



# Science and Imagination

## A Blueprint for Better Futures

Ed Finn

**Inspiring  
collective  
imagination  
for a better future.**

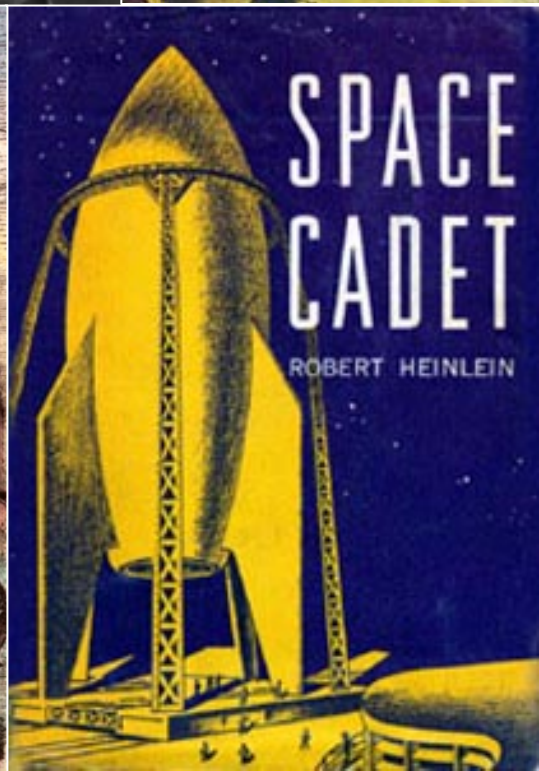
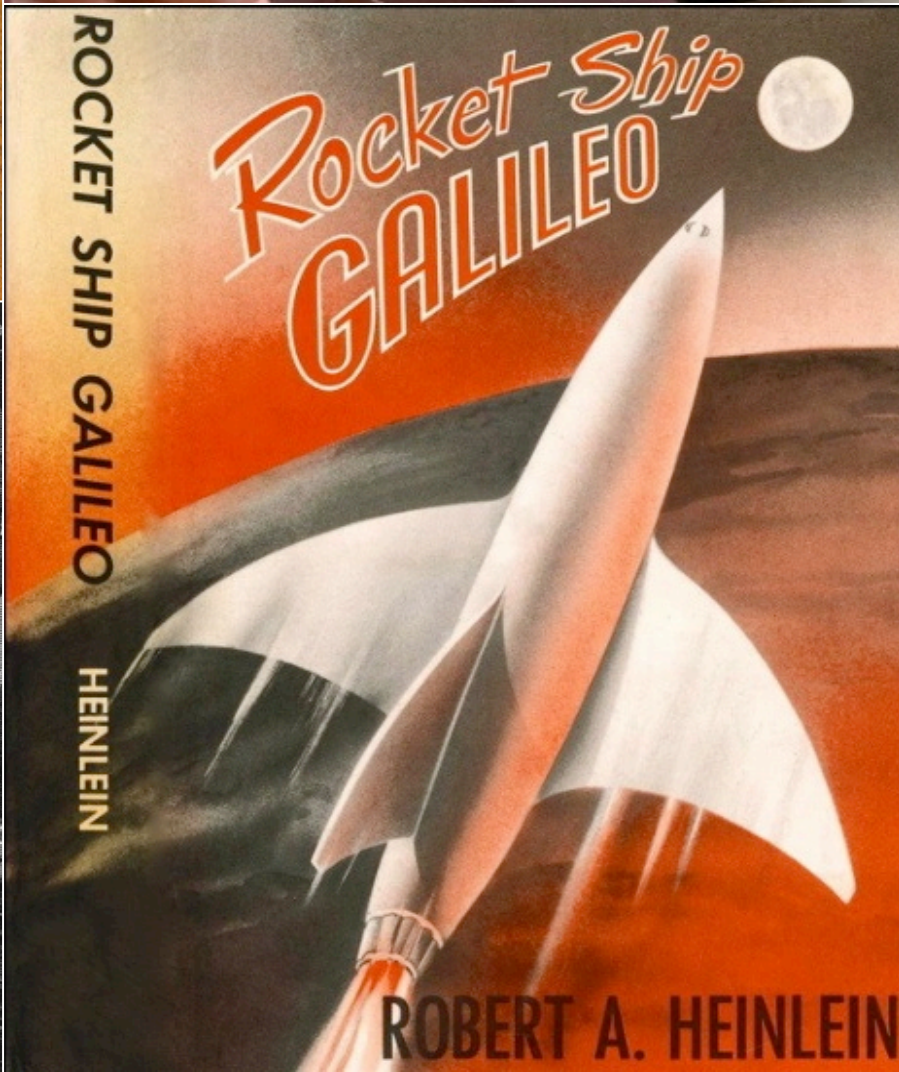
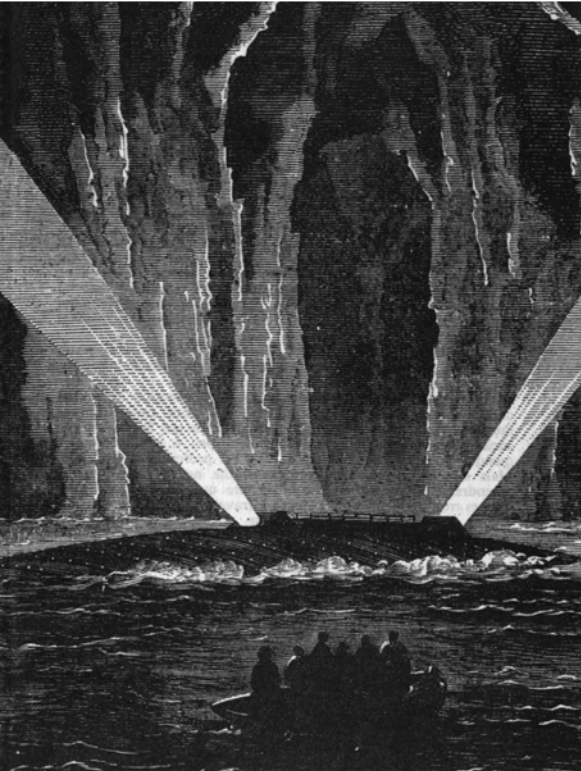
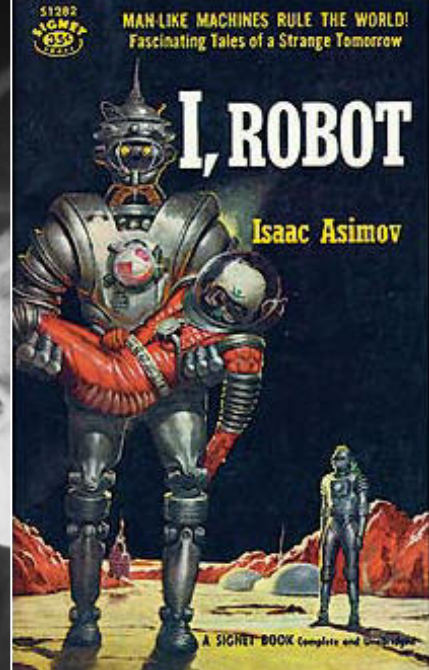
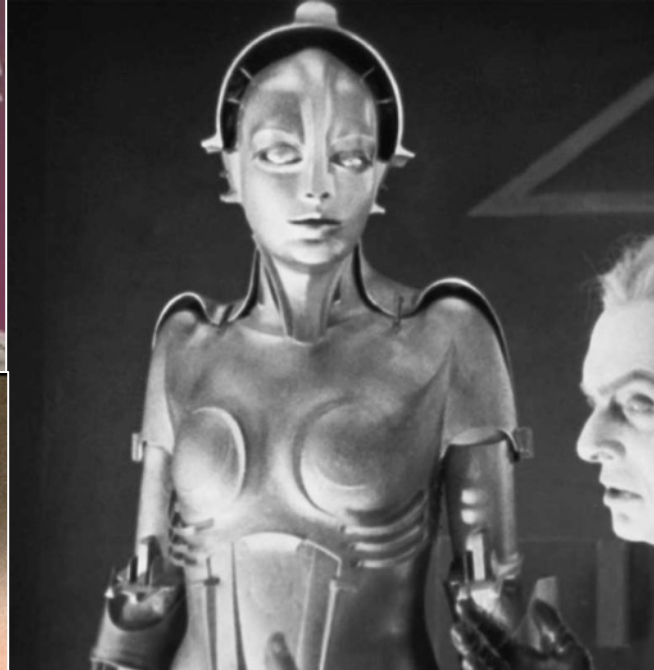


