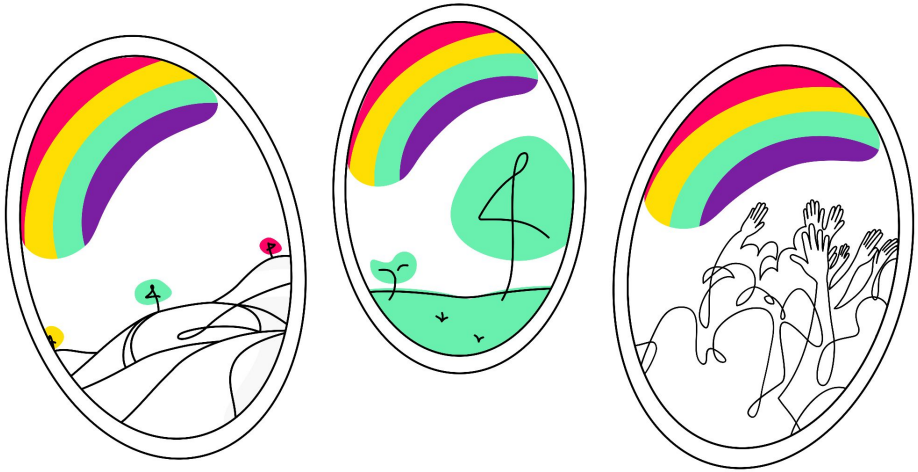
Technology as a mirror and what “good” looks like

Thrutopian paths and moral imagination



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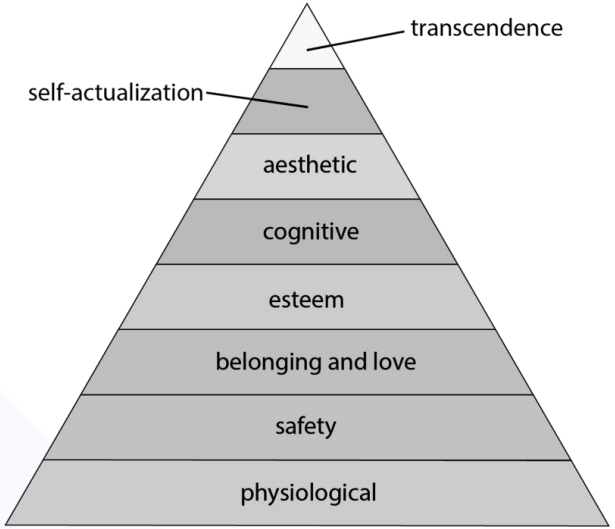
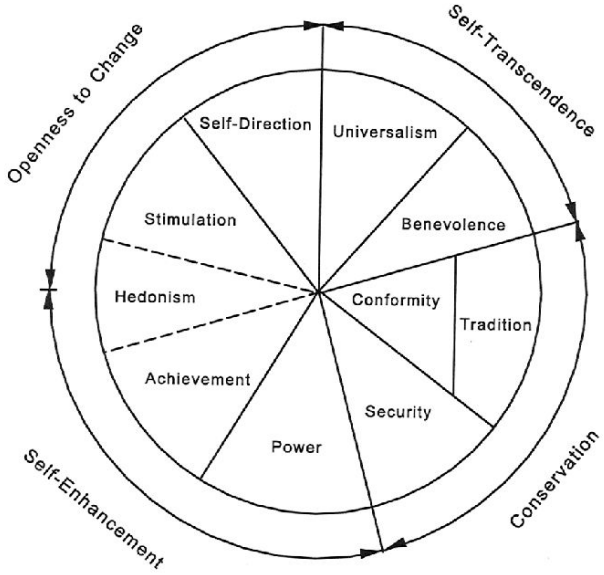
Human needs and values

