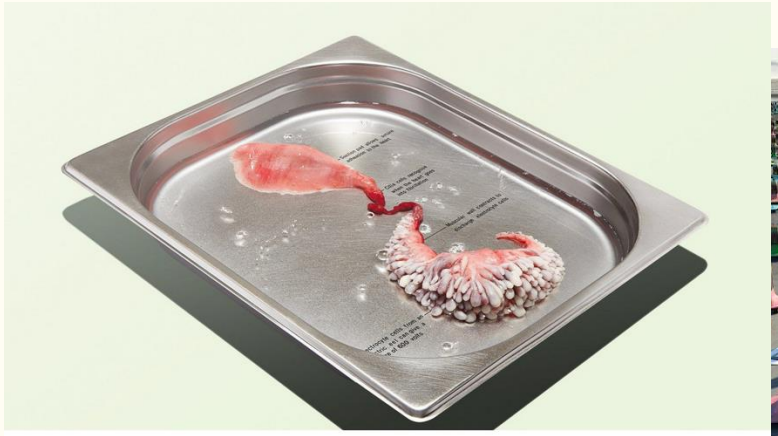
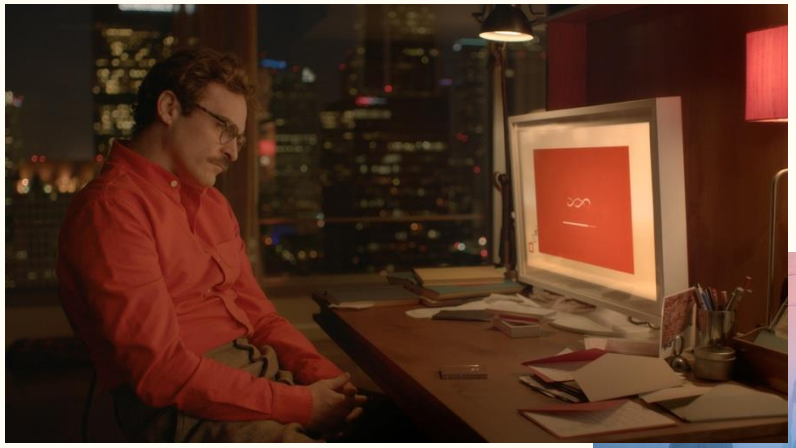
Design Fiction: Objects from other times and other worlds



Agatha Haines's project, Circumventive Organs, is a collection of imagined bioprinted organs, such as this fleshy defibrillator STEVE GALLAGHER



Science Goes Fiction: Science Fiction, Film and Technological Futures in a Historical Perspective course, KTH

Lakin Anderson, Centre for Anthropocene History, Division of History of Science, Technology and Environment, KTH.

structure

1. design fiction – what is it and how does it work
2. examples - various kinds with various uses

short break

3. discussing the film *Her*
4. do it yourself - The Thing From the Future game

Exploring design fiction

A method for exploring future worlds by creating objects from those futures

Futures and Foresight methods…

Exploring the future
1.1 Driver mapping
1.2 Horizon Scanning
1.3 Trends identification and Analysis

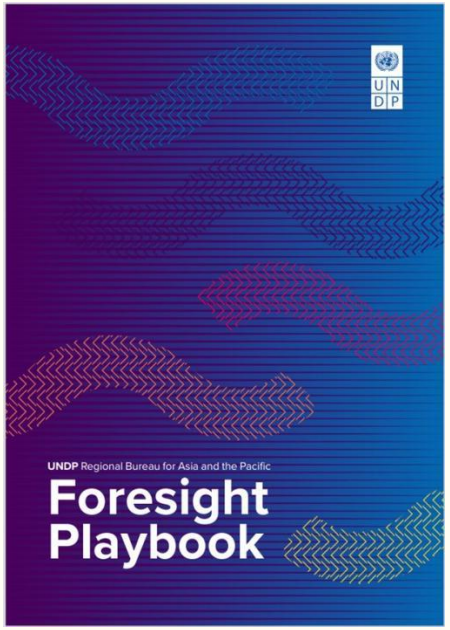
Creating Alternative Futures
2.1 Causal Layered analysis
2.2 Futures Triangle
2.3 Scenarios

Reimagining the future
3.1 The 3 Horizons Framework
3.2 Inclusive imaginaries

Sensemaking
4.1 Sensemaking as process

Transforming the future
5.1 Visioning
5.2 Backcasting

Future-Proofing Strategies
6.1 Wind-tunnelling
6.2 Road mapping



UNDP, 2018/2021

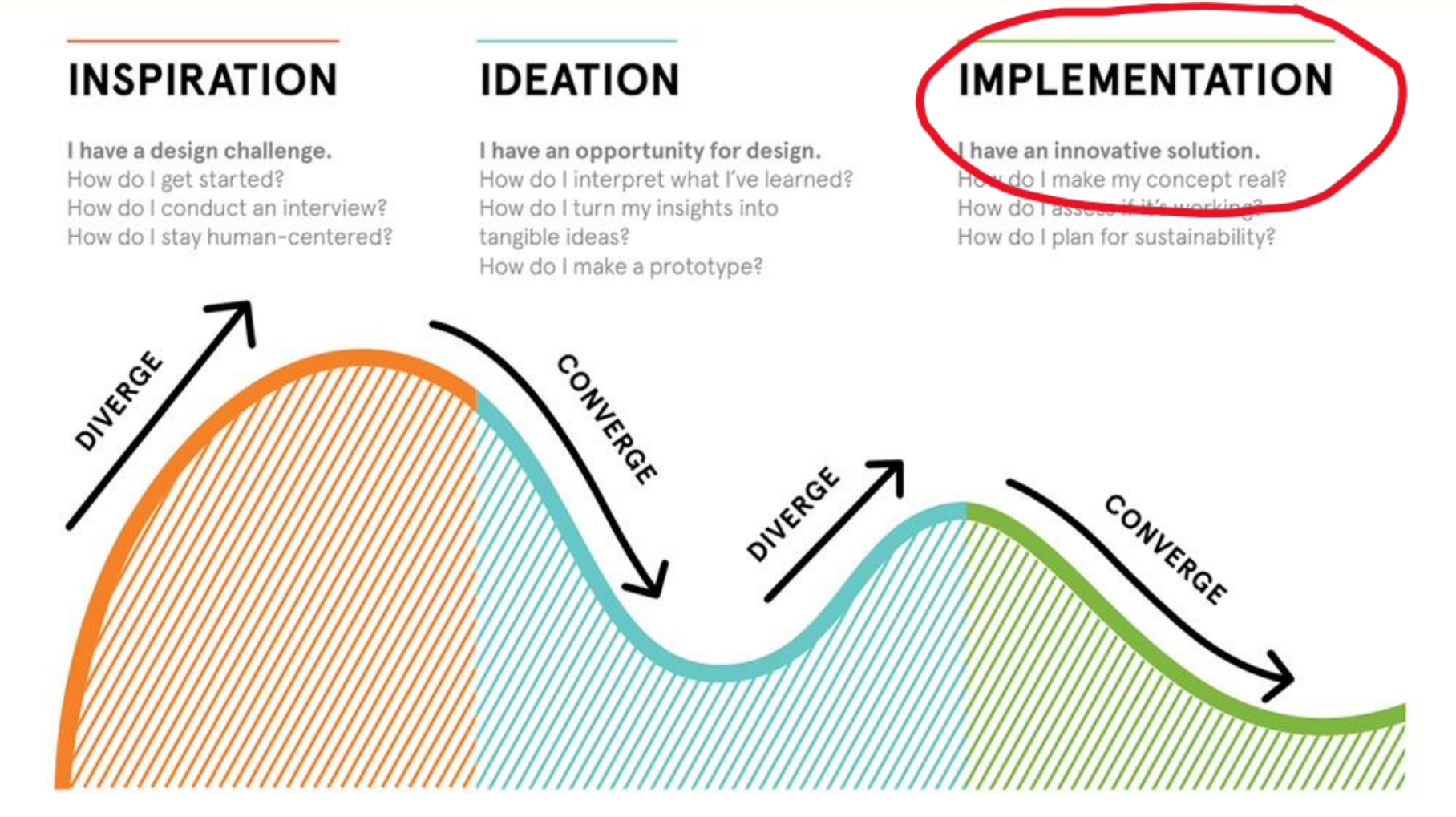
Experiential futures

“the design of situations and stuff from the future to catalyse insight and change”. (Candy and Dunegan, 2017)

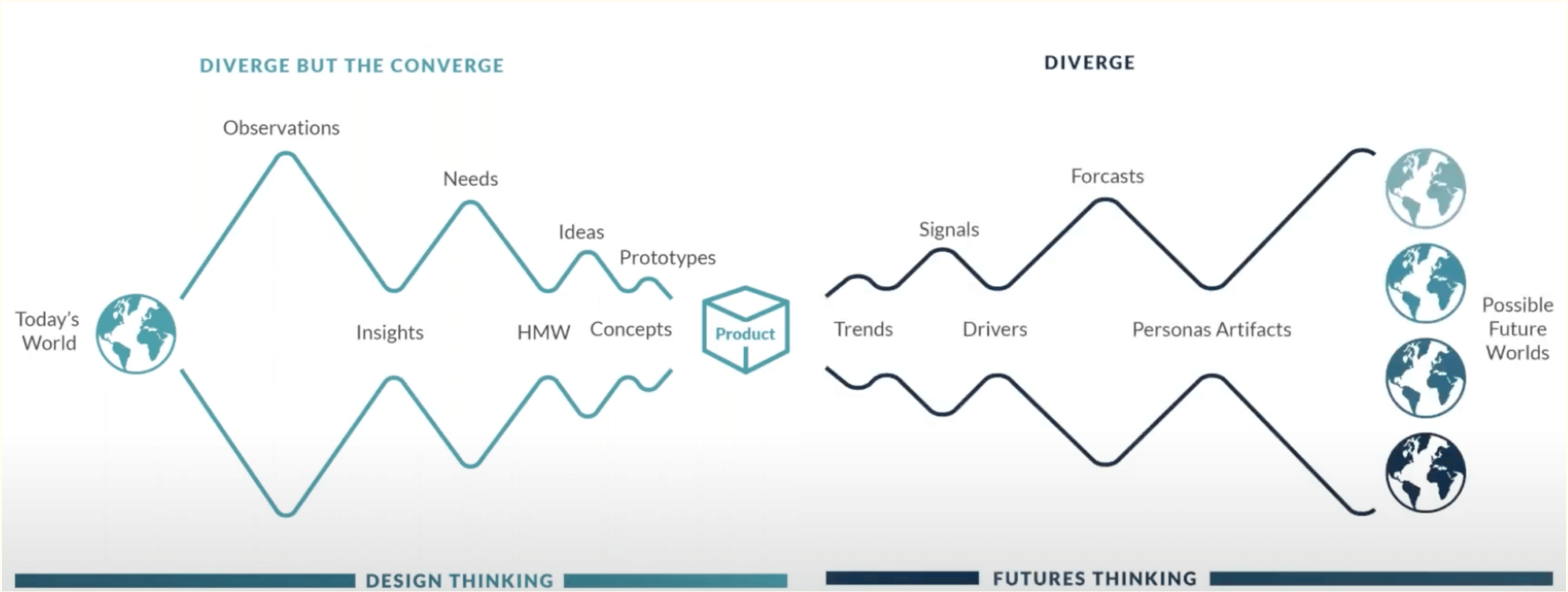
Draws on design, speculative artefacts, theatre, music, installations, written texts, films, etc.