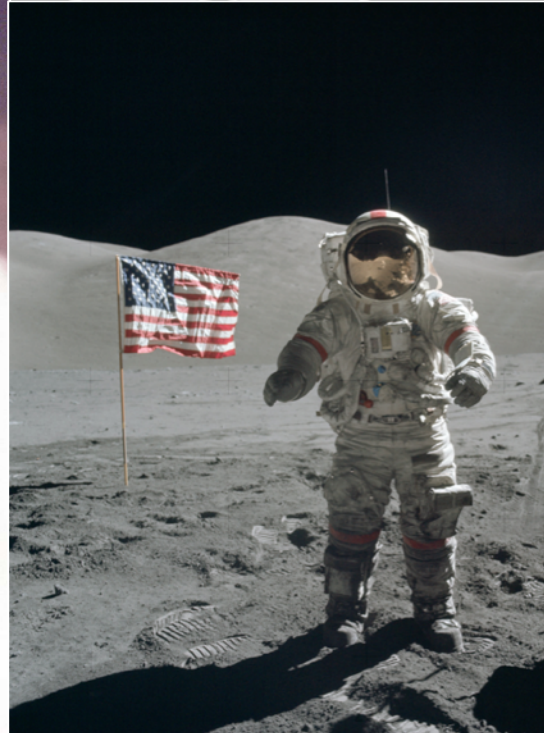
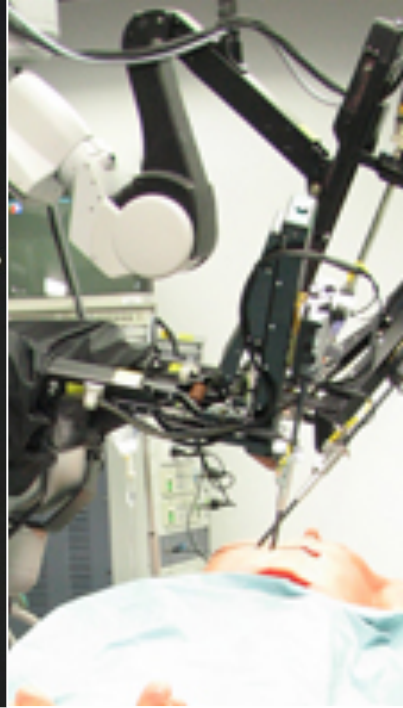
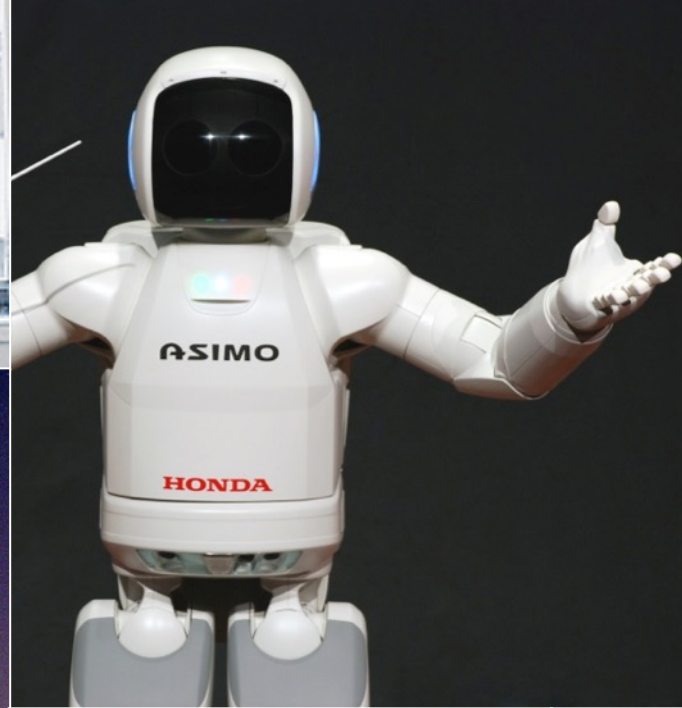
# 1: Thesis

A close-up photograph of a white lab coat. The image shows the right sleeve with a buttoned cuff and a pocket. A white button is visible on the cuff. The text "1: Thesis" is overlaid on the left side of the image.



**Stories are the building blocks  
we use to make the future**





# 2: Methods

A close-up photograph of a white lab coat. The image shows the right sleeve with a buttoned cuff and a pocket. The text "2: Methods" is overlaid on the left side of the image.