Basic primer



Maslow's hierarchy of needs

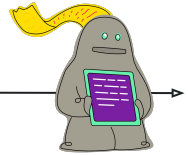


Schwartz's model of basic human values

Technology as a mirror

From fire to generative AI

Tribal, communal	*Early states, hierarchical*	*Feudalism, religious authority*	*Capitalism, industrialisation*	*Corporate capitalism, data monopolies*
Fire, Language	**Metal tools, the wheel**	**Gunpowder, printing press**	**Steam engine, electricity**	**Internet, smartphones, generative AI**



Prehistoric Era (8,000 BCE - 3,500 BCE)

Antiquity/Ancient Era

Medieval Era

Industrial Era

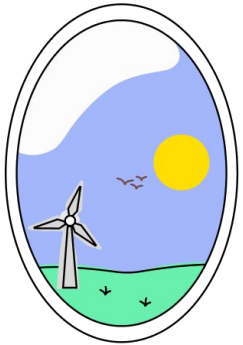
Digital Age (Late 20th century to present)

Taxonomy of Tethix mirrors

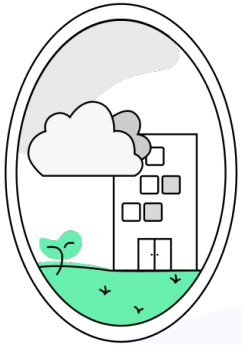
Frames for reflection on socio-techno-moral futures

The Taxonomy of Tethix Mirrors draws upon varying shades of optimism, realism, and critique, categorising perspectives into four distinct “mirrors”: Dark, Bright, Grey, and Rainbow. Each mirror offers a unique vantage point and frame to explore the possible, projected, probable and preferable futures we’re collectively creating. From dystopian warnings to utopian dreams, and from pragmatic outlooks to inclusive aspirations.

Dark mirror



Bright mirror



Grey mirror

Rainbow mirror

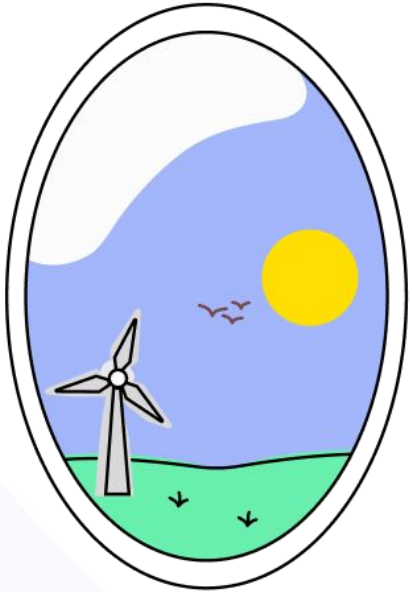
The **Dark Mirror** view is the cautionary tale, forewarning of a dystopian future where technology exacerbates human flaws and subjugates individuals and the environment, leading to societal decay.

Pros

- **Risk mitigation:** helps identify potential downsides early on, allowing for preventive measures.
- **Ethical safeguard:** forces us to confront uncomfortable truths, serving as a moral guardrail or threshold.
- **Civic engagement:** can mobilise public opinion against potentially harmful technologies.

Cons

- **Innovation dampener:** might discourage groundbreaking initiatives due to fear of worst-case scenarios.
- **Cynicism:** could lead to a general distrust of technology, hampering constructive engagement.
- **Paralysis:** risks creating a ‘deer in the headlights’ effect where the fear of doing something wrong prevents any action.



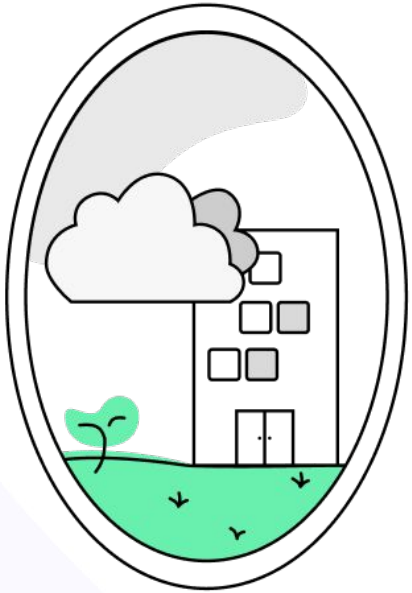
The **Bright Mirror** frame reflects a utopian future where technology is an unequivocal force for good, elevating human capabilities and solving societal problems.