Carbon Ruins

UNITED
Mileage Plus
KIMBERLY ANN NICHOLAS
Premier Executive
GOLD
EuroBonus
Member
SAS



Design Thinking process model,
IDEO


DIVERGE BUT THE CONVERGE
Observations
Needs
Ideas
Prototypes
Today's World
Insights
HMW
Concepts
Product
DESIGN THINKING
DIVERGE
Forcasts
Signals
Trends
Drivers
Personas Artifacts
Possible Future Worlds
FUTURES THINKING

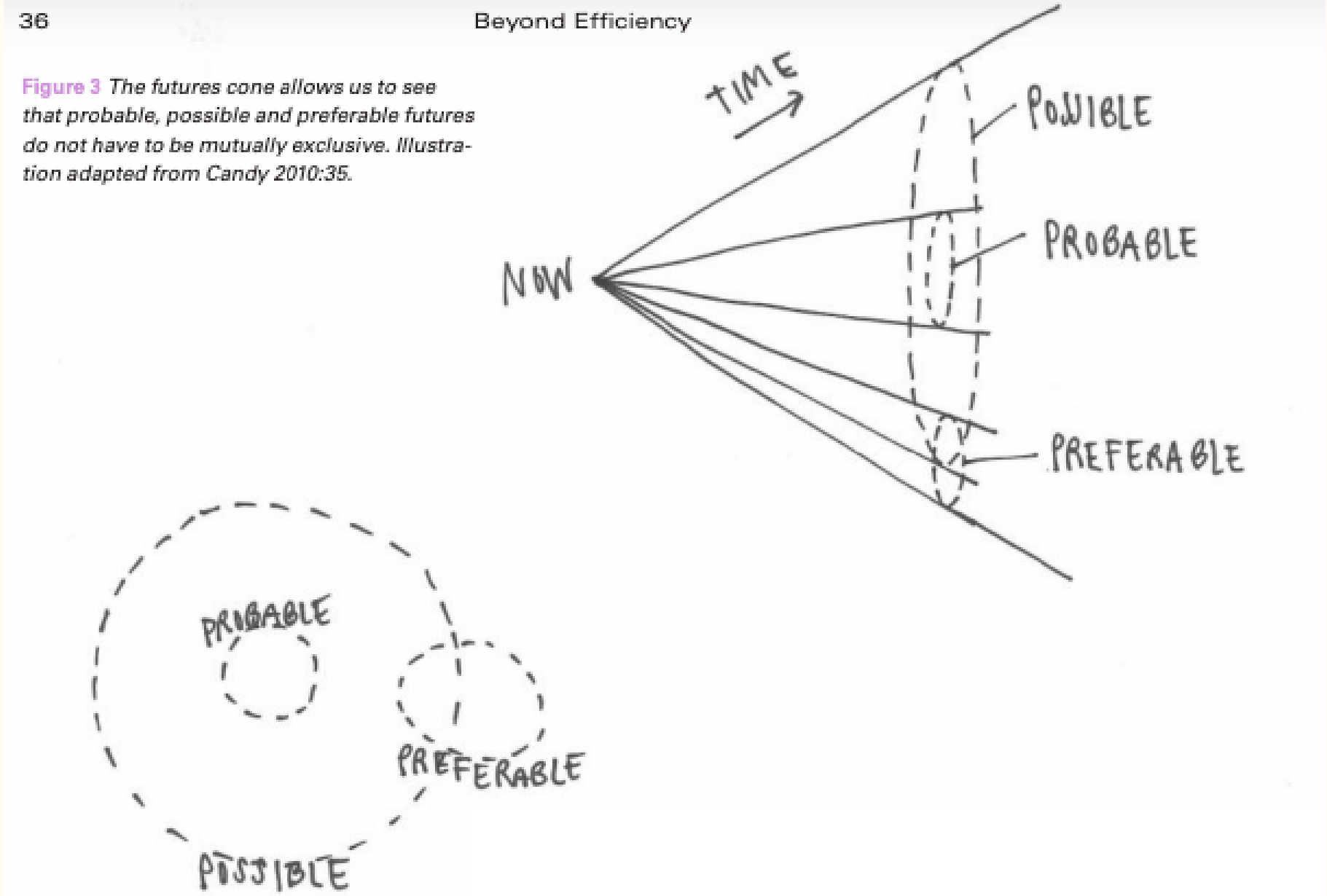
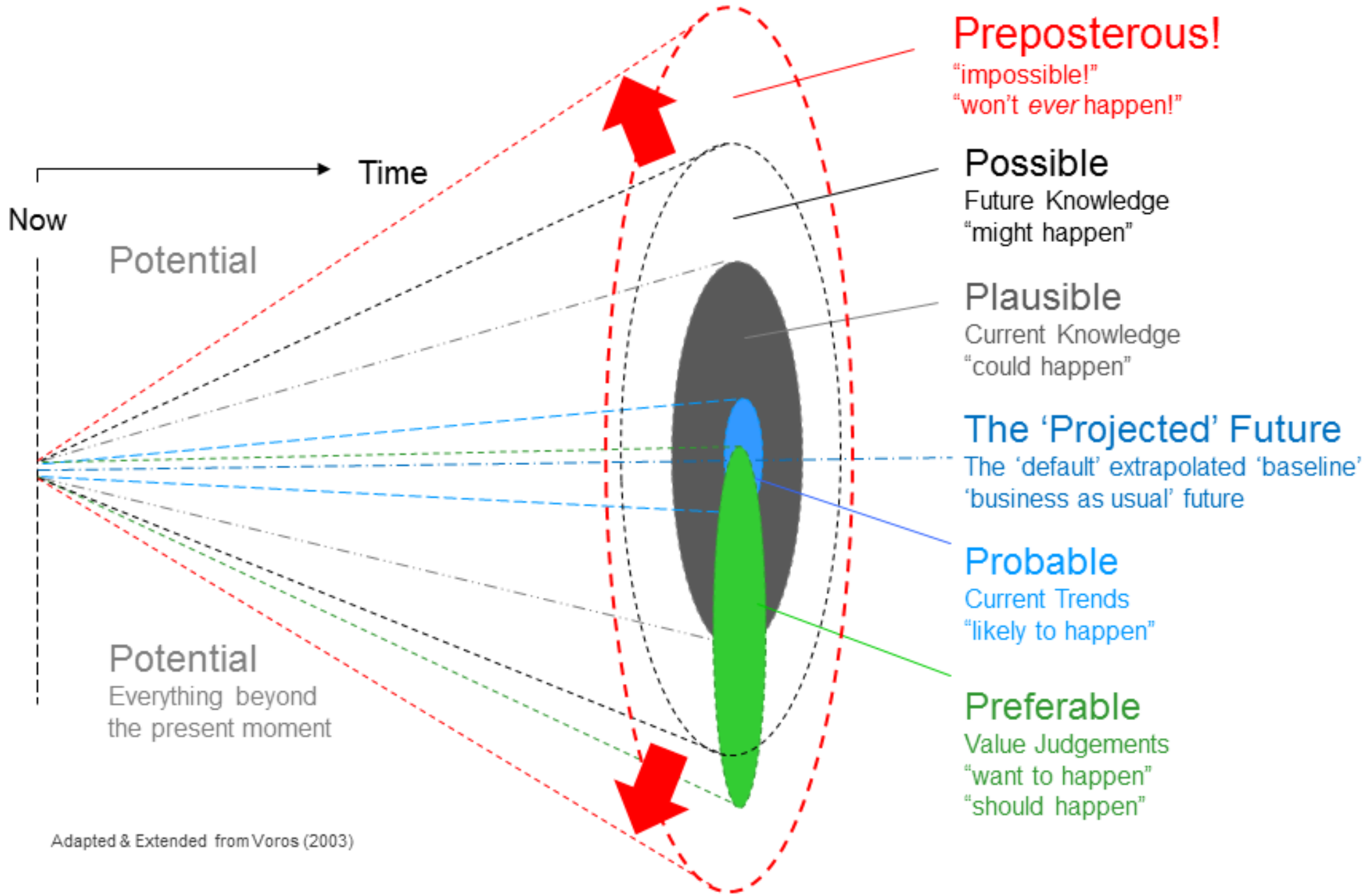
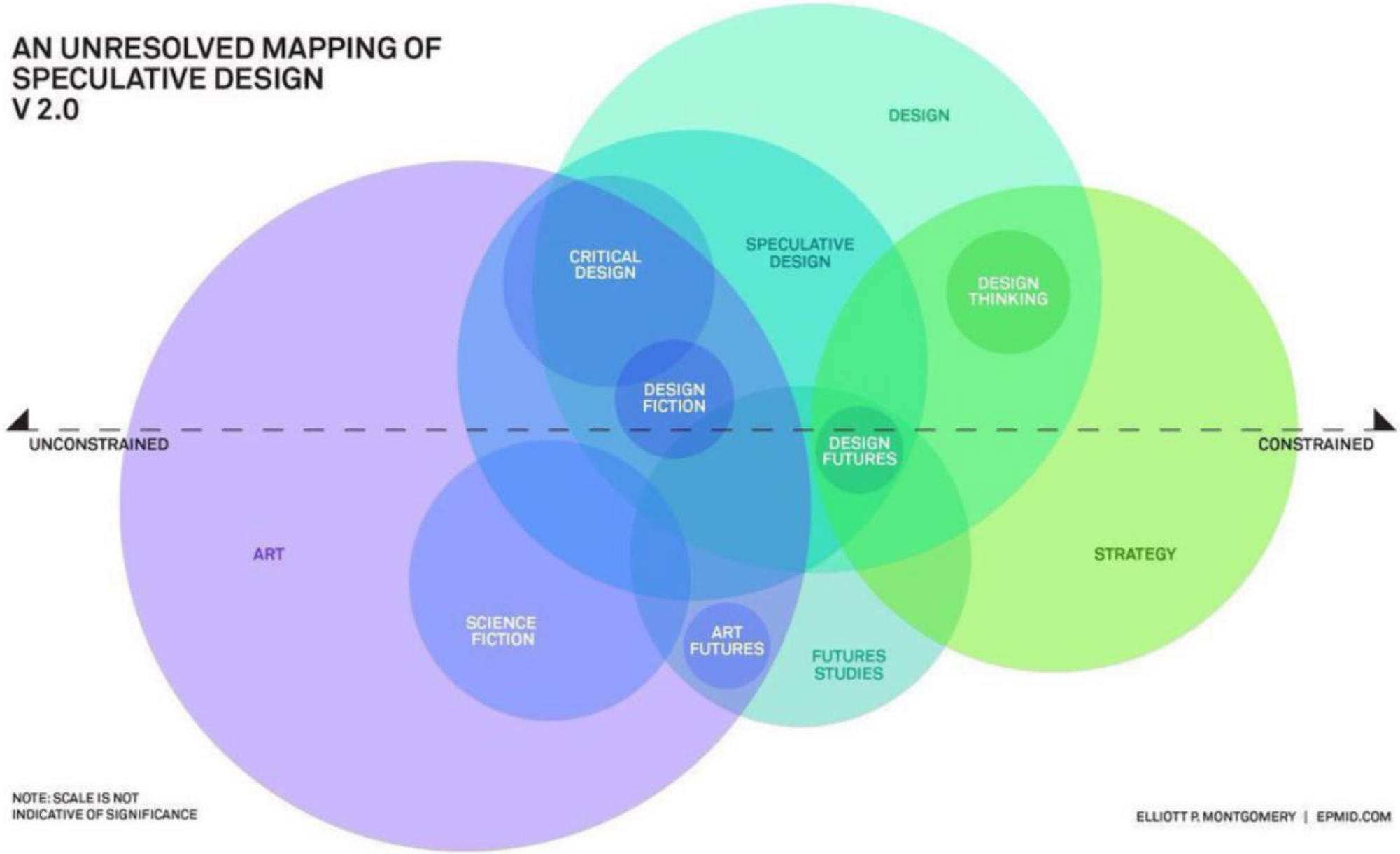
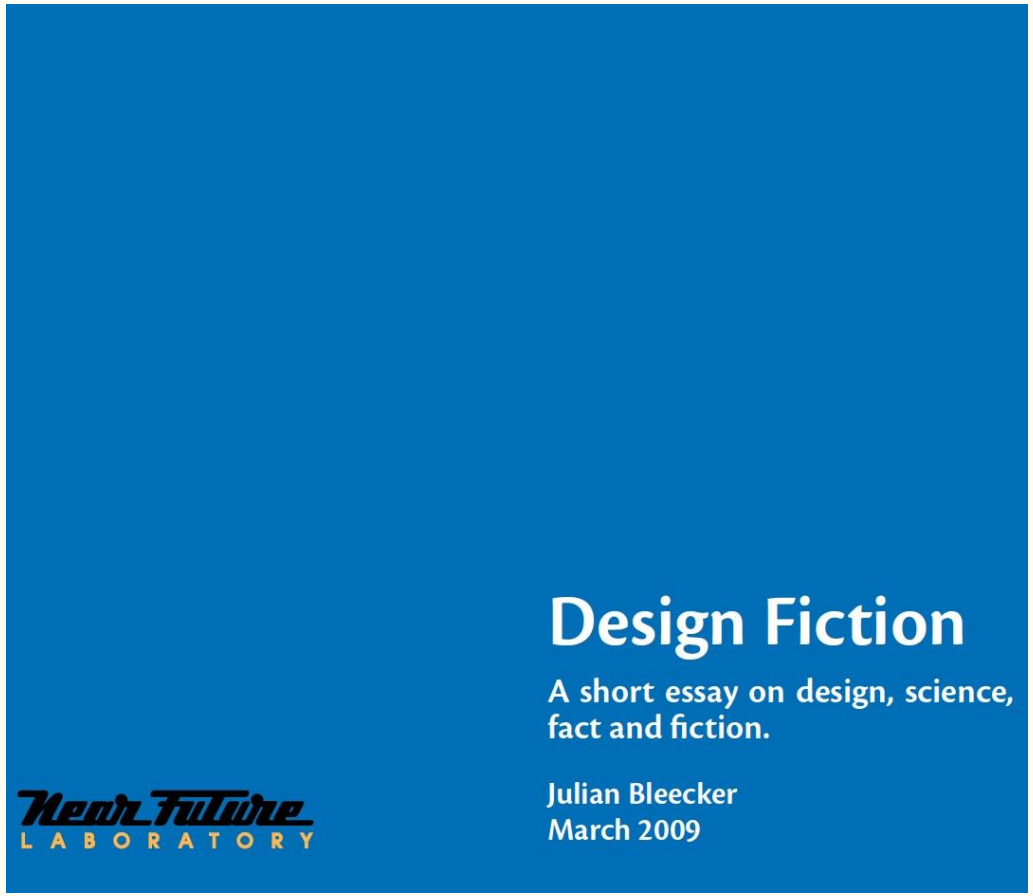
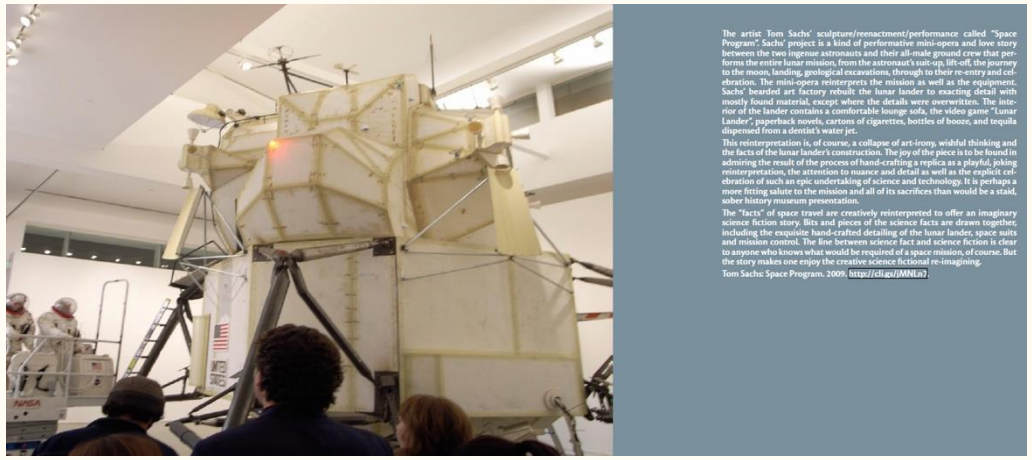