# Radical Collaboration

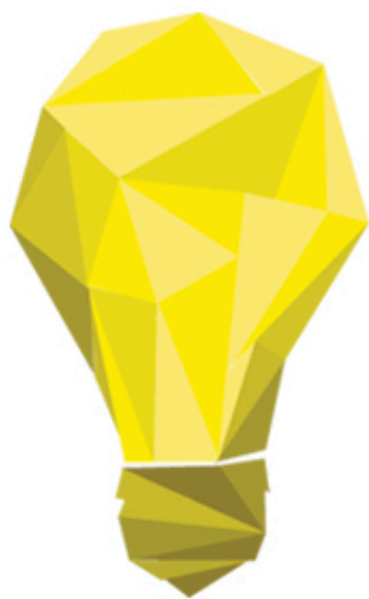
Project Hieroglyph



# Hieroglyph

Two year pilot project bringing science fiction writers and technical experts together to create technically grounded, optimistic visions of the near future





**big ideas**



**real science**

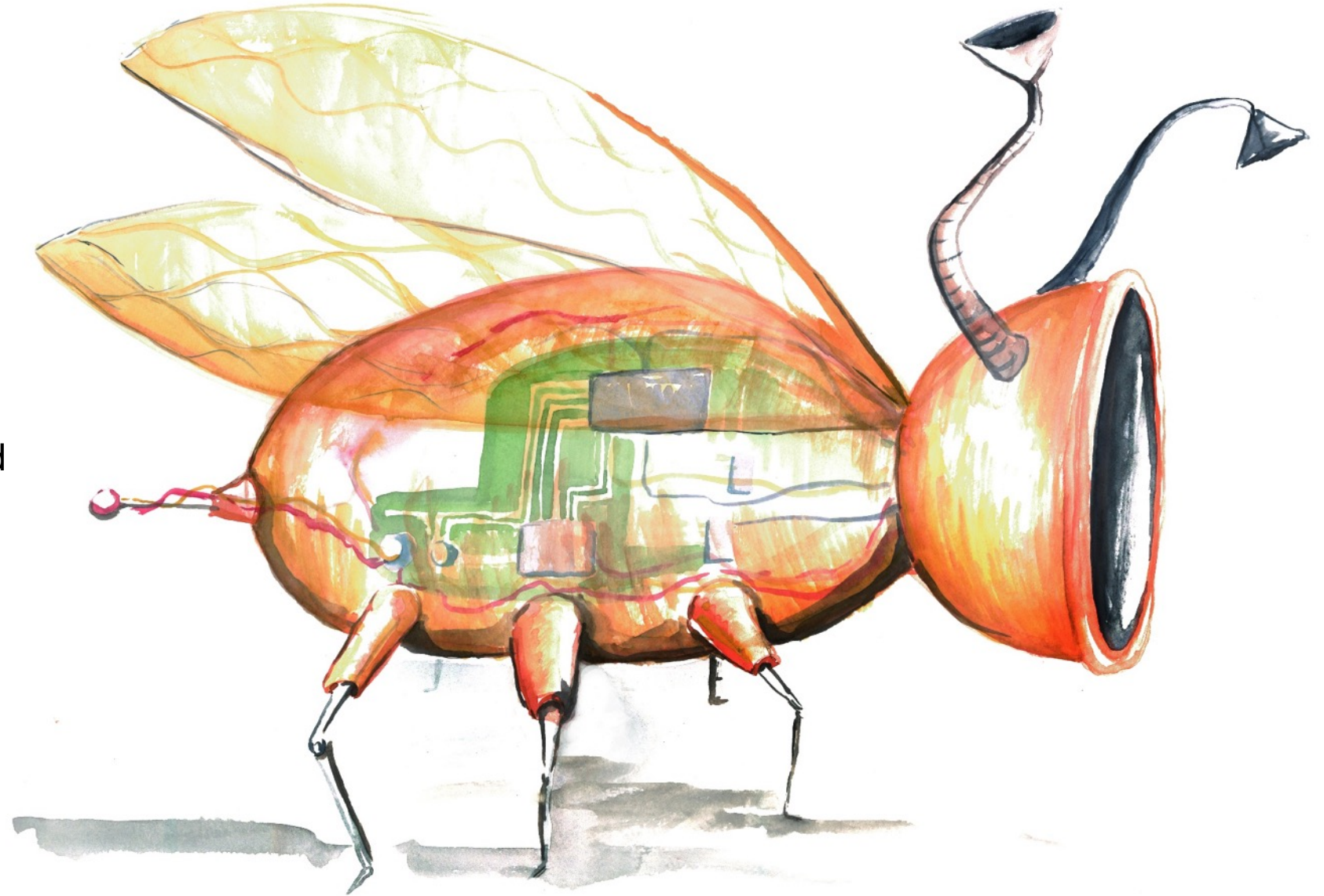


**great stories**

“This collection could be the shot in the arm our imaginations need. It’s an important book, and not just for the fiction.”

--*Wall Street Journal*

The book and project generated hundreds of news articles and engagements with leaders in many public and private sector roles





