem

People with incommensurate values will reasonably disagree on what to do

Adding facts | data unlikely to move the conversation
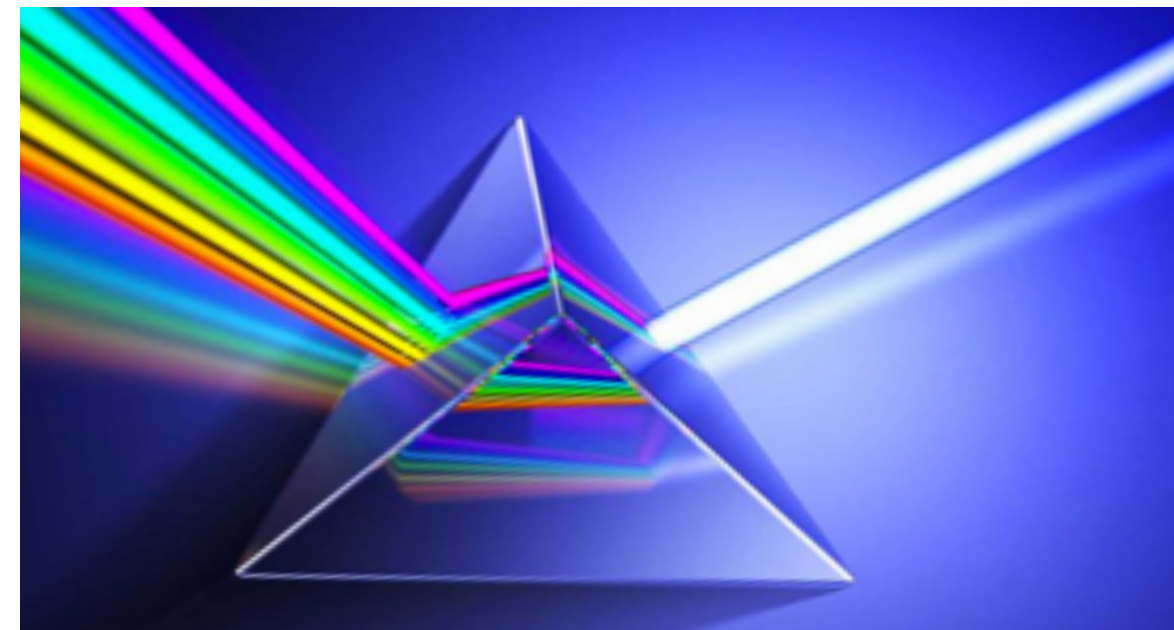
Gary Dirks • Global Futures Lab • Lightworks • ASU

theater

1. Gather polis
2. Articulate condensed dilemma
3. Proposition: re-imagine world
4. Enact re-imagined world

Epidaurus Greece 4th century BCE

synthesis

atelier for transversal research-creation

Arizona State University

approach

~~metaphysics~~ > processual / problematizing* / playful

~~What is human?~~   How to human?