Figure 3 *The futures cone allows us to see that probable, possible and preferable futures do not have to be mutually exclusive. Illustration adapted from Candy 2010:35.*


Time
Now
Potential
Potential
Everything beyond
the present moment
Preposterous!
"impossible!"
"won't *ever* happen!"
Possible
Future Knowledge
"might happen"
Plausible
Current Knowledge
"could happen"
The 'Projected' Future
The 'default' extrapolated 'baseline'
'business as usual' future
Probable
Current Trends
"likely to happen"
Preferable
Value Judgements
"want to happen"
"should happen"
Adapted & Extended from Voros (2003)


AN UNRESOLVED MAPPING OF
SPECULATIVE DESIGN
V 2.0
DESIGN
CRITICAL
DESIGN
SPECULATIVE
DESIGN
DESIGN
THINKING
DESIGN
FICTION
UNCONSTRAINED
CONSTRAINED
DESIGN
FUTURES
ART
STRATEGY
SCIENCE
FICTION
ART
FUTURES
FUTURES
STUDIES
NOTE: SCALE IS NOT
INDICATIVE OF SIGNIFICANCE
ELLIOTT P. MONTGOMERY | EPMID.COM

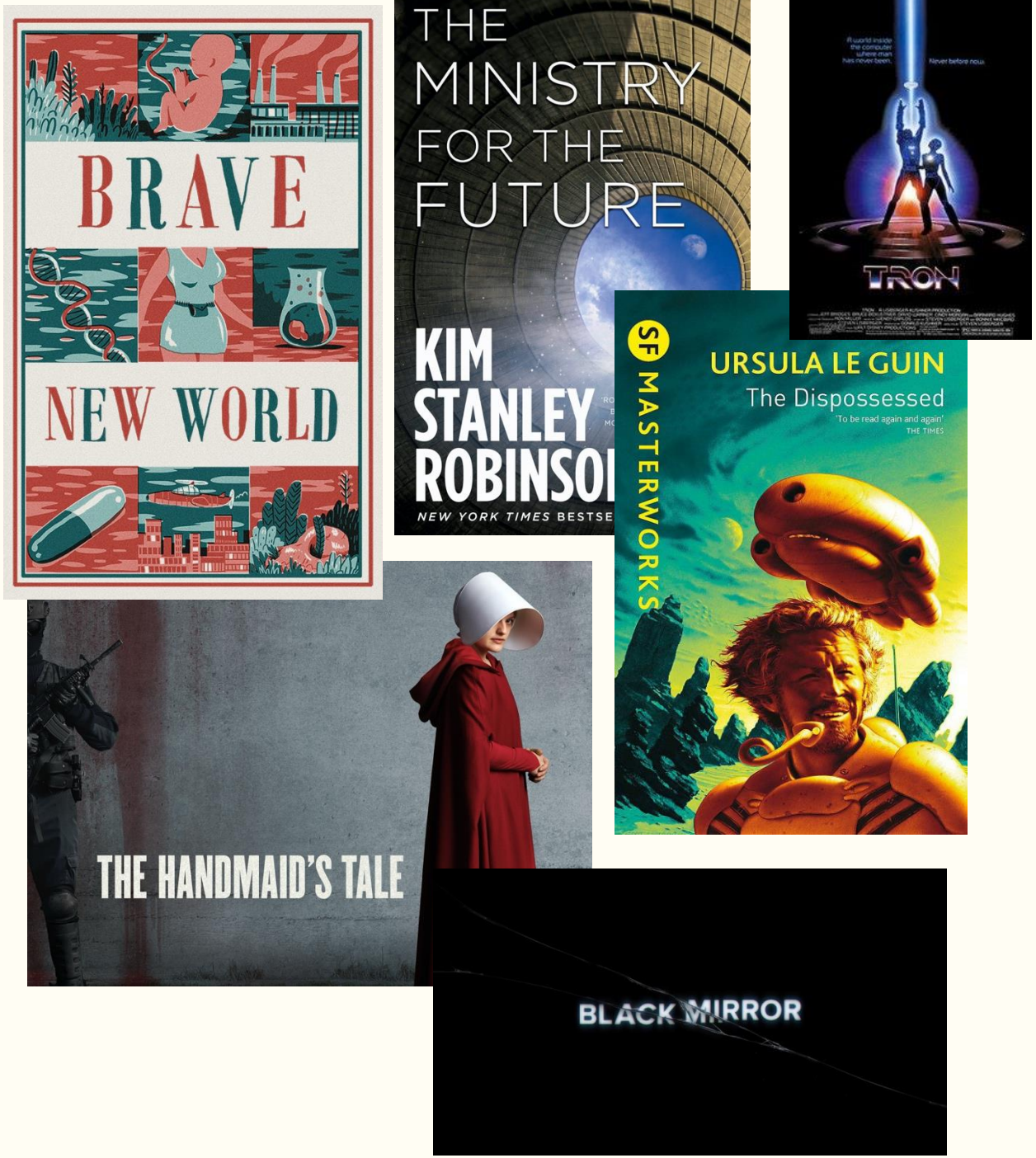




"Design Fiction is a mix of science fact
and science fiction. It is a kind of authoring practice

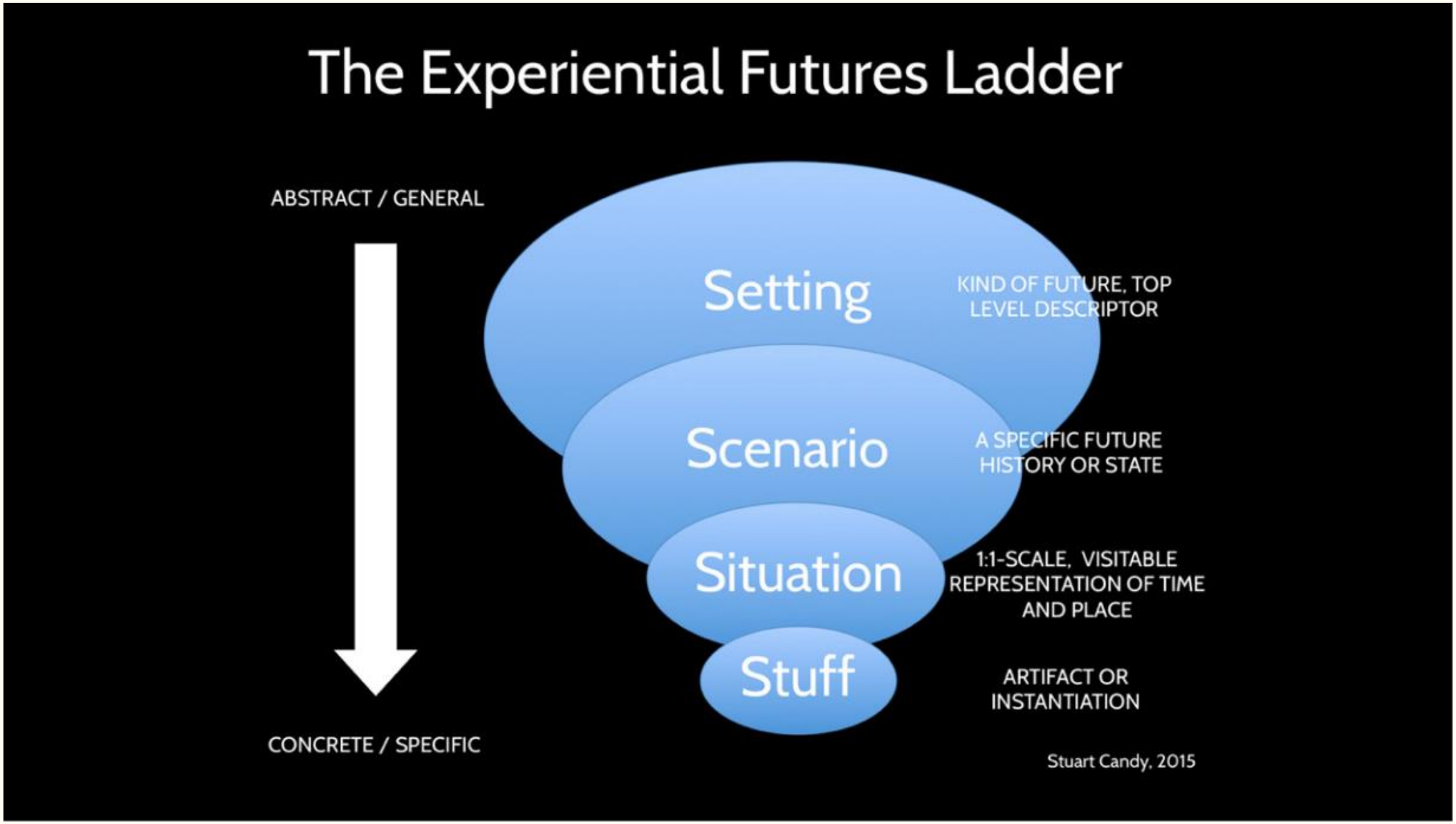
that **combines the traditions of writing and story telling with the material crafting of objects**.