# Technical Grounding


Visions, Ventures, Escape Velocities



## Narrative Space Futures

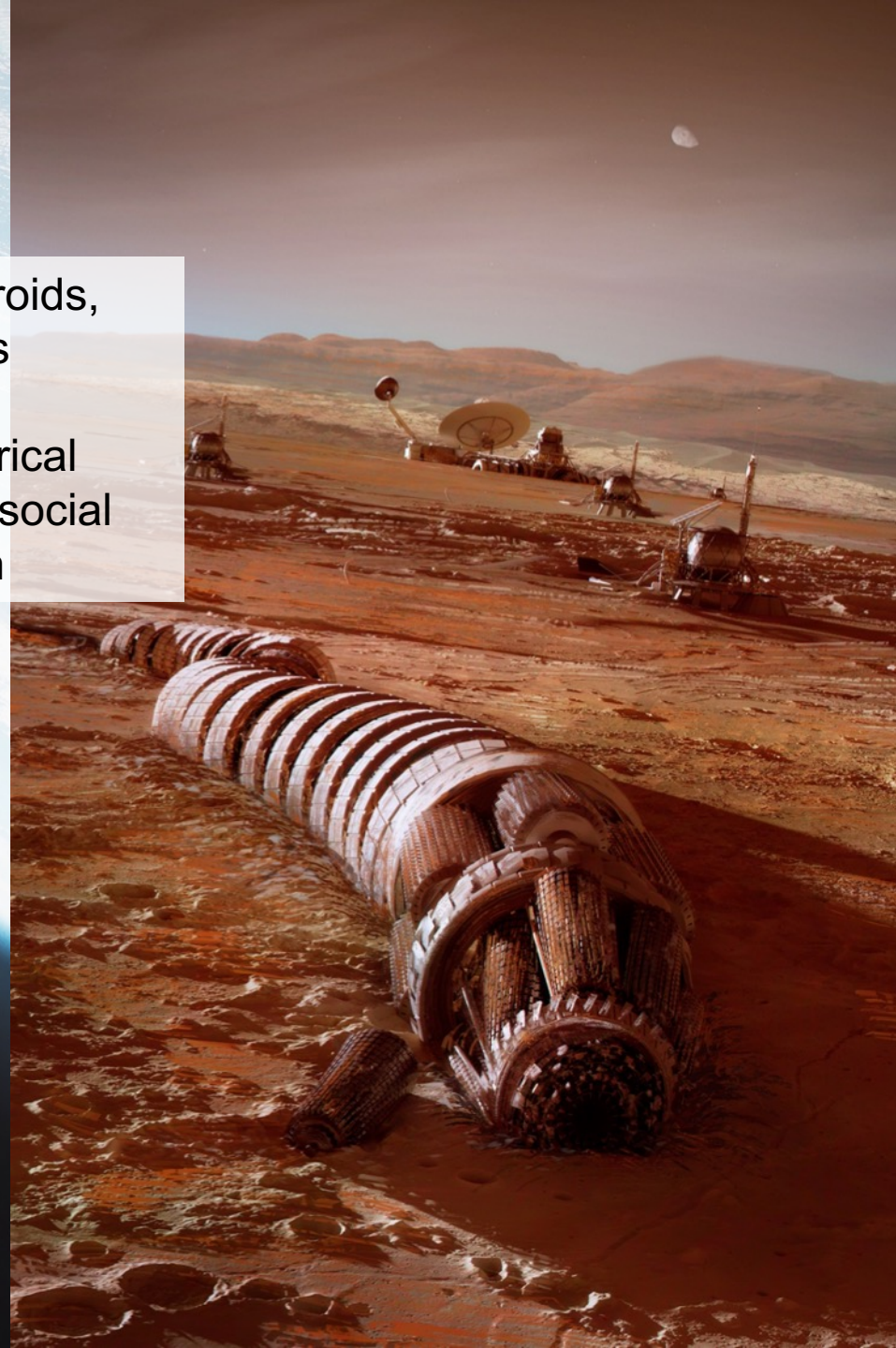
Adapting the Hieroglyph model to space commercialization and public-private partnerships

Two-year NASA-funded project bringing together space scientists, social scientists, SF writers and others

A photograph of the Space Shuttle Challenger in orbit above Earth's atmosphere. The shuttle is oriented vertically, with its nose pointing towards the top of the frame. The Earth's blue and white clouds are visible in the background.

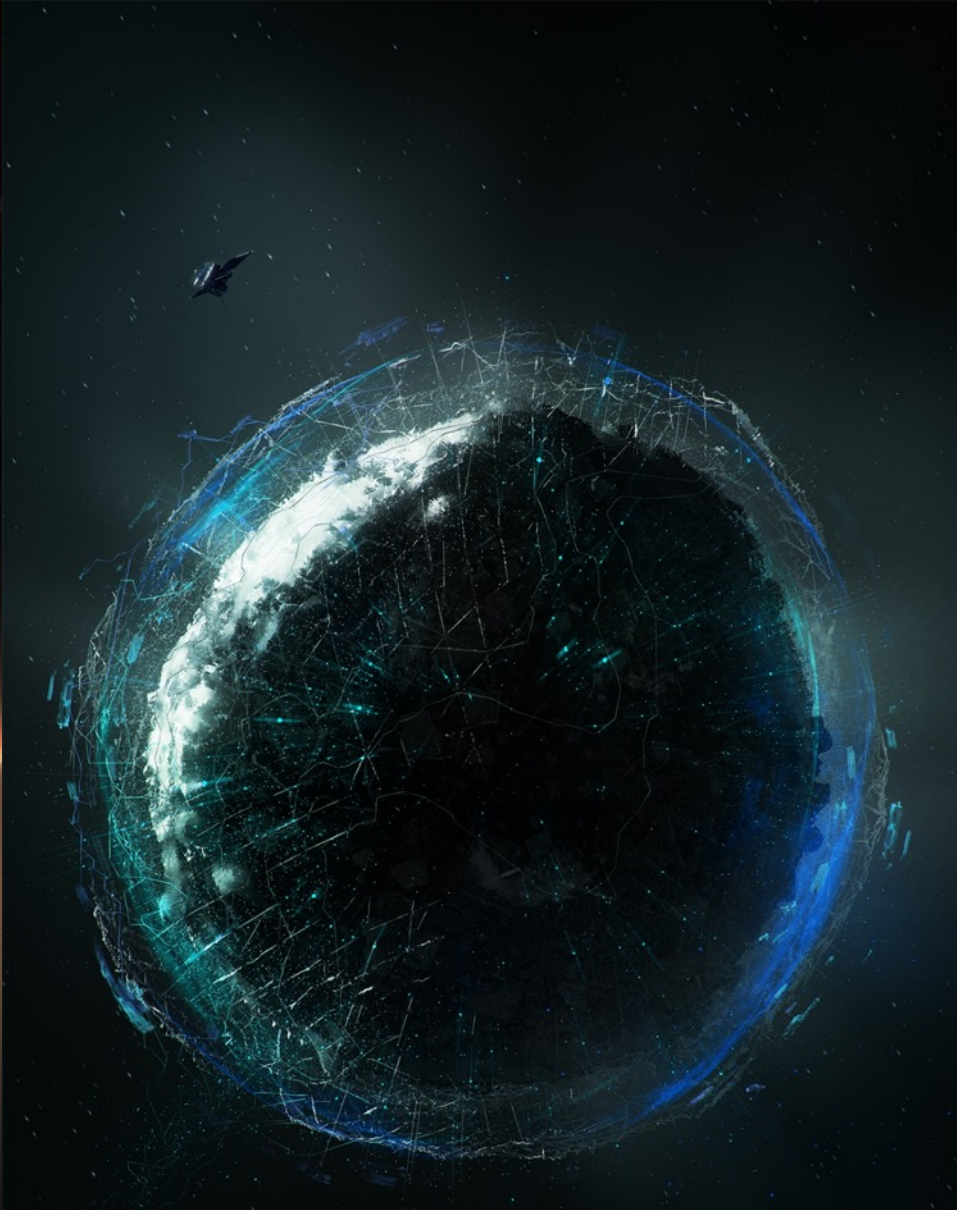
Narratives explored Mars, Asteroids,  
Low Earth Orbit and Exoplanets

Nonfiction essays explore historical  
parallels, current technical and social  
challenges to space exploration