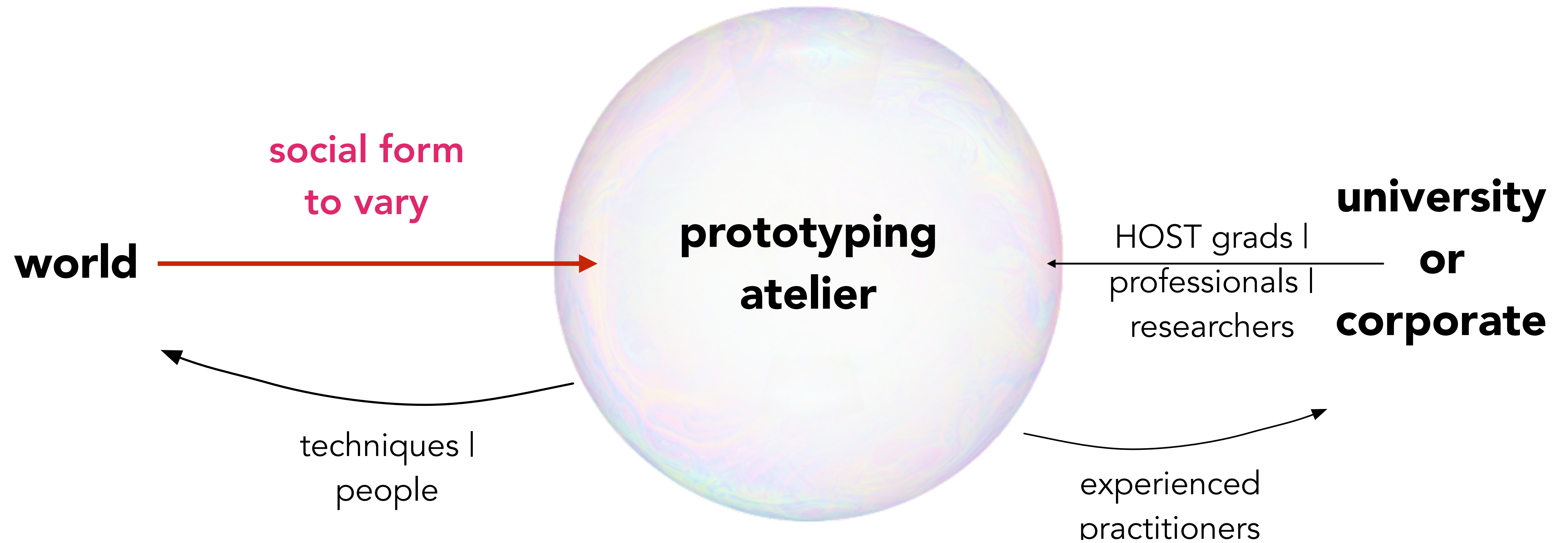~~What is life?~~   How to live?

~~What is definition of X?~~   Making sense

*_~~What is X~~ What are the conditions under which X becomes salient | significant?_

give people tools to vary experience in a reproducible way

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social form
to vary

world

**prototyping
atelier**

HOST grads |
professionals |
researchers

**university
or
corporate**

techniques |
people

experienced
practitioners

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Experimental

Art + Engineering
Philosophy

Makers:

low tech *and* **high tech**

ready-made *and* **custom**

Movement arts

Sound arts

Visual arts

Theater arts

+

Responsive environments

Computational media

Algorithms

Machine learning

Fabrication

Electronics

BUBBLEpop MONTREAL, Topological Media Lab / Concordia University, Hexagram

experimental apparatus (low tech)

Re-orienting perception

Enact and vary scenarios

by stakeholders, and the affected community

scaffolded by expert team of makers,

using minimax & art all the way down

WHO?

    People impacted by proposed change

    Anthropologists, sociologists

    Creators of large-scale cultural events (e.g. [directors] [choreographers])

HOW?

    Discernment: judge ~~people~~ situations & ensemble experience

    Cross disciplines as needed

    Abductive approach: construct protocols and measures as we go

4. **DISSEMINATE** TECHNIQUES, EXAMPLES, PRACTITIONERS

Experiential Studies: Masters + professional programs

Test insights | techniques | practitioners in the "field"

Disseminate **kits***, recipes, experienced people

* e.g. Synthesis Github

examples of
prototyping alternate social forms

Steerable weather / Becoming cloud, B Mechtley M Bukovsky (NCAR), et al. 2015-2018

Ariane Middel / Urban Infrastructures, B Mechtley / Steerable Complex Systems, C Rawls Responsive Environments,
LiKamWa AR & Mobile technologies, Sha Xin Wei • http://sensableheatscapes.com , Synthesis + AME, Spring 2019

Example: Participatory Steering of Complex Systems

proposition: Group articulation of understanding and intent, blending steerable simulations in realtime with whole-body interaction, dense media, poetic media and live-performance realizing that which cannot be modeled.