Pros

- **Inspirational:** can foster a culture of positive possibility exploration and cultivate a ‘can-do’ optimism.
- **Resource attraction:** the positive outlooks can attract talented people to projects and also capital investment and resources.
- **Long-term vision:** helps with the setting of ambitious and aspirational goals that can stretch people to achieve beyond what they thought possible.

Cons

- **Blind spots:** can lead to overlooking critical ethical and social implications of the technologies or approaches being used.
- **Echo chamber:** risks creating an environment where only positive aspects are discussed.
- **Unrealistic expectations:** may set unattainable standards, leading to disappointment and diminished motivation in the medium to longer term.



The **Grey Mirror** frame offers a pragmatic outlook, acknowledging that technology is a double-edged sword with both positive and negative impacts, requiring careful management.

Pros

- **Holistic analysis:** encourages weighing the good with the bad for a comprehensive outlook.
- **Pragmatism:** fosters a balanced approach to ethical considerations and functional demands.
- **Resilience:** prepares us for both success and failure, making for a more adaptable strategy.

Cons

- **Middling impact:** may result in solutions that are adequate and acceptable but not extraordinary and preferable.
- **Decisional complexity:** the nuanced view can complicate the decision-making process if there are divisive issues involved.
- **Apathy:** a focus on balance and trade-offs can be interpreted as a lack of moral conviction.

The **Rainbow Mirror** frame promotes a diverse, inclusive, regenerative and interconnected vision of technology, aiming for a future where tech enriches human life and the environment in a balanced way.

Pros

- **Civic participation:** promotes grassroots involvement and democratisation of technology.
- **Ecological balance:** encourages tech solutions that are sustainable and harmonious with nature.
- **Social cohesion:** can lead to technologies that actively reduce social inequalities and inequities.

Cons

- **Resource intensive:** may require significant effort and resources to include diverse perspectives.
- **Idealism:** can be easily dismissed as too utopian and thus not actionable by some stakeholders.
- **Dilution of focus:** aiming to serve too many goals can result in few being achieved effectively.

How does your current design project reflect the societal values, fears and/or desires of our era?

Is there a mirror that is reflected stronger than others?

Moral imagination and ethics

Ethics is a deliberation process and moral imagination is it's foundation

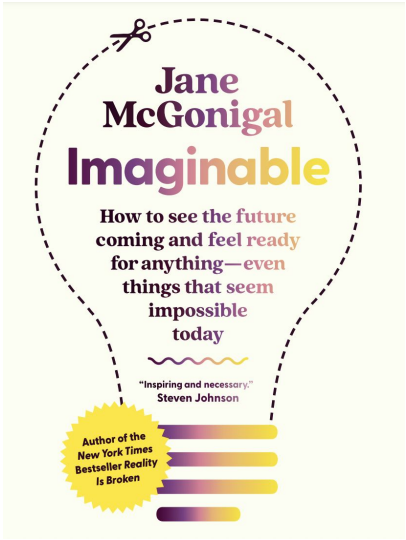
Moral imagination means envisioning many possible futures and creatively exploring alternatives to find paths to the most preferable ones. Moral imagination can help you derive moral principles from creative works such as music, visual and performance art and sci-fi movies and memes in popular culture. It is like a creative theatre for the mind, where we can co-author and rehearse different scenarios. Allowing us to explore not just "*what is*" but "*what could and should be*".