If we meet intelligent life, will we even recognize it?  
“Shikasta,” Vandana Singh



What slime molds have to teach us about AI  
“Night Shift,” Eileen Gunn



Environmental entities take on political agency  
“Baker of Mars,” Karl Schroeder



# Inclusive Storytelling

Frankenstein 200



# **Increasing Learning and Efficacy about Emerging Technologies through Transmedia Engagement by the Public in Science-in-Society Activities**

This material is based upon work supported by the  
National Science Foundation under Grant No. 1516684

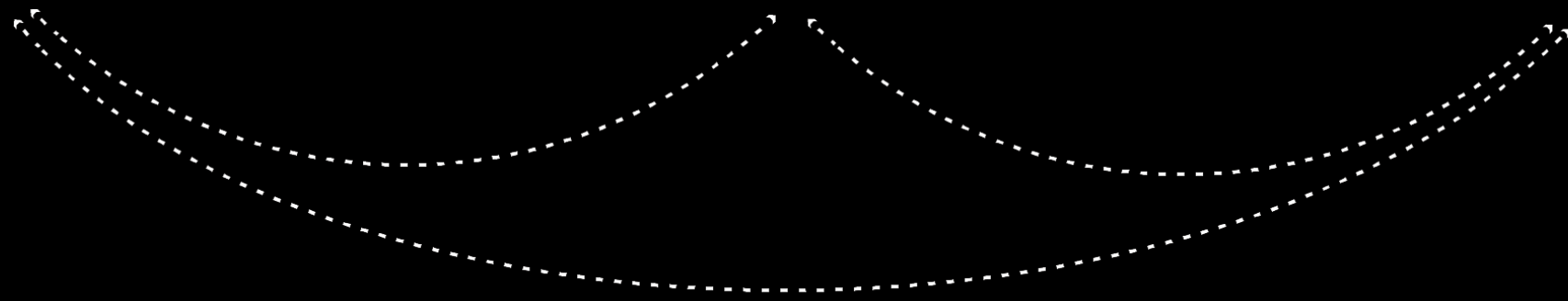
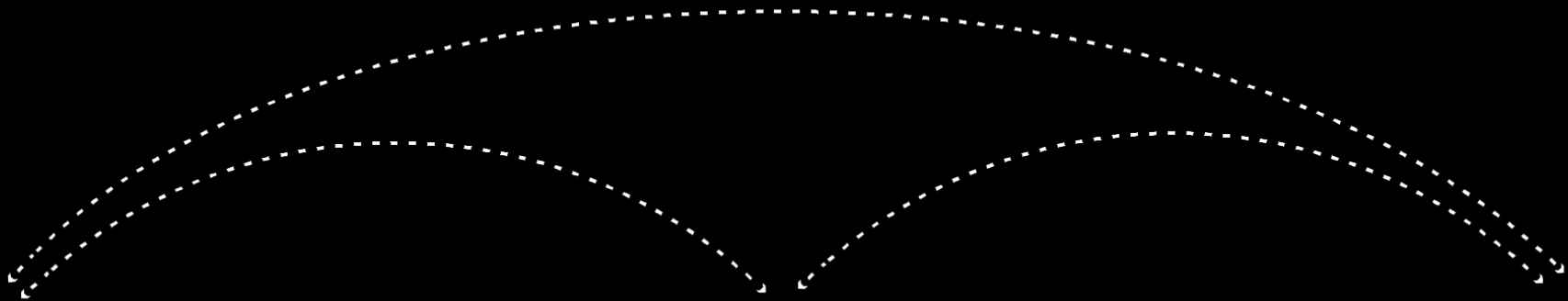
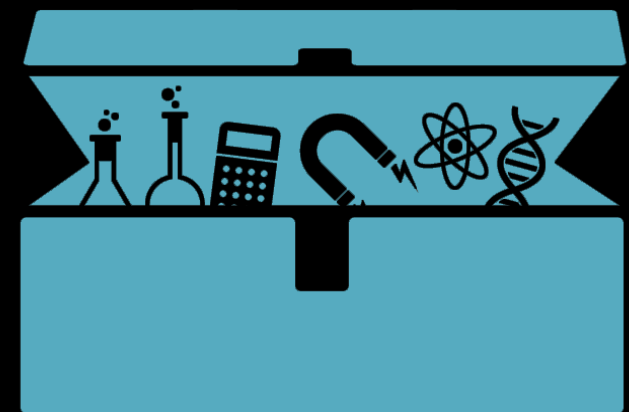
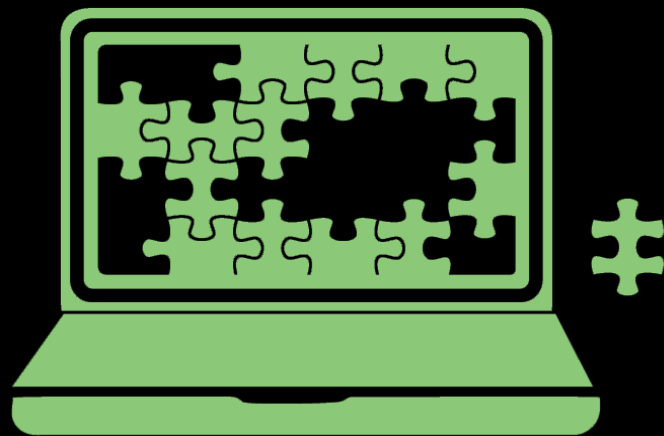
# FRANKENSTEIN<sup>200</sup>

## Animating Questions

What is life?

What does it mean to be human?

Why do we create?





# Worldbuilding

Luna City

# Worldbuilding: Some Starting Points

- Design Fiction
- Speculative Design
- Science Fiction Prototyping
- Theater, Film, Performance
- Iterative Prototyping
- Storytelling