field studies: energy, geography, sustainability, urban planning, building and systems engineering, computer science, decision engineering, experimental performance, computational media, service design, experimental philosophy & humanities

constituents: national agencies, regional planners, citizens

sponsors: foundations, insurance, energy, finance, international development NGO's, USAID, NSF, UNESCO

- Synthesis: International Lifescale Prototyping Workshop (Middel, Mechtley, Sha)
- CECAN: New Approaches to the Participatory Steering and Evaluation of Complex Adaptive Systems
  (Penn, Smaigl, Cullen, Siguieras, Sha, Mechtley,)
- Embodied / immersive steering of dense complex systems like weather physics or ocean dynamics
- Place and Atmosphere stream.
- Multi-scale rhythmanalysis, media, gestures, cities
- Individuation, Emergence, Ontogenesis

Videos of events and techniques:
- https://vimeo.com/manage/albums/4403056
- https://vimeo.com/synthesiscenter/openhousefall2018
- https://vimeo.com/synthesiscenter/slsa

prototype alternate **places**

Musée des arts et métiers
St-Martin-des-Champs Priory Paris 1135

Synthesis Time Lenses: Palimpsest, Dec 2016
Stein, Khintirian, Ingalls, Sha / Synthesis,
at Les corps dessinant • EsPAS/ACTE/CNRS

synthesis : prototyping social forms   arts media + engineering   asu.edu

Cloud Nursery
Desiree Foerster, Nima Navab, Thierry Dumont
Experiential Models of the Atmosphere

Synthesis furniture, textiles, lamps …everyday spaces as lifescale experimental apparatus animated by responsive computational media

Walton Alternative Health dinner, iStage, Leslie Smith, Pete Weisman, Connor Rawls, Brandon Mechtley, Seth Thorn, Megan Patzem

transversal cafes

Mated objects / Ecology of things, Synthesis: Lyu Yanjun, Leslie L. Smith, Assegid Kidane, Christy Spackman, Sha Xin Wei 2018-2019

Example: Global Cafe

proposition: Augmenting social dining / refreshment. Mediating across cultures via ceremonies of food, drink. Varying the theater l choreography of furniture, cuisine, ambient media conditioning etiquettes and habits.

field studies: interior design, industrial design, mechatronics, computational media, responsive environments, comparative anthropology, culinary arts, experimental performance, affect studies…

constituents: small business entrepreneurs, cities, citizens

sponsors: NSF (SCC, CISE,), DoE, furniture design, interior design, food service companies

synthesis
atelier for transversal research-creation
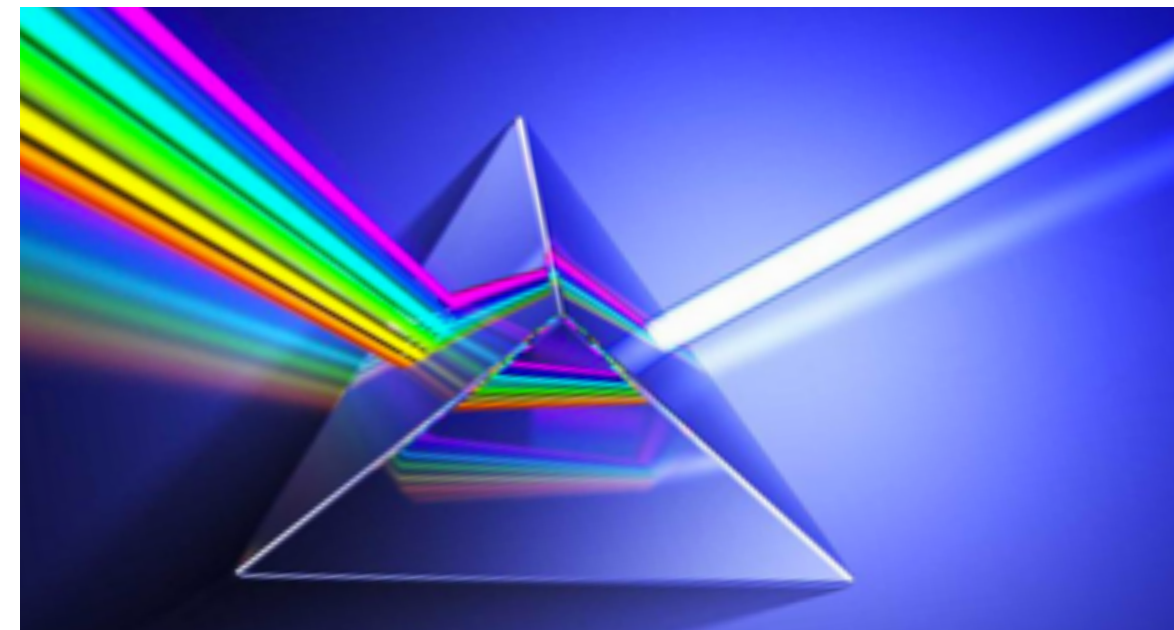
Arizona State University