Through this combination, design

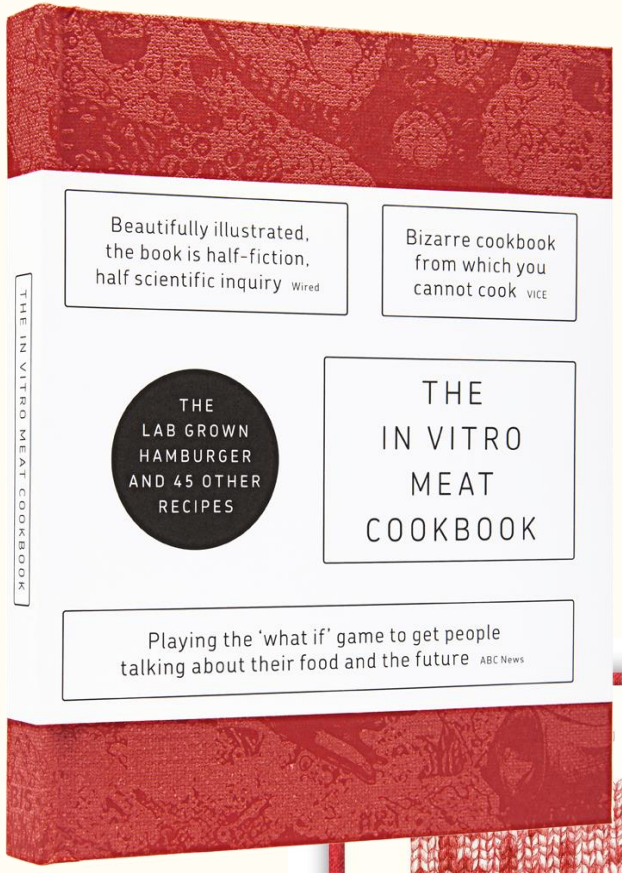


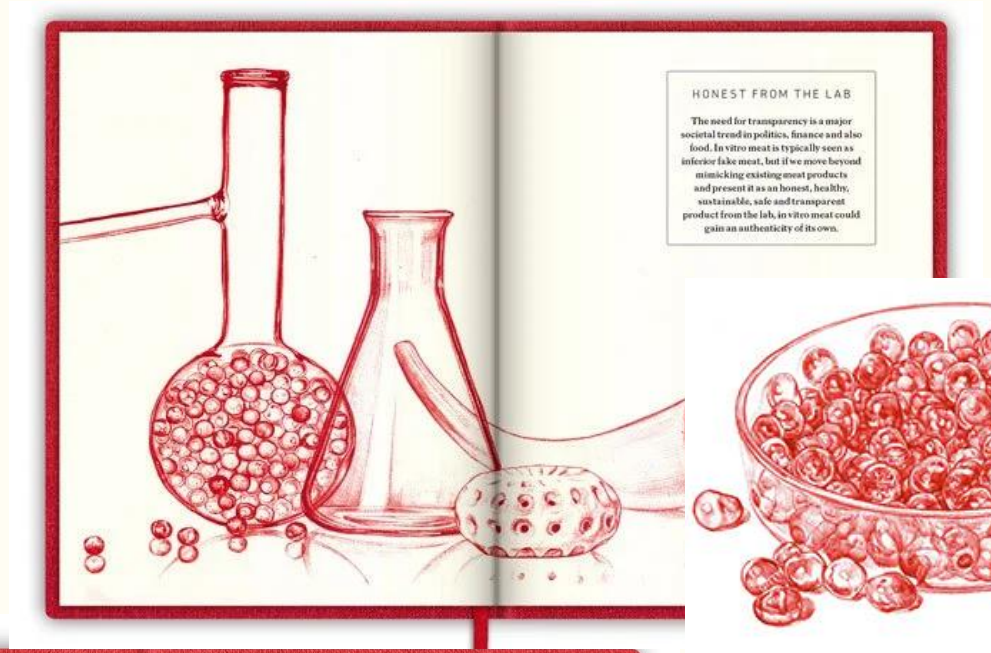
"Science fiction can be understood as a kind of writing that, in its stories, creates prototypes of other worlds, other experiences, contexts for life, based on the creative ideas of the author.

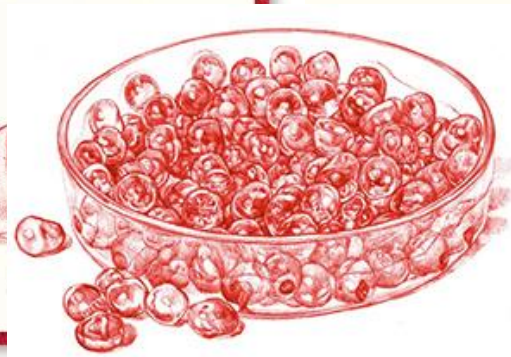
[Design fiction] can be understood similarly."

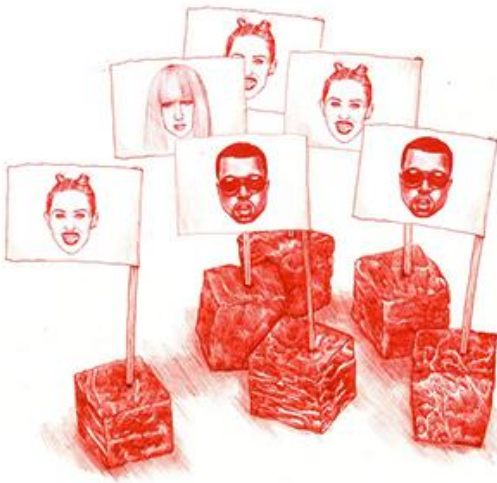


Candy & Dunagan (2017)









In Vitro Meat Cook Book, Mensvoort koert Van, 2014

“Design fiction is the deliberate use of diegetic prototypes to suspend disbelief about change“

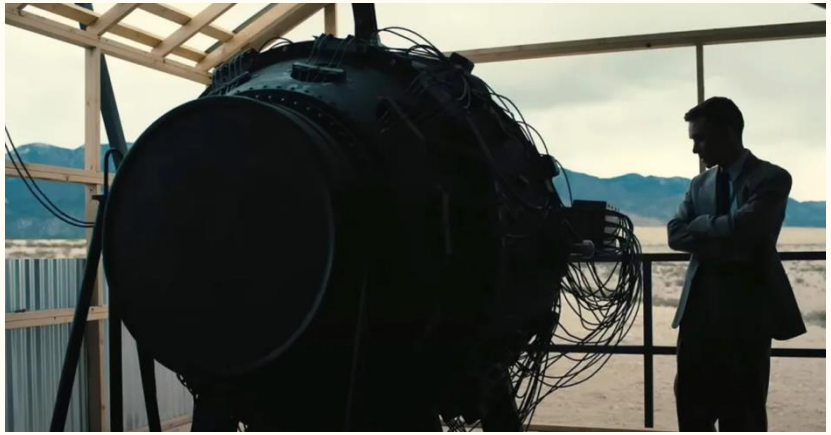
– Bruce Sterling (2013) ‘Patently Untrue…’. *Wired*

‘Diegetic’ is a term from Film Studies

Refers to technologies, sounds, objects, (rituals, artworks, etc)

They are *real to the characters in the fictional world* that only exist in the fictional world – what film scholars call the diegesis – but they exist as fully functioning objects in that world” (Kirby, 2010)

technologies



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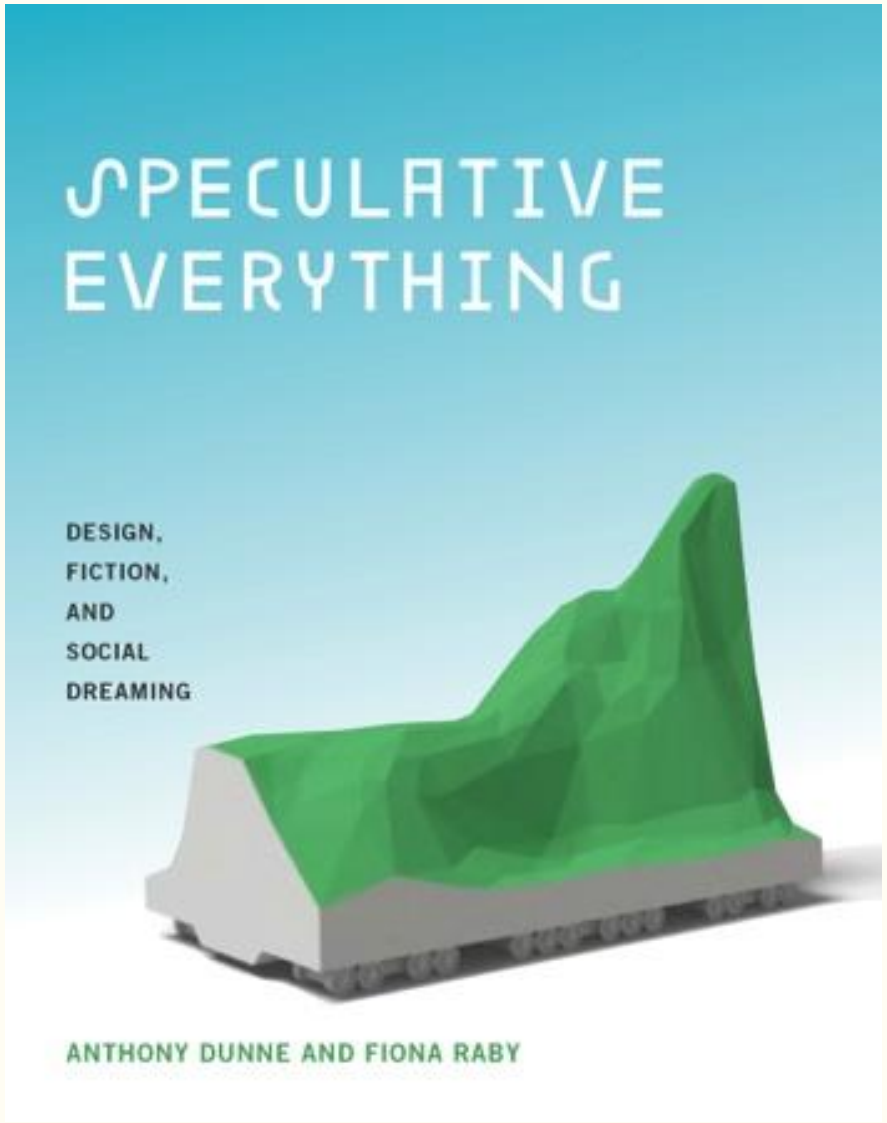

Dunne and Raby (2013)

"..designers step away from industrial production and the marketplace - enter the realm of the unreal, the fictional [...] — design about ideas.

"...creates a parallel design channel free from market pressures and available to explore ideas and issues.

[can explore] new aesthetic possibilities for technology; social, cultural, and ethical implications for science and technology research; or large-scale social and political issues such as democracy, sustainability, and alternatives to our current model of capitalism."

INCUMBENT PATH

PROTECT YOUR MIND FROM COPYRIGHT INFRINGEMENT!

Sure it's fast, convenient, and sometimes brilliant to use thought recording to capture your ideas in real time and even connect with friends in your social networks. But with more and more platforms claiming copyright ownership for any thoughts you share via mindshare technologies, you need a way to protect your own rights to the product of your own mind. That's what this little cap does—it records your thoughts and assigns immediate copyrights to you before anyone else can claim them.

LINKS TO SCENARIOS

TYPE 4 **your mind is the product**

The boundaries of intellectual property become even more blurred—and protections more extreme—as digital-neurological technology connects minds.

TYPE 4 **persuasive delusion**

Maintaining a healthy independent identity is challenging in a world of direct brain-to-brain communication.

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EMERGENT PATH

PERSONAL IDENTITY CARD FAST-TRACKS GLOBAL VOTING

Cities around the world—from Cairo to Portland, from Bangalore to Curitiba—are leading the Confederation of Sustainable Cities in establishing a governance structure to do what traditional governments have failed to do. Empowered by a global referendum that registers the will of people around the world, these cities are poised to impose strict new global regulations on automobiles. What's empowering the referendum? New digital personal identity cards that also serve as anonymous ballots.

LINKS TO SCENARIOS

TYPE 2 **climate confederation**

Climate impacts become a lightning rod for "city rights" and global referenda alike, creating new networks of power and citizenship that may well be at odds with state and federal governments.

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EMERGENT PATH

ENERGY WANTS TO BE FREE

The UN has teamed up with the global Pirate Party, a political party with a platform of open intellectual property (IP), to provide new disaster relief kits that use open-source components to build ad hoc infrastructures for everything from power to water to Internet access. At the core of the relief kit is the now famous Tesla Box—a 10-foot shipping container that can power a neighborhood by harnessing the sub-atomic Casimir Effect. What else will you find in the open-source kit? Wireless lightbulbs, mobile device chargers, rechargeable desalination straws, and an Internet-in-a-suitcase.