# WHO WILL YOU BE IN LUNA CITY?

ASU EMERGE | LUNA CITY 2175



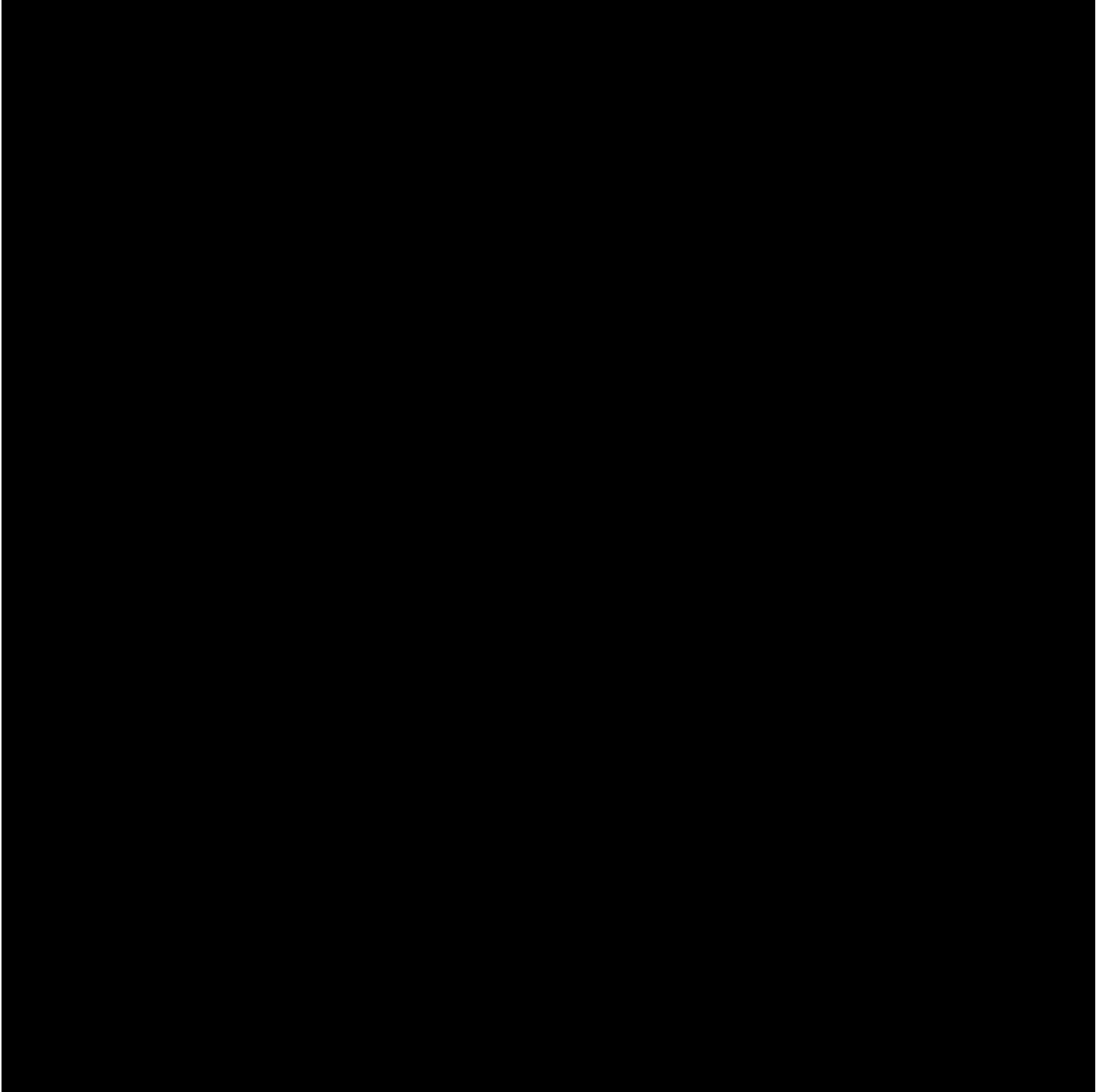
**ASU** Arizona State University

March 17-18 | 10:30 a.m. – 3:30 p.m.

Galvin Playhouse

Open to the public, reserve your ticket at [emerge.asu.edu](https://emerge.asu.edu)





WELCOME TO LUNA CITY  
NEIGHBORHOOD 83  
HISTORIC DISTRICT



# Brainstorming



# LUNA CITY

## A brief history

# DISRUPTION

Megacorp-driven economy  
megacorp support for

Lunar literature  
prestigious Bezos I

### ARRIVAL

2050-2090

First habitations are company-run research facilities on the Shackleton Crater rim

These consolidate into Luna City, a multi-megacorp town

Hydrate and titanium mining to speed up settlements in Earth orbit and exploration/colonization of Mars

Personal have "relations" - no permanent residents

Companies encourage long-term residents to experiment with genetic modifications, to extend rotation lengths or otherwise ease what is a relatively harsh life for humans

Adverse climate change impacts on Earth = plenty of cheap labor

First habbed hab - improvised from local materials

### EXPANSION

2090-2140

Advances in space technologies spark growing demand for cheap lunar water

Advances in spaceflight also enable regular travel from Earth to Luna City

First "strong" permanent residents

Backlash against virtual and imported entertainment and experiences; local arts rise

Robotic mining and excavation open new, roomier living areas

Boom time in tourism and immigration

First disabled immigrants arrive, seeking opportunity and de-stigmatized living

Rogue food-growing ecosystems flourish; lunar neobotany discovers a botanical that enhances musical enjoyment

Rail gun is built: Luna City can now deliver water cheaply anywhere in the solar system

Advances in gravity therapy enable people to stay longer on the Moon

Music festivals in sonically engineered excavations

Denishov hydrate mine collapses, causing concatenating system failures: big lunar tragedy

Thriving sub-community of researchers studying deep time, cosmic history, cryosleep

Activation of "Aunt Luna" advanced mining safety AI

Mars colony kicks into expansion mode

Megacorp-driven economies lose their momentum; megacorp support for Luna City begins to wane

Highly efficient recycling/composting system unveiled

Lunar literature wins prestigious Bezos Prize

"Communities of Distinction" (communities centered on common interests) gain status

### DISRUPTION

2140-2160

Demand wanes for the products of lunar mining

Tourism ebbs

Devastating famine due to biocontamination sparks a mass exodus lasting for two decades; many families strike out for new settlements on Mars, Ceres, and in the asteroid belt

The famine precipitates the breakup of the last megacorp business structures on the moon; many old-timers leave

Epidemic threat: mandatory genetic screening of all incoming settler candidates

Rise of respect for the Moon as a habitat/ ecosystem

Luna City declares itself to be an independent city-state; there is turmoil at first over the terms of governance, adding to the continuing exodus

Luna City population finally stabilizes at around 10,000 people, down from a high of over 18,000

The "Aunt Luna" AI is expanded to include all city life support systems

New forms of currency emerge, such as blood

Cultural shock waves as Luna City lurches into a post-scarcity economy (there is plenty to meet all basic needs)

### REINVENTION

2160-2175

The population of the child-enabled (through genetic modification) becomes big enough to sustain the population through childbirth alone

Children more deeply revered

New rituals of disattachment, impermanence

Communities of Distinction begin to isolate themselves; some prepare to move out of the city into lava tube habitats