streams and techniques

expressive active materials
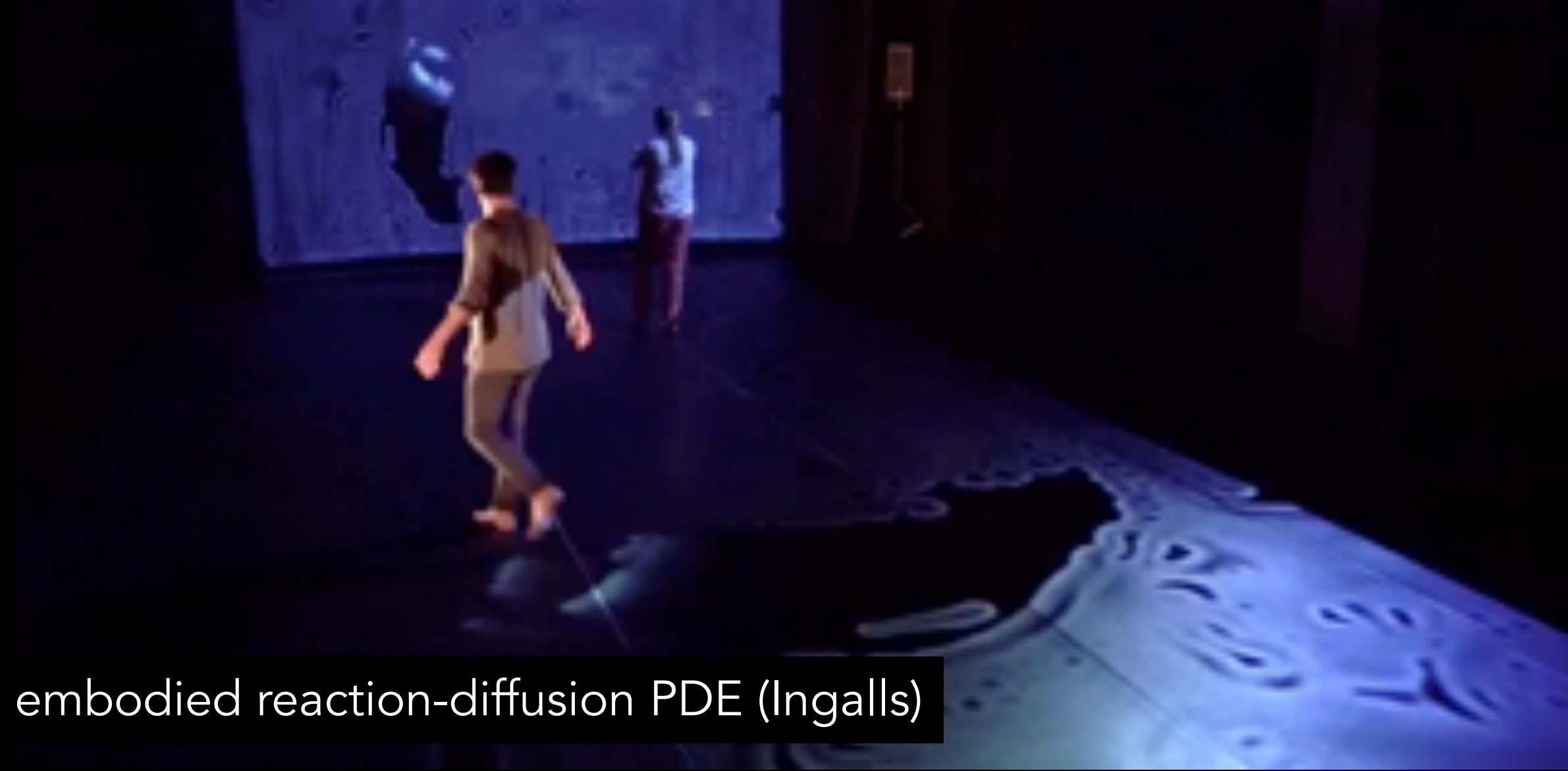
embodied reaction-diffusion PDE (Ingalls)