LINKS TO SCENARIOS

TYPE 3 **the world electric**

New wireless power technology gets a boost from more frequent and extreme climate events where disaster kits leverage wireless technologies to get communities back on their feet more quickly.

TYPE 4 **the pirate party wins!**

The wireless Tesla Box lends itself to open-source strategies and is potentially an upbeat symbol for the Pirate Party.

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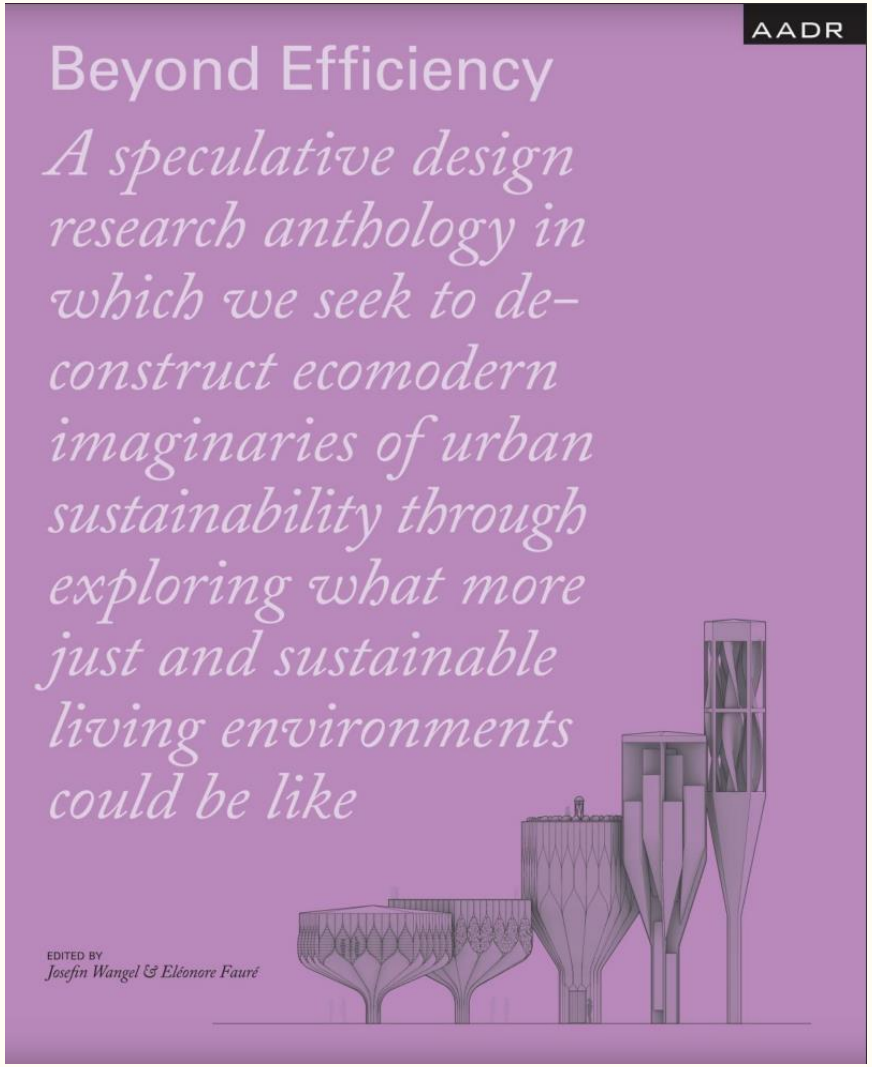
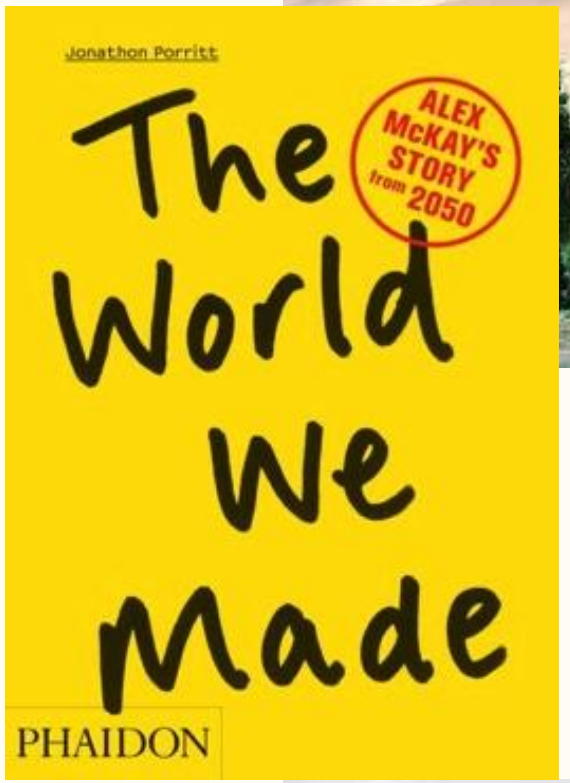


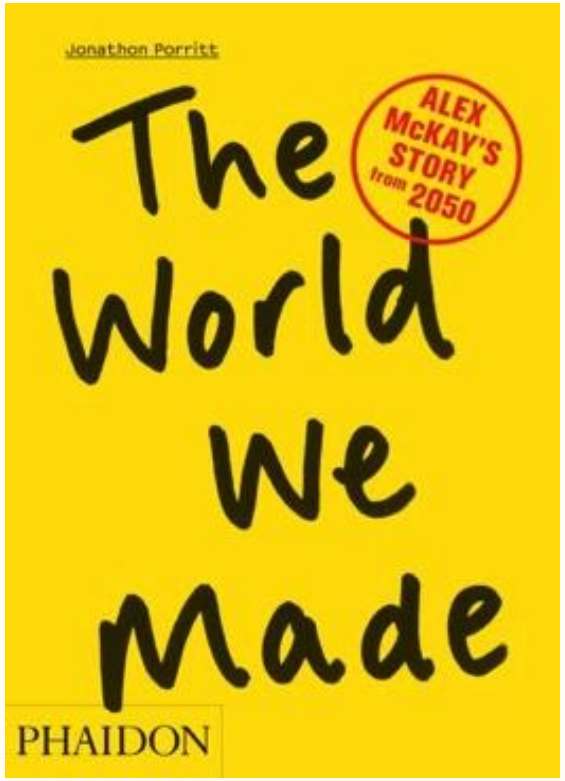
Wangell & Feoré (2021)

From imagining “What if?” to designing “As if”

Imagining an alternative future, a *what if* scenario

Treating it *as if* it is real and then creating objects, interactions, moments from that world’s everyday reality


Jonathon Porritt
The World We Made
ALEX McKAY'S STORY from 2050
PHAIDON



https://www.youtube.com/watch?v=AM25WGgBiP4

“Canada’s largest architecture and design trade show recently saw the global launch of **a new product called NaturePod™.**

Each unit provides **intensive personal exposure to sounds, imagery, and (selectively) smells of various natural environments** […]

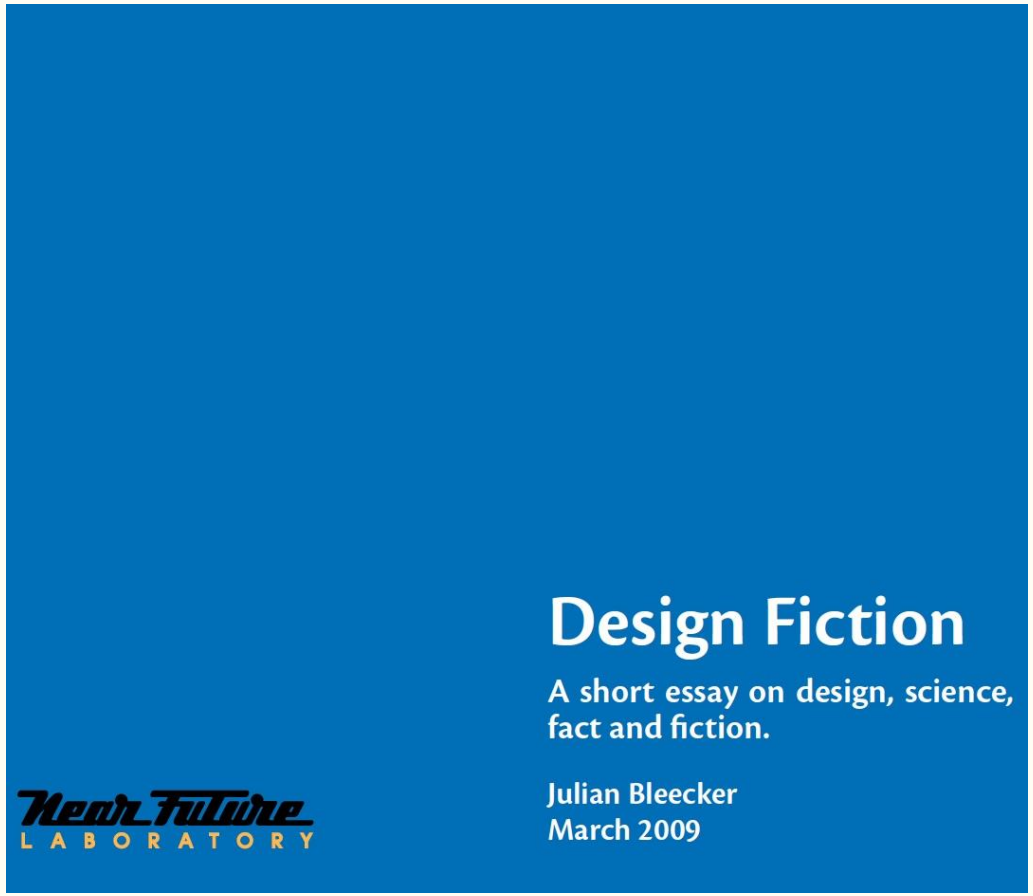
Capitalising on the latest findings in environmental neuroscience, the product’s Toronto-based creators claim that **their patented personal wellness system brings restorative benefits equivalent to, or even greater than, nature in the raw**.”

Situation Lab (2017)

NATURE POD™

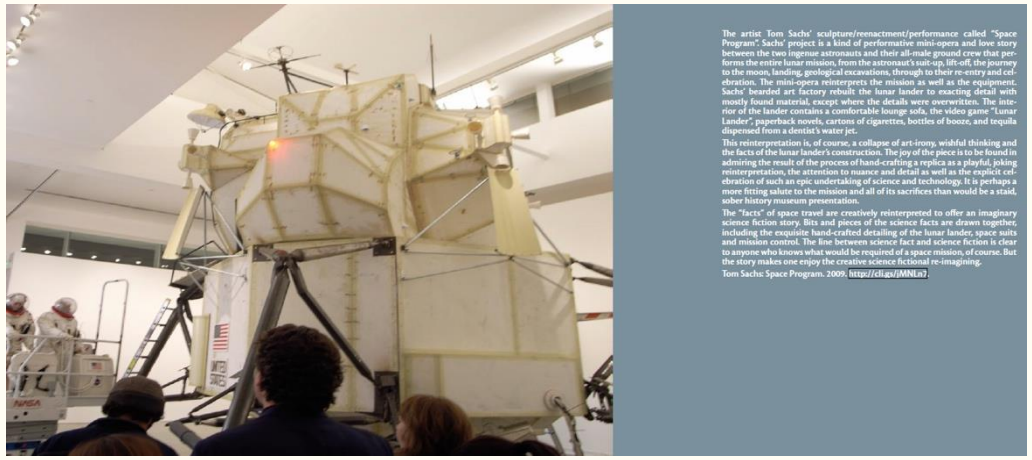
Tech

Here's a Baby VR Headset for the Parents of the Future



"Design Fiction is a practice that entangles design and fiction to **create evocative artifacts that express the contexts and outcomes of change.**"

[Design fictions are] ***symptoms*** **of macro-scale change that represent *implications* rather than make *predictions*.**"



Use in academic / scientific contexts

Game of Drones – provoking conversation

and the available flight time of the drone based on current battery level.