Resurgence in Celestial Music, meditation practices

Vestigial "company town" mentalities and systems live on

Terror: hyperlocal lunar cuisines emerge

Regular conflict management

The "pay it forward" economy, the arts economy

Adaptive post-scarcity economies are evolving

Influx of the enabled: people with disabilities

Earth is recovering from ecological chaos

Distinction begins with city life; a unity is begun

First L3-CoD hyperloop completed

AI

to city systems due to preferred maintenance, and the collapse of the work economy

Growth in local arts

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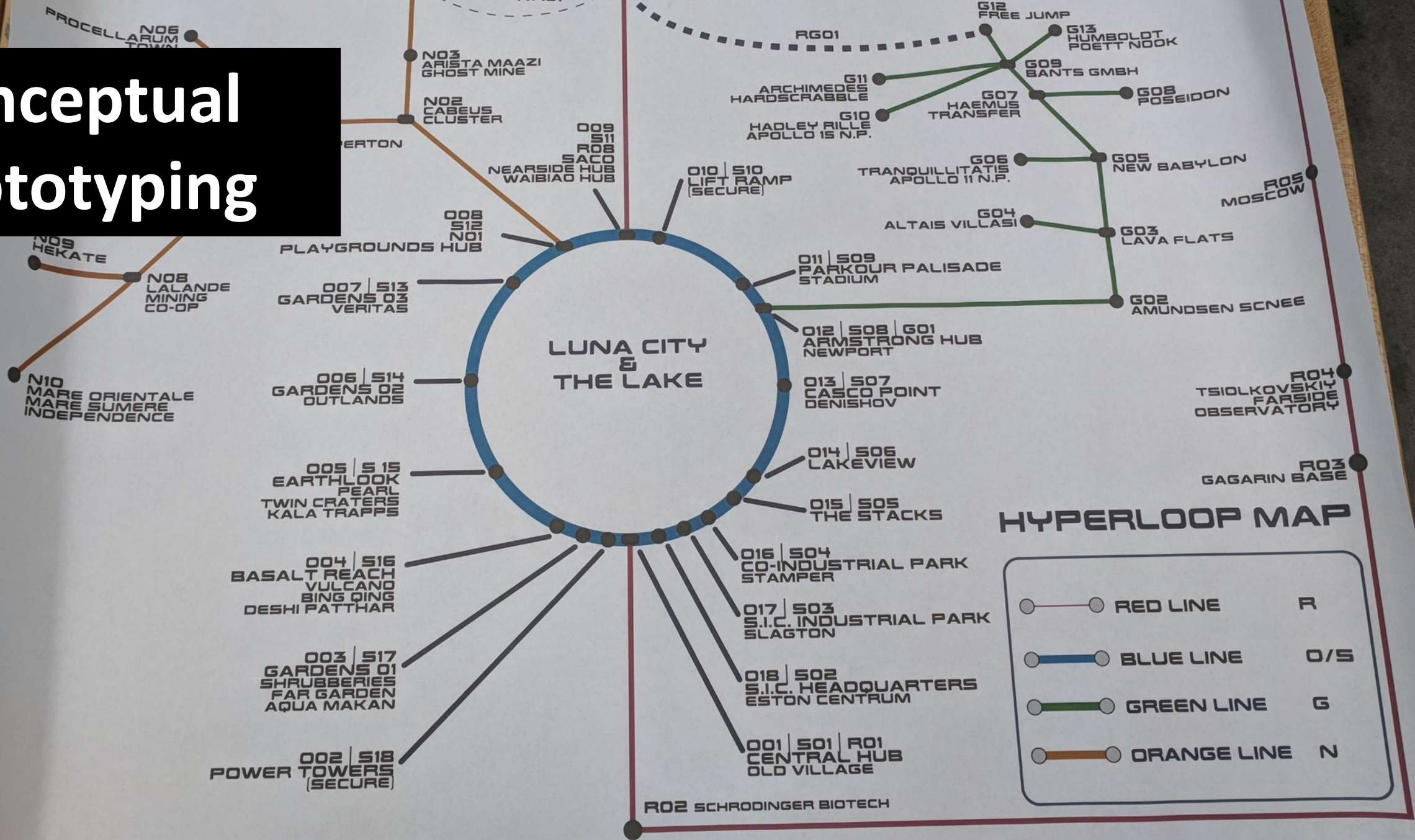
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The "pay it forward" economy, the arts economy