relational movement —-> phase change

sonic textile weaving (TML, XS Labs; IDMil McGill)

acoustic enchantment

making temporality: sense of time

Horizontal Smooth Gradient

Synthesis, C Rawls, et al

gestural instruments

Halley Willcox, Movement
Seth Thorn, Sound & Sensing

Synthesis Center iStage
Arizona State University

Movement Etude,for Wrist Sensor, Seth Thorn 2019, with Halley Willcox

vegetal movement, non-anthropocentric life

Synthesis: Serra Vegetal Movement study Dec 2015
Oana Suteu Khintirian, LGinette aurin, Ingalls, Stein, Sha, O Vertigo Montréal + Synthesis ASU

material computation

Cloud Nursery

Desiree Foerster, Nima Navab, Thierry Dumont

Experiential Models of the Atmosphere

Chomaz, LADHYX Polytechnique, France

Modalys nodal matter
Emiddio Vasquez, Brandon Mechtley, Synthesis

rhythmanalysis

Lanterns apparatus, rhythmic entrainment of ensembles, Garrett L Johnson, Synthesis, Britta J Peterson, 2017

animated light-field, non-anthropocentric rhythm

continuous state evolution

State Engine
Brandon Mechtley
Experiential Models of the Atmosphere

http://synthesiscenter.net/projects/ema/ AR manipulables, (Brandon, Robert, Connor, Jona Joe)
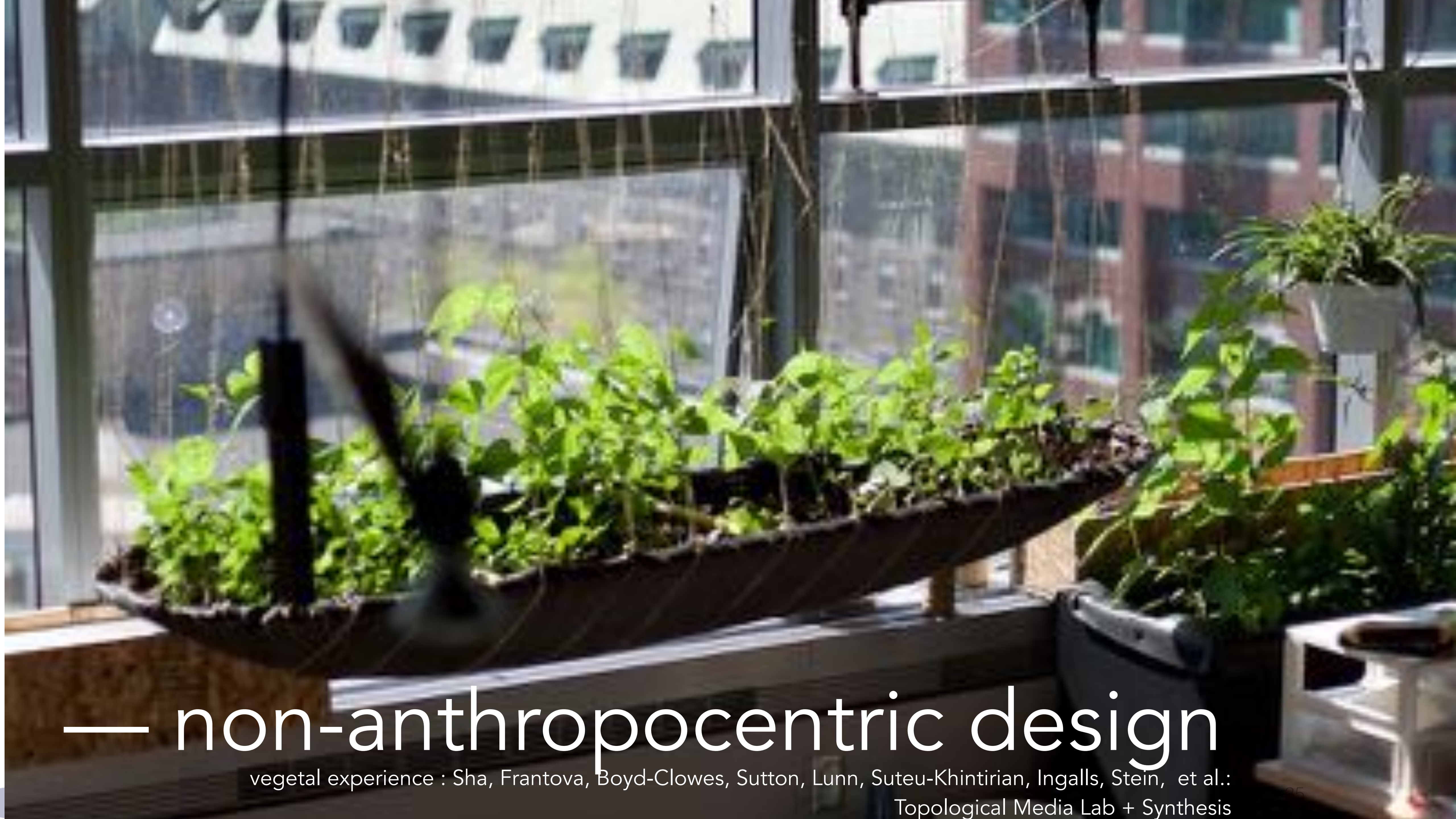
— non-anthropocentric design

vegetal experience : Sha, Frantova, Boyd-Clowes, Sutton, Lunn, Suteu-Khintirian, Ingalls, Stein, et al.:
Topological Media Lab + Synthesis

improvisational events

in responsive environments

improvisational environments

TML + Alkemie, Hexagram Blackbox, April 2013