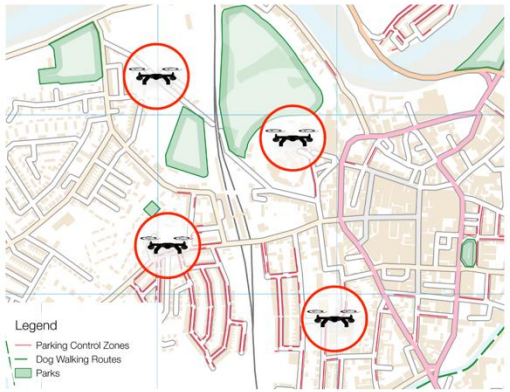


Figure 2. Map of Drone Enforcement Trial Area and Drone Stations

Gamification of Drone Operation

Whilst gamification is a still a controversial topic [2] it was considered an appropriate approach for providing feedback to the users in regard their performance within the system as there is already a game like

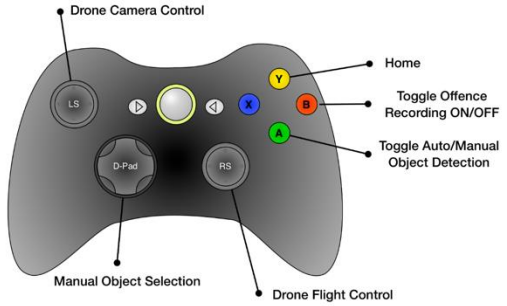


Figure 3. Drone Controls.

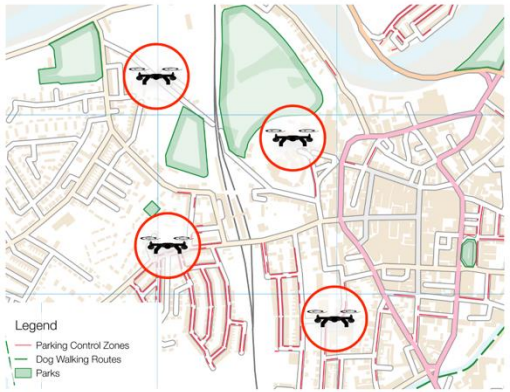
The most utilised feedback system for games are points that are principally used to provide a direct indication that some goal within a game has been achieved. In the case of parking enforcement points are awarded for each vehicle checked within extra points awarded for identification of parking offences. A ranking system was also incorporated based on the flight hours recorded by the drone pilots and enforcement points. During dog fouling enforcement points are awarded based on time as it relies solely on the observational skills of the pilot and extra points awarded for successful detection of an offence.

"While the vast majority of commercial providers have taken a traditional approach, employing dedicated enforcement officers to pilot the drones, in this paper we present on-going research that allows members of the local community to pilot the drones and thus act as enforcement officers. In particular it explores the gamification of these enforcement activities.."

Lindley & Coulton, 2015

Game of Drones – provoking conversation

and the available flight time of the drone based on current battery level.



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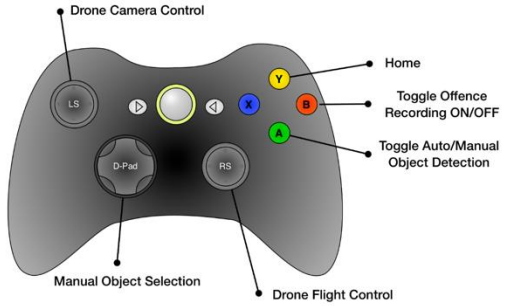

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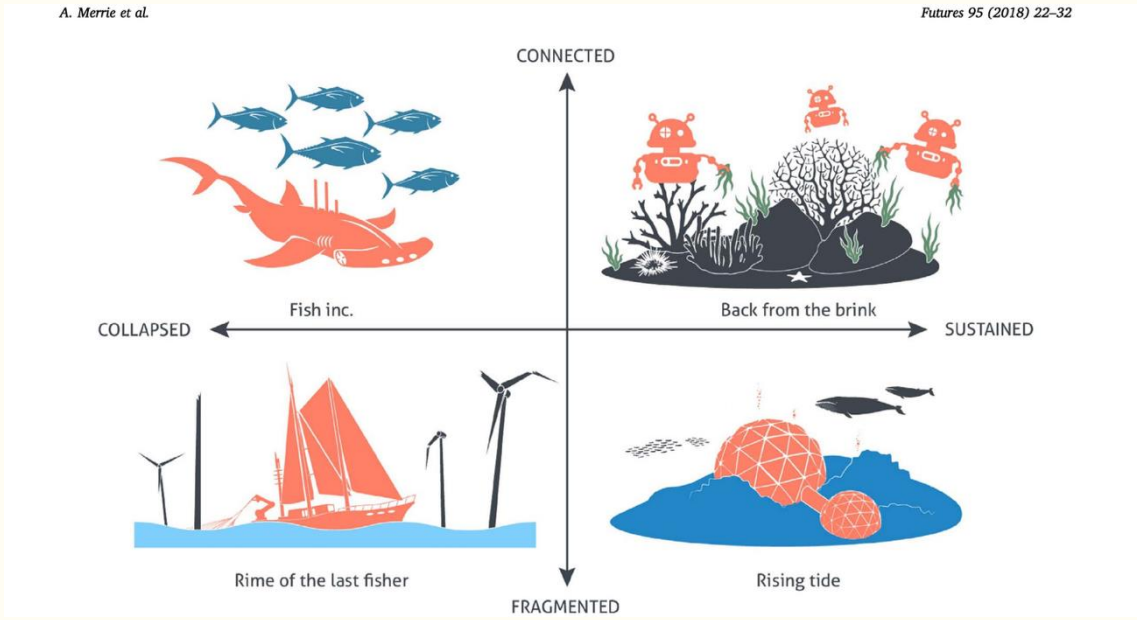
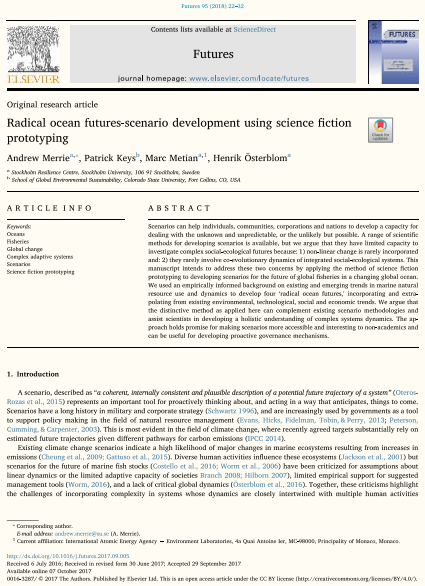
"…its purpose is not only to highlight potential usability or utility issues such systems might present but to also create a discursive space in which researchers can consider the wider societal and ethical issues of technological futures in which drones might be widely adopted"

Lindley & Coulton, 2015



https://radicaloceanfutures.earth/


Futures 95 (2018) 22–32

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Original research article

Radical ocean futures-scenario development using science fiction prototyping

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[b] School of Global Environmental Sustainability, Colorado State University, Fort Collins, CO, USA

ARTICLE INFO

Keywords:
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Fisheries
Global change
Complex adaptive systems
Scenarios
Science fiction prototyping

ABSTRACT

Scenarios can help individuals, communities, corporations and nations to develop a capacity for dealing with the unknown and unpredictable, or the unlikely but possible. A range of scientific methods for developing scenarios is available, but we argue that they have limited capacity to investigate complex social-ecological futures because: 1) non-linear change is rarely incorporated and; 2) they rarely involve co-voluntionary dynamics of integrated social-ecological systems. This manuscript intends to address these two concerns by applying the method of science fiction prototyping to developing scenarios for the future of global fisheries in a changing global ocean. We used an empirically informed background on existing and emerging trends in marine natural resource use and dynamics to develop four 'radical ocean futures,' incorporating and extrapolating from existing environmental, technological, social and economic trends. We argue that the distinctive method as applied here can complement existing scenario methodologies and assist scientists in developing a holistic understanding of complex systems dynamics. The approach holds promise for making scenarios more accessible and interesting to non-academics and can be useful for developing proactive governance mechanisms.

1. Introduction

A scenario, described as "*a coherent, internally consistent and plausible description of a potential future trajectory of a system*" (Otero-Rozas et al., 2015) represents an important tool for proactively thinking about, and acting in a way that anticipates, things to come. Scenarios have a long history in military and corporate strategy (Schwartz 1996), and are increasingly used by governments as a tool to support policy making in the field of natural resource management (Evans, Hicks, Fidelman, Tobin, & Perry, 2013; Peterson, Cumming, & Carpenter, 2003). This is most evident in the field of climate change, where recently agreed targets substantially rely on estimated future trajectories given different pathways for carbon emissions (IPCC 2014).

Existing climate change scenarios indicate a high likelihood of major changes in marine ecosystems resulting from increases in emissions (Cheung et al., 2009; Gattuso et al., 2015). Diverse human activities influence these ecosystems (Jackson et al., 2001) but scenarios for the future of marine fish stocks (Costello et al., 2016; Worm et al., 2006) have been criticized for assumptions about linear dynamics or the limited adaptive capacity of societies (Branch 2008; Hilborn 2007), limited empirical support for suggested management tools (Worm, 2016), and a lack of critical global dynamics (Osterblom et al., 2016). Together, these criticisms highlight the challenges of incorporating complexity in systems whose dynamics are closely intertwined with multiple human activities

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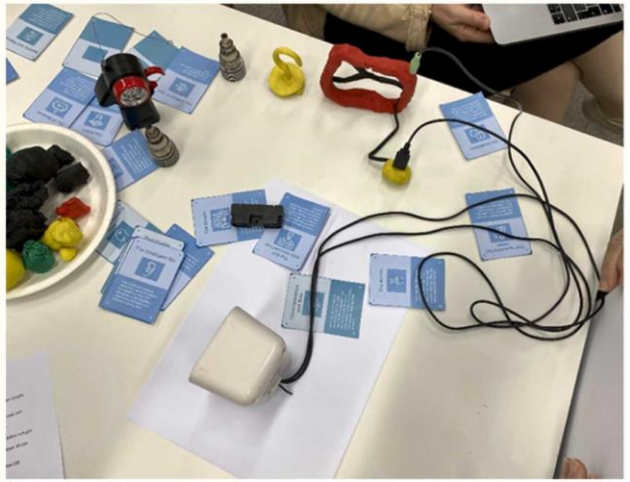
Peer reviewed paper- Merrie et al. 2018

Design fiction applications for organisations

Swedish Healthcare Case – using experiential futures methods, creating design fictions over 5 workshops



Munoz, Yams and Calgren (2025) in *Futures*

Expanding sustainability transitions research by “designing experiences of the everyday”…

1. Harnesses the ‘**aesthetics of the everyday**’ ”the sphere of life we know very well; something we are familiar with

2. Finding **truth in fiction**. “The function of fiction is the abstraction and simulation of social experience” (Oatley and Marr 2008). Releases audiences’ obligation to critically assess; willing to *suspend disbelief*

3. People build **‘real memories of virtual experiences’** (psychology) that may lead to behavior change; Engagement with fictional stories builds empathy and ‘theory of mind’ (neuroscience).