Layering

# Conceptual Prototyping



# Physical Prototyping



# Fabrication



# Experience Design





# Aesthetics

ARTEMIS CAFE



# Engagement



# Performance



# Research

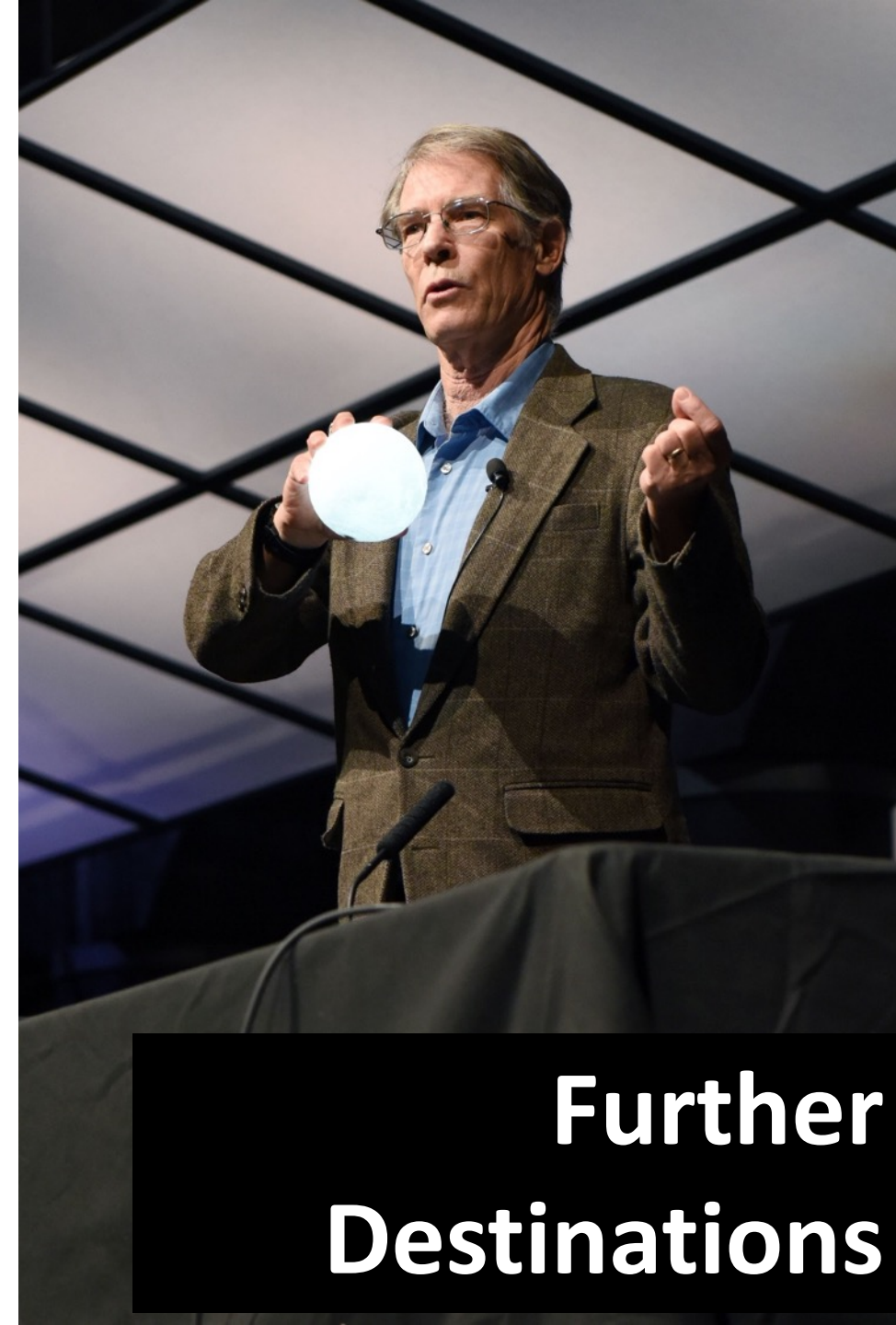


# Community



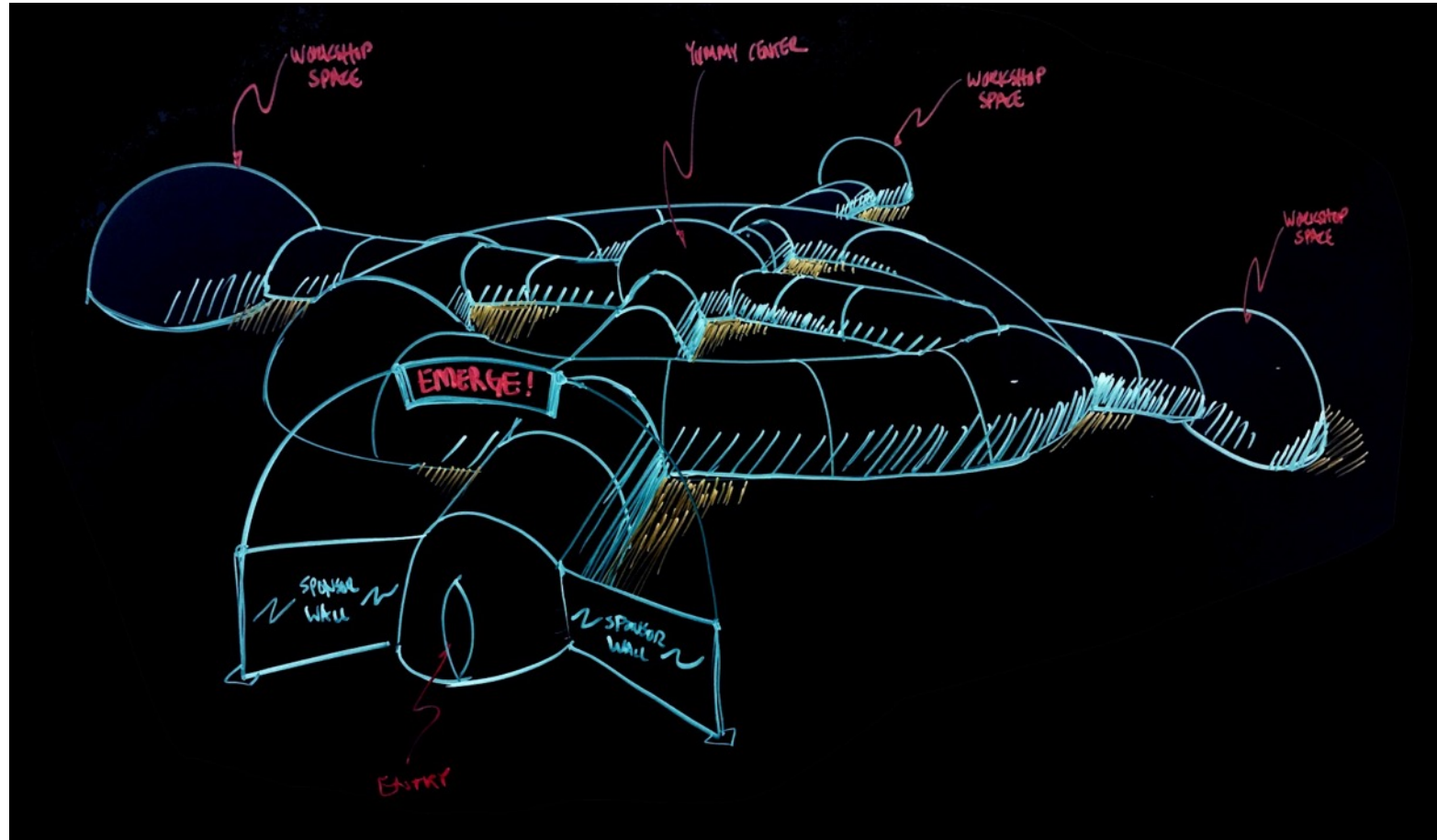
# Critical Thinking





**Further  
Destinations**

# Emerge 2019: Invention





# Transformative Change

Imagination and Climate Futures Initiative

# Imagination and Climate Futures

[climateimagination.asu.edu](http://climateimagination.asu.edu)



# Everything Change Climate Fiction Contest 2018

540 submissions  
66 different countries

# Drawn Futures: Arizona 2045

A science-based comic book for 5<sup>th</sup> through 8<sup>th</sup> grade students

Created by award-winning comics authors and advised by ASU sustainability scholar Dr. Paul Hirt, this original story envisions the near future of Arizona's energy systems



# 3: Conclusions

A close-up photograph of a white lab coat. The image shows the right sleeve with a buttoned cuff and a pocket. The text "3: Conclusions" is overlaid in the center-left area.

# So what are stories good for?

- **Invitations to immersive and participatory futures**
- **“Minds-on” models for complex and ambiguous problems**
- **Stories contain worlds—and methodologies**
- **Building our collective capacity for imagination**

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