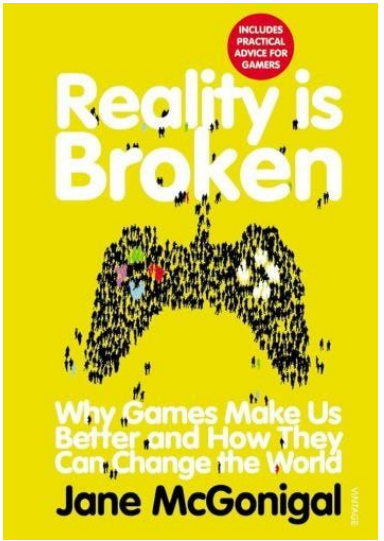
Ethics is the process of deliberation where we try to make decisions about what we believe is good and right in a given situation. Ethics is something we practice everyday without realising it or being conscious of it. Be that in how we decide to orient our mindset every morning, use technology or make consumer purchases. As designers you have power in shaping possible futures. And you have a responsibility to make ethics a conscious process to ensure you design the right thing and design it right.

Play and imagination as superpowers

"Playing it out before you live it out"

Serious play is an approach that leverages playful inquiry techniques to support collective problem-solving. By engaging with creative exercises, we can unlock new perspectives, allowing us to see ethical challenges in a fresh light. **Play helps us exercise moral imagination** by "playing out" different scenarios and getting a better grasp of consequences before committing to action. It allows us to explore complex ethical dilemmas in a safe, experimental environment, where we can rehearse possible futures and discover new pathways for success and ethical behavior.





Tethix play example

How might you best harness moral imagination in your current design project?

Prototyping what “good” looks like

Moral imagination helps us envision preferable futures

Good?

What is deemed as good and most preferable varies based on who is being asked or engaged. Co-design and participatory design methods help what is considered to be good and right to emerge through the process and ensure those with the power (i.e. the designers) are not the moral arbiters.

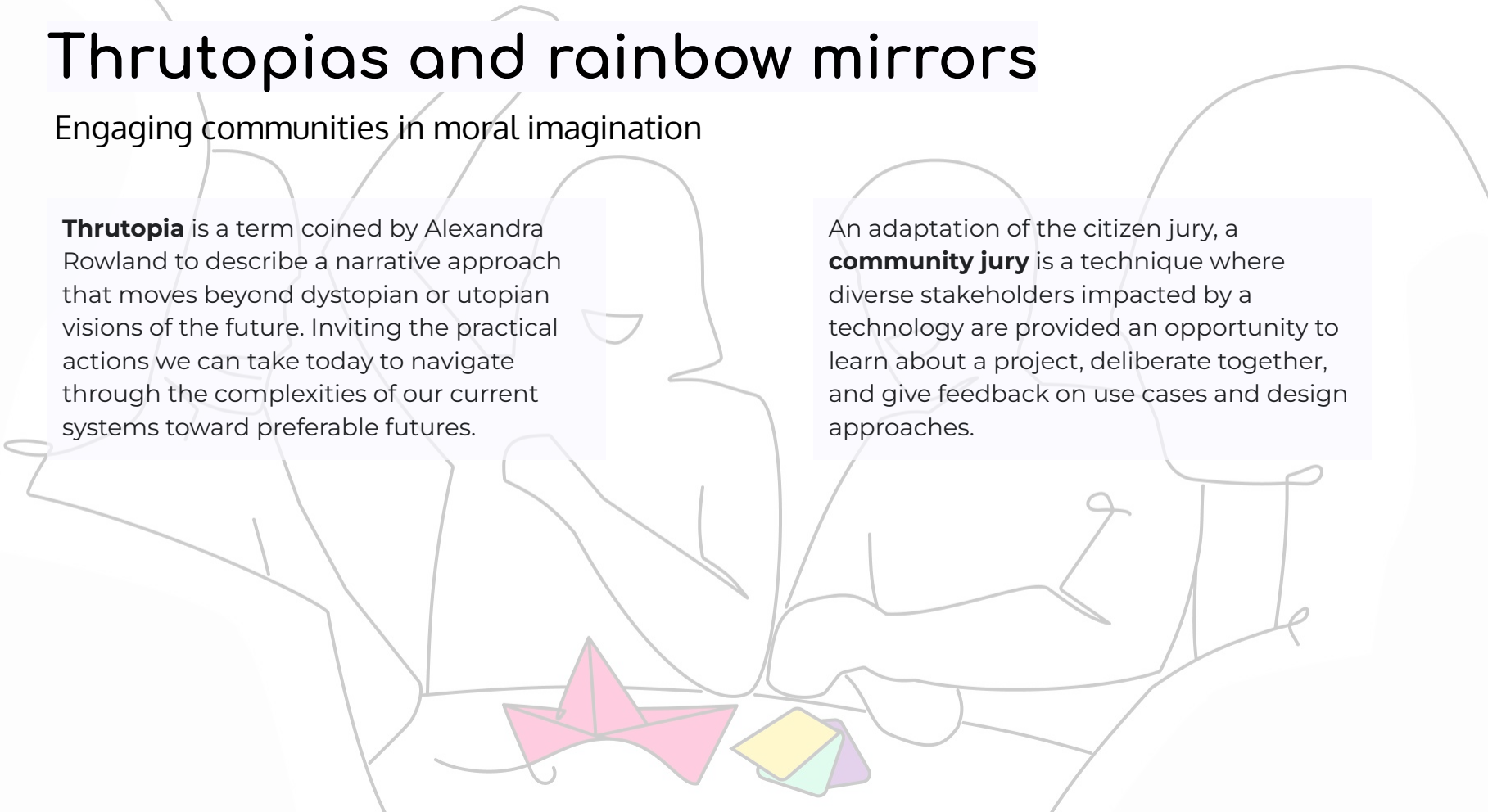
Prototyping with diverse stakeholders helps you to explore and collectively decide what good looks like.