poetic-material translation | play virtual

PLAY > GAME' VIRTUAL > POTENTIAL + ACTIAL

improvisatory events / responsive environments

sc environment continuously evolving two days SLSA, iStage ASU, Nov 2017
Julian Stein, Connor Rawls, Brandon Mechtley, Todd Infgalls, Ben Nandin, Pete Weisman + Synthesis + AME Tech Team + students

~~represent~~ > articulate

~~representational~~ >
performative, enactive

value-producing social activity

Value, relative to (social x conceptual x environmental) ecology

~~making categories~~ / ~~schema~~

sense-making process x experience

mechanical economics

- Transactions
- Discrete entities, actions
- A priori entities

play / improvisation

- **Make believe**

- **Indeterminate** (Kauffman's hammer)

- **Nuance**: arbitrarily fine variation can have boundless effect

- **Rare events** can have significant effect (mutation!)

- **Extended criticality** (Longo, Montevil) and **metastability** (Simondon)

play / improvisation

- Significance | meaning is **relational**

- **Meaning of signal is its response**

- **Distinctions** between signal | substrate is **conventional**

- Construction of observable renders all other aspects of experience invisible

- Peter Brook: Theater is the art of *making the invisible visible*

nudging, navigating

Participatory steering

prototyping complex biosocial systems

modes of articulation
  graph ≠ radio | gas

ontogenesis, play ≠ game

lightgames prototyping alter-eco's

no a priori agent | superposition | thick field | nuance