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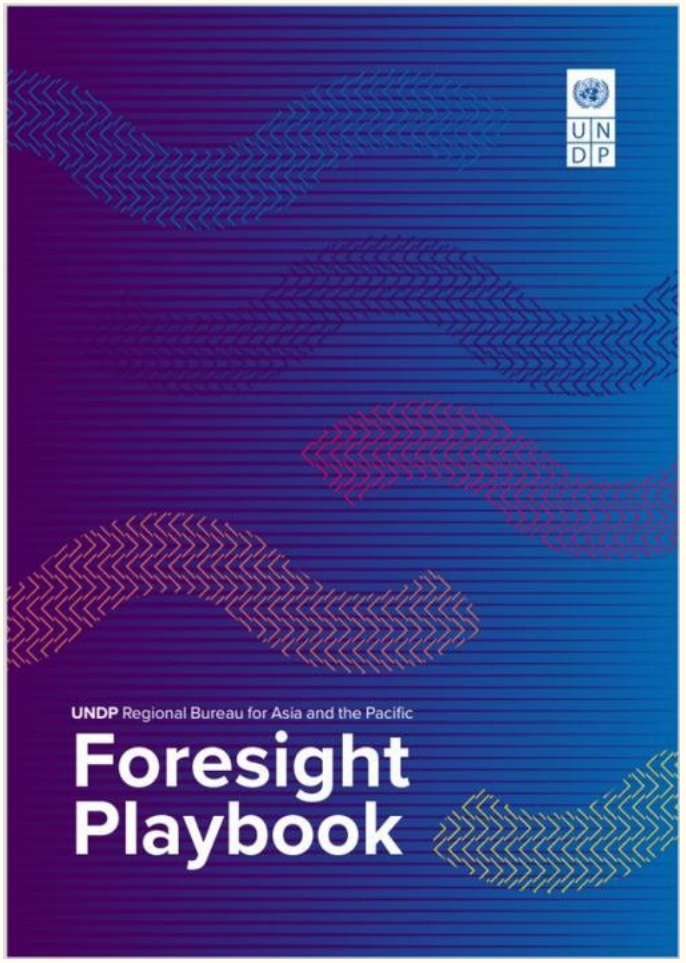
Garduno Garcia and Gaziulusoy, 2021

Not Here,
Not Now
Speculative Thought, Impossibility, and the Design Imagination
Anthony Dunne & Fiona Raby


UNDP
UNDP Regional Bureau for Asia and the Pacific
Foresight Playbook

THE MANUAL OF
DESIGN FICTION
by Julian Bleecker, Nick Foster, Fabien Girardin, and Nicolas Nova

examples, types

Playful imaginings of near future world products

Advocating for sustainable futures

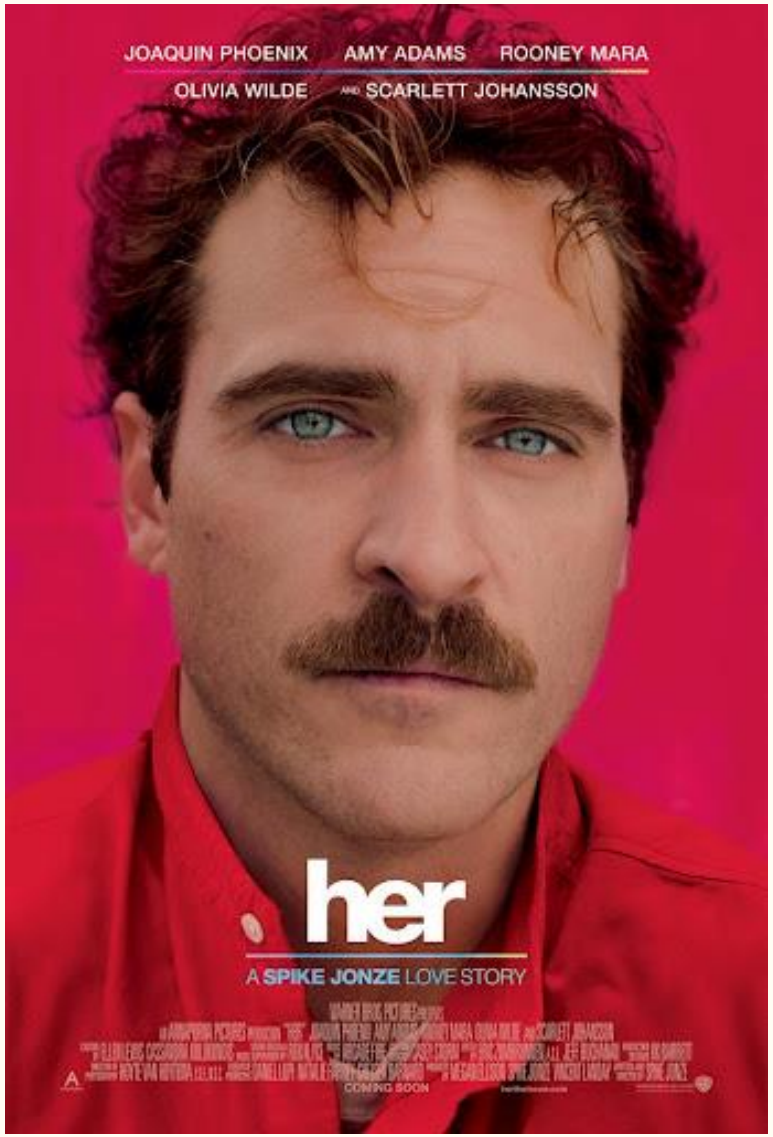
Bringing images of futures into Scientific Research

Professional provocation

Injecting imagination into expert domains and workplaces

BREAK ☺

film: Her


JOAQUIN PHOENIX
AMY ADAMS
ROONEY MARA
OLIVIA WILDE
AND SCARLETT JOHANSSON
her
A SPIKE JONZE LOVE STORY
COMING SOON

1. Examples of design fiction you saw in the film?
   sketch or write down two examples

2. Discuss with your neighbour

why did you choose them?
what do they tell us about the world of the film?

3. Share

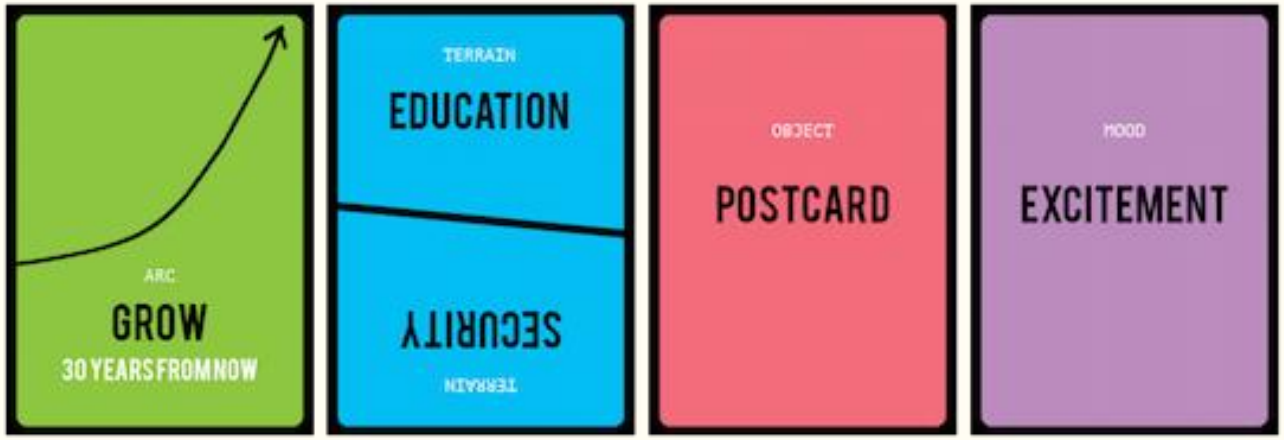
Ai technologies are existential;

“all-pervasive, co-forging our existence, touching upon the profundity of life, relating to our finitude, speaking to our shared vulnerability and deep relationality.

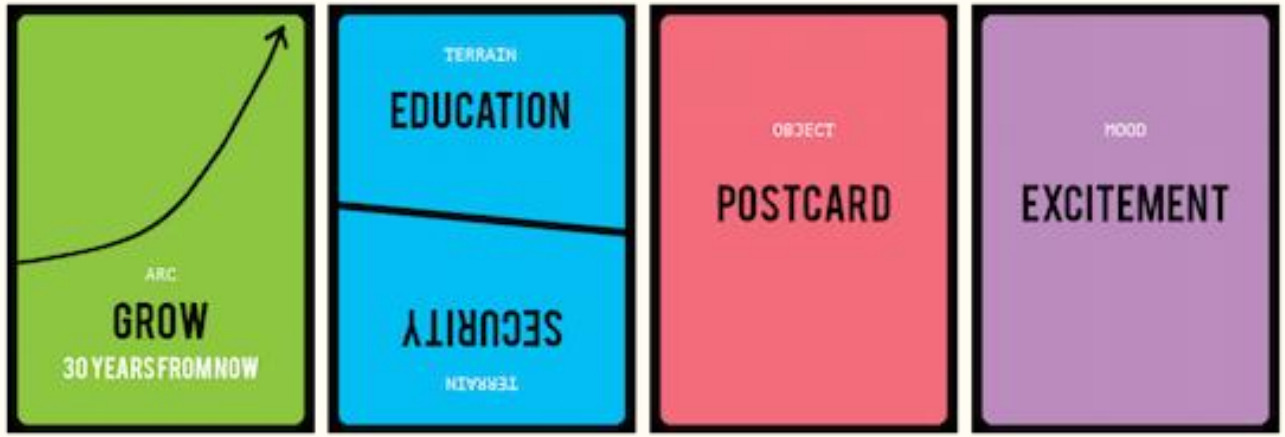
In other words, they are a concern for all citizens as *existential beings*—and not a “problem” for a club of brains to “solve.” ”

Amanda Lagerkvist (2025)

“The Thing From the Future” game
*the short version



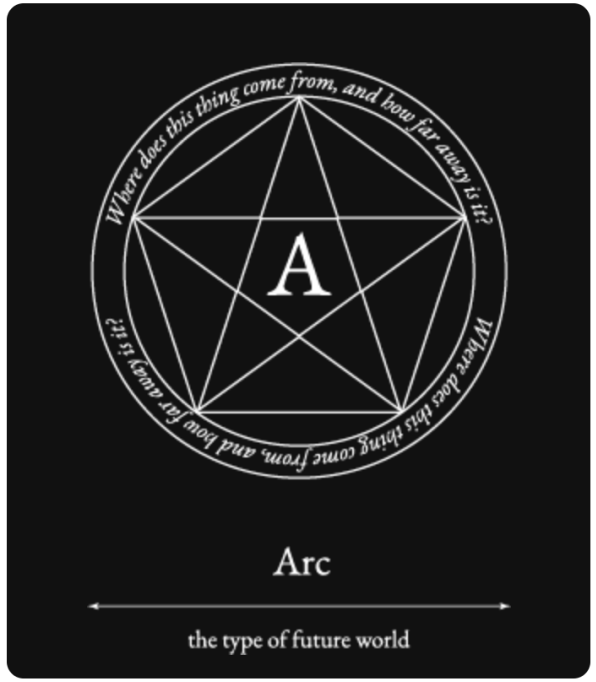
The “Thing From the Future” game. *the short version

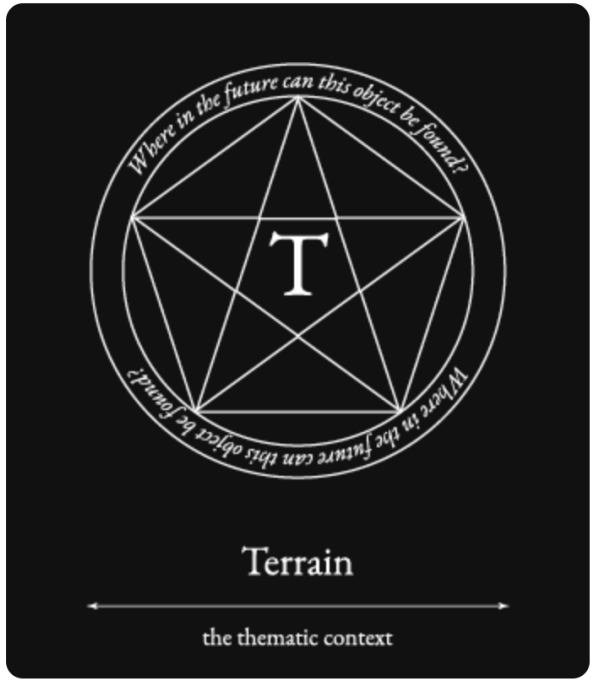


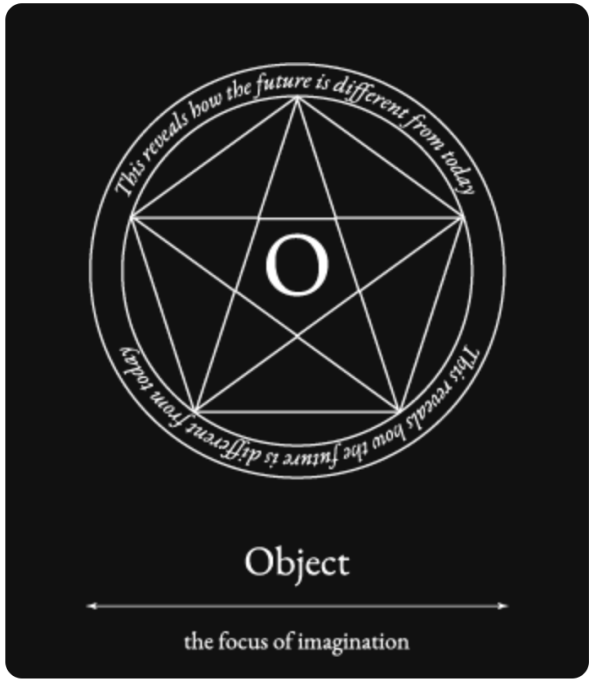
“Thirty years from now, in a future characterised by continuous growth, there is a postcard related to education that evokes a feeling of excitement…”

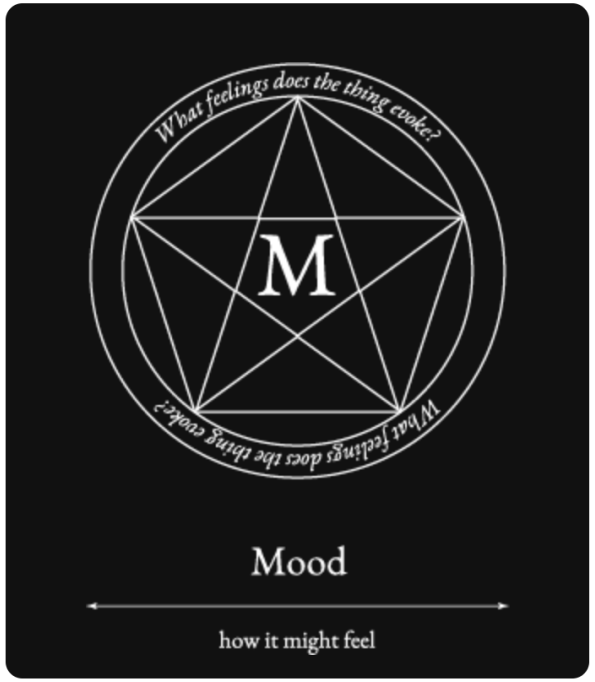
← Instructions

The Thing from the Future









A game by Stuart Candy and Jeff Watson
2015 CC-BY-NC-SA | situationlab.org | @sitlab
Developed for the web by Paritosh Ursekar

https://thing-from-the-future.glitch.me/

Thank you!