Thrutopias and rainbow mirrors

Engaging communities in moral imagination

Thrutopia is a term coined by Alexandra Rowland to describe a narrative approach that moves beyond dystopian or utopian visions of the future. Inviting the practical actions we can take today to navigate through the complexities of our current systems toward preferable futures.

An adaptation of the citizen jury, a **community jury** is a technique where diverse stakeholders impacted by a technology are provided an opportunity to learn about a project, deliberate together, and give feedback on use cases and design approaches.



Community jury: case study

Use of health data - Connected Health Cities

Overview

The Connected Health Cities (CHC) conducted two citizens' juries in 2016, aiming to explore public opinions on the planned and potential uses of health data. These juries involved 36 citizens from Manchester and York who deliberated over four days on whether these uses of health data were acceptable.

https://connectedhealthcities.github.io/

Community jury: case study

Use of health data - Connected Health Cities

Proposed use of health data

- **Stroke Detection:** Using data from ambulances and hospitals to improve paramedics' ability to detect strokes.
- **Elderly Frailty:** Collecting data from various healthcare providers to help GPs identify elderly patients needing extra care.
- **Alcohol-Related Problems:** Using data to provide guidance on treating alcohol-related health issues.
- **A&E Services Planning:** Using data to plan future demand for A&E services and care for special groups, such as people with dementia.

Potential uses explored

- **Pharmaceutical Companies:** Using anonymised data to study prescribing patterns for diabetes treatment.
- **AI for Sepsis Detection:** Employing data to train AI to diagnose sepsis.
- **Fitness App Development:** Using hospital data to develop apps that suggest tailored fitness regimes.
- **Health Clubs:** Using aggregated data to identify members at risk of heart attacks.

Community jury: case study

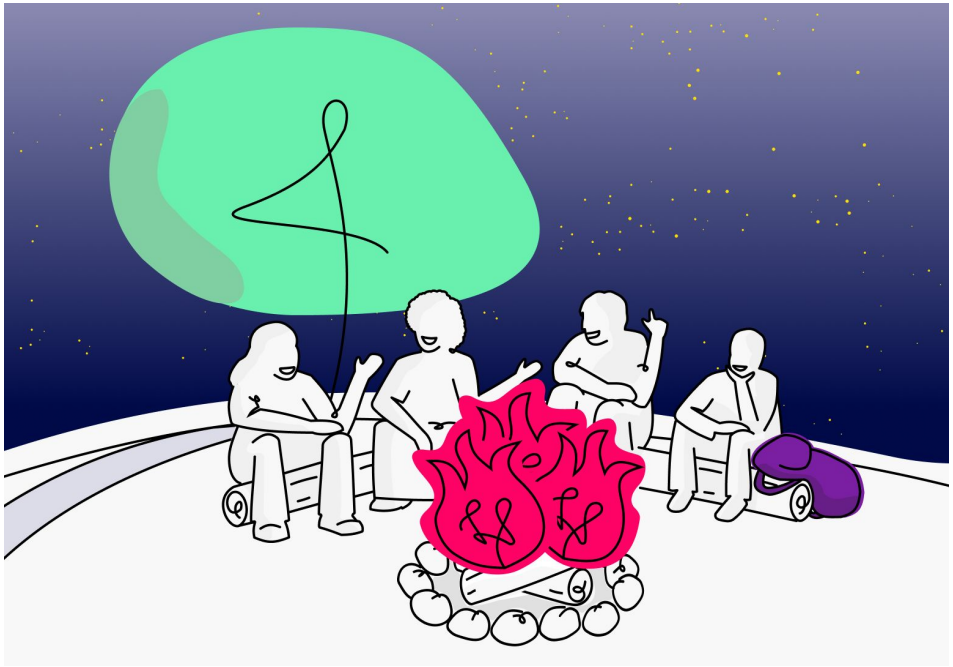
Use of health data - Connected Health Cities

Main findings

- **General Support for Planned Uses:** The majority supported the planned uses, especially the stroke detection project, which was seen as potentially improving health outcomes and saving lives. However, there were concerns about certain uses, such as identifying frail elderly patients, due to fears of increased stigmatisation or lack of funding for implementation.
- **Mixed Views on Potential Uses:** The AI-based sepsis diagnosis project gained strong support due to its potential for early detection and improved outcomes. However, commercial uses, such as fitness apps and health clubs, were met with skepticism, as jurors doubted the public benefit and expressed concerns over data privacy.
- **Increased Support for Data Sharing:** Many jurors shifted towards being more supportive of data sharing for public benefit after deliberation, although concerns remained about the potential for misuse in commercial contexts.
- **Concerns over Safeguards:** Jurors highlighted the need for stronger data protection, especially when it came to commercial entities, and suggested additional safeguards to ensure data confidentiality and public trust.

Group activity

Who would you invite to your community jury?



Activity instructions

Rejoin your project group to work on this activity.

Brief Recap:

Quickly remind each other of your project's goal, users and stakeholders, and any ethical concerns.

Who's on Your Jury?

Imagine you're forming a community jury to evaluate your project's ethical considerations.

Discuss: Who should be on this jury? Consider your users, stakeholders, subject matter experts, policymakers, community leaders, and future generations that would be impacted by your project and the design decisions you are making.

Key Questions:

- Who is most affected by your project?
- Whose perspectives are missing?
- Who can help you see blind spots?

Prepare to Share:

Be ready to share one or two key people/jurors and explain why they're important.

Closing reflection

Pathfinding and thrutopia

- Whose needs and values are represented in the technology or technologies you're designing or designing to use?
- Does your approach to technology reinforce dominant power structures, or does it challenge them?
- What narratives are embedded in your design, and how might those narratives shape the future?
- How might you use moral imagination and playfulness to create technology that reshapes power dynamics in a more just and equitable way?

Further exploration

Tethix resources

Tethix Mirrors on ETHOS

Tethix directory of ethical tools and techniques

Join the Tethix Pathfinders

Other references from presentation

Community Jury Method - Microsoft

Overview of Schwartz Basic Human Values Model

Jane Mcgonigal - Serious Play

Thrutopia

Thrutopia - Manda Scott

Thrutopia GPT Guide

Deeper dive into history of tech

Calculating Empires - Tech History Visualisation

Plurality and technology

Plurality Book - The future of collaborative technology and democracy

Rainbow mirrors

Rainbow Mirrors GPT

Rainbow Mirrors IEEE - Tech and Society Magazine