Lakin Anderson
lakin@kth.se

critical perspectives

Relies on a conception of time that sees the future as empty and abstract, rather than embedded in the lives of people (Adam & Groves, 2010; 2022).

-Cultural idea of time, other cultures have different ways of seeing…

Speculative design still lives very much within market capitalism, and has a consumerist focus. Could be used for other, more aticvist means (Tonkenwise, 2014)

Interesting ways forward

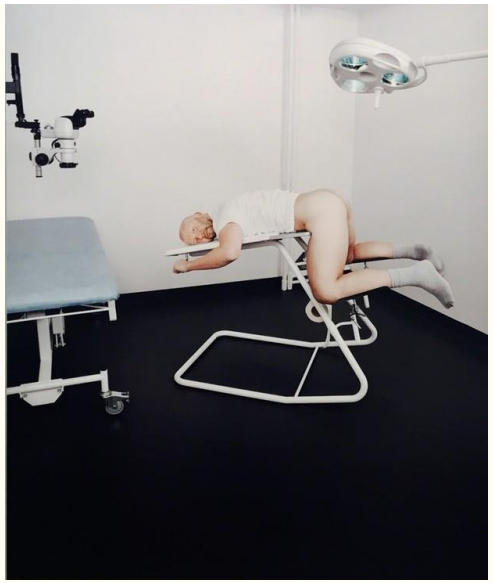
1. Developing structures/techniques for collective participation in experiential scenarios? (Candy and Dunegan, 2017) building theory and practice

2. Futures scenarios examining of research-society relationship e.g. around climate, climate governance

3. Empirical research on use of experiential futures in cross-disciplinary projects focused on sustainability, societal challenges. etc. Developing and embedding such techniques within projects, measuring how this changes outcomes for participants, organizers, funders etc.?

4. Developing theory and practice of experiential techniques for accessing the future – e.g. Comparison to other experiential techniques used

THE ICEBERG MODEL
Use this tool to help you think more systemically!
EVENTS
What is happening?
PATTERNS OF BEHAVIOR
What trends are there over time?
SYSTEMS STRUCTURE
How are the parts related?
What influences the patterns?
MENTAL MODELS
What values, assumptions, + beliefs shape the system?
Increasing Leverage
Academy for Systems Change

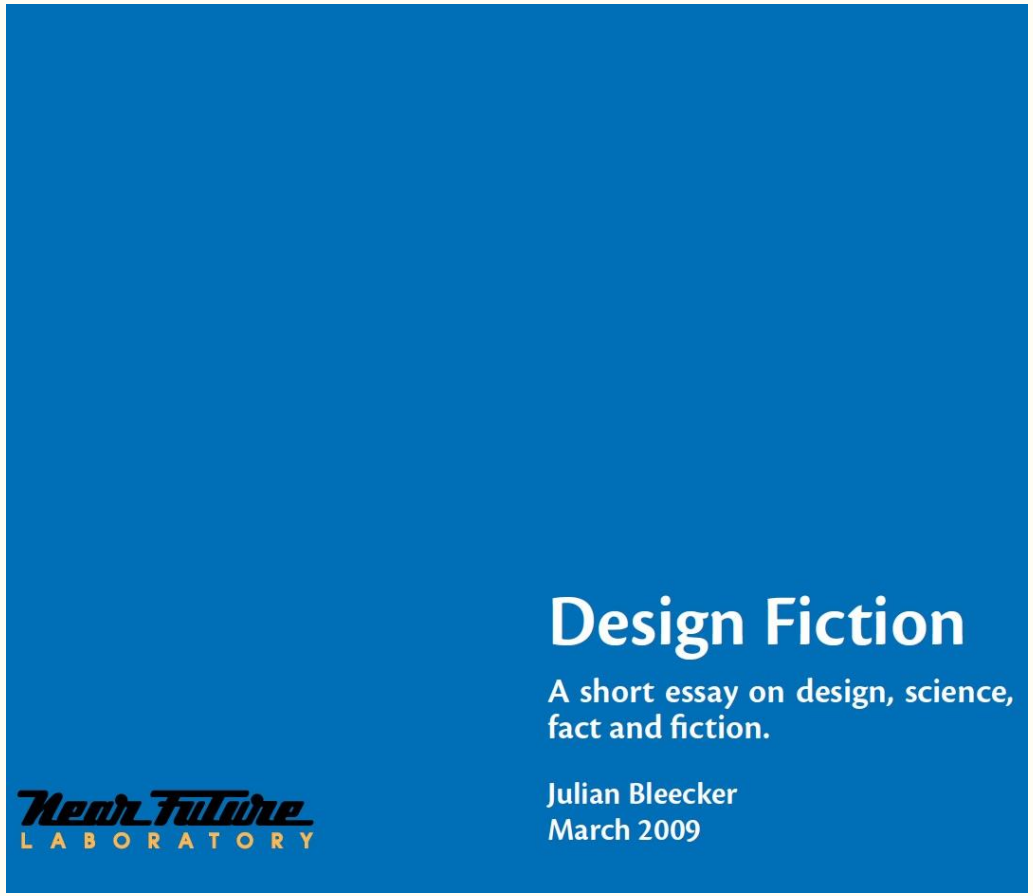


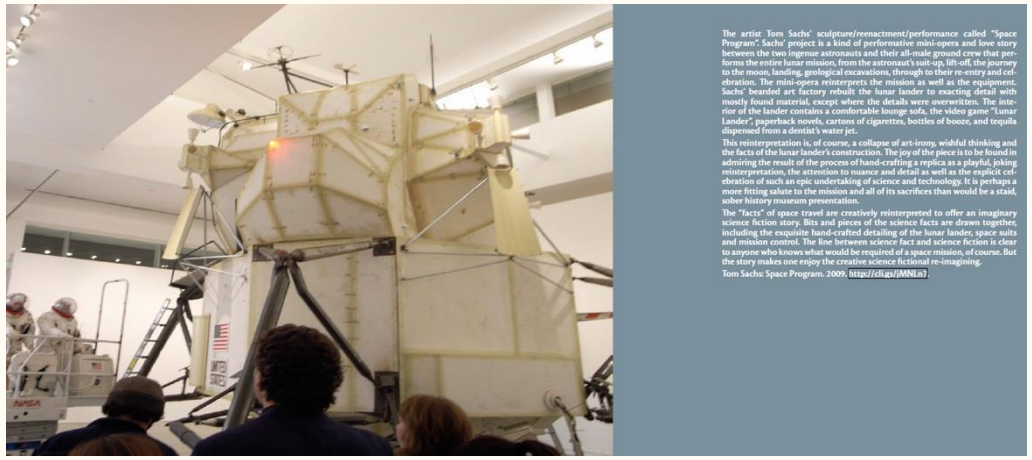
THE ANDRO-CHAIR

Sundbolm *et al* (2015): Nordes 2015: Design Ecologies

"Why did you design something bad, instead of designing a solution?", "You don't solve any user needs?!" "I can't see the equality in this?" "Why are you giving us men a bad thing as well?"

…our aim was not to solve the problem, but rather to shed light on this problem area and facilitate discussions.





In what way might visual story tellers, technical consultants, props makers and science fiction authors be doing [technology] research better than their Ph.D. counterparts working studiously in their labs?

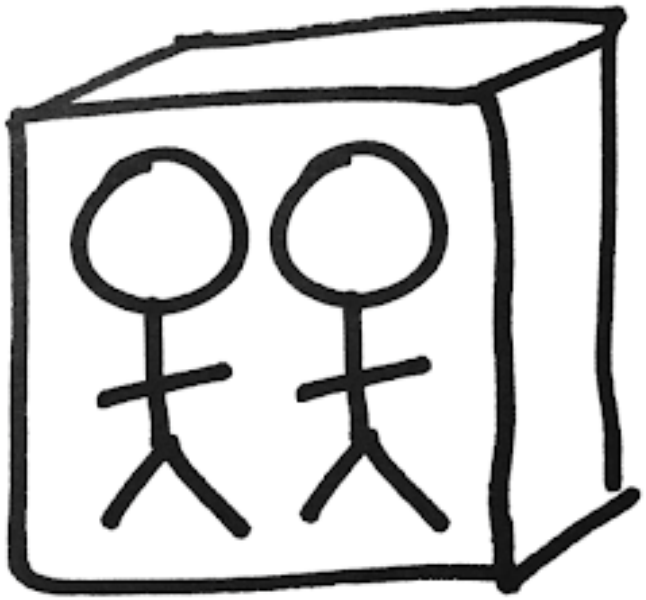
They tell a better story because they are story tellers, because **they understand that a technical instrument lives in a social world**, whereas an engineer will tend to constrain the context to instrumental functionality.

“the manifestation of one or more fragments of an ostensible future world in any medium or combination of media including image, artifact, and performance.

It involves **designing and staging interventions** that exploit the continuum of human experience, the full array of sensory and semiotic vectors, in order to **enable a different and deeper engagement** in thought and discussion about one or more futures, **than has traditionally been possible through textual and statistical means of representing scenarios**

(Candy, 2010, p. 3).

Experiential futures



Situations

Immersive scenarios;
Roleplaying and simulation

Stuff

Design fiction;
Speculative and Critical design

@futuryst / thx @gregvan

Candy & Dunegan, 2017

Futures and Foresight methods…

Exploring the future
1.1 Driver mapping
1.2 Horizon Scanning
1.3 Trends identification and Analysis

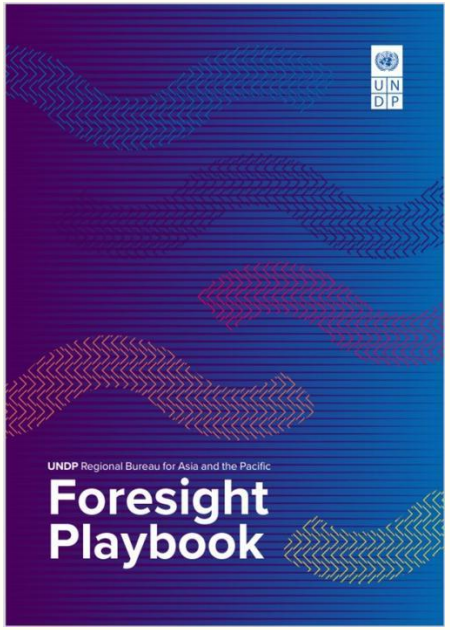
Creating Alternative Futures
2.1 Causal Layered analysis
2.2 Futures Triangle
2.3 Scenarios

Reimagining the future
3.1 The 3 Horizons Framework
3.2 Inclusive imaginaries

Sensemaking
4.1 Sensemaking as process

Transforming the future
5.1 Visioning
5.2 Backcasting

Future-Proofing Strategies
6.1 Wind-tunnelling
6.2 Road mapping



UNDP, 2018/2021