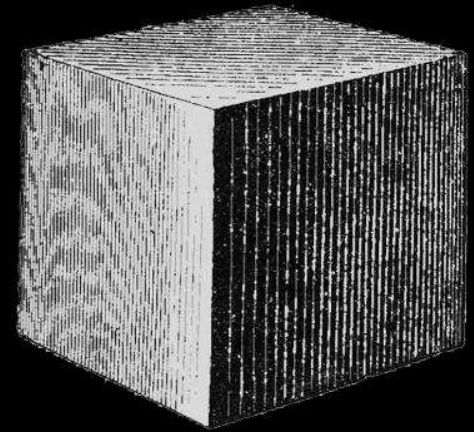
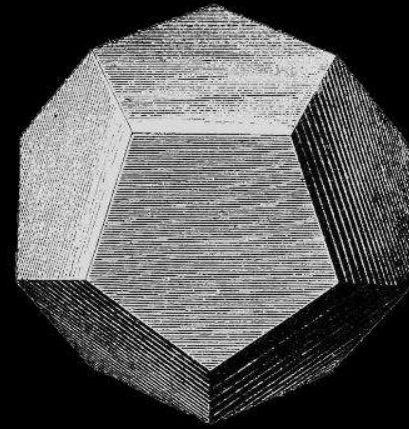
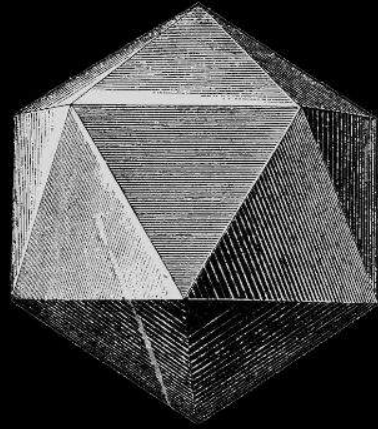
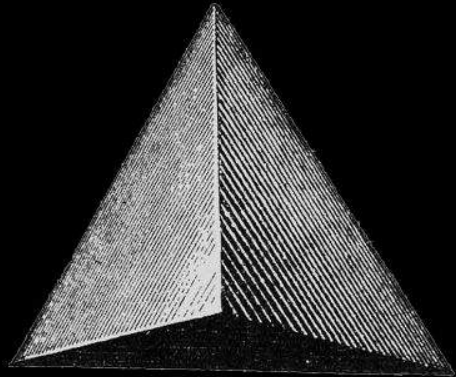
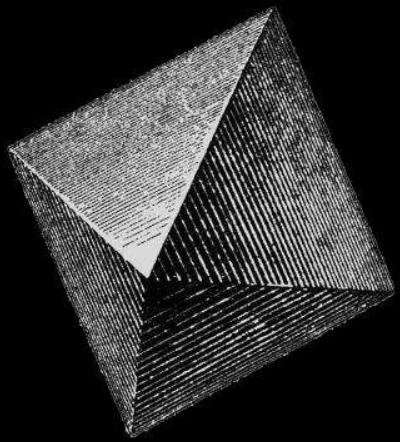
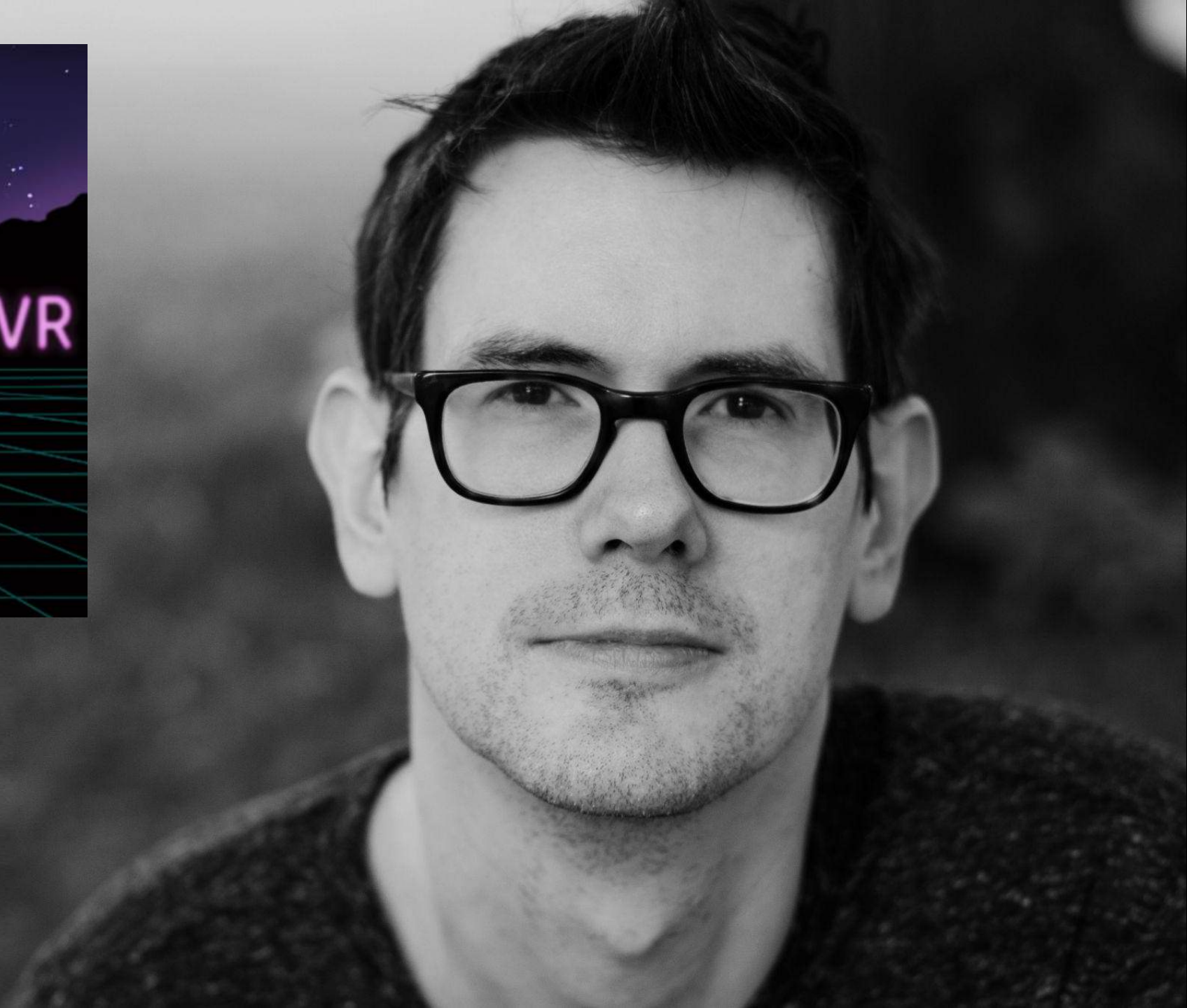


# Patterns of Meaning, Transformation, and Impact in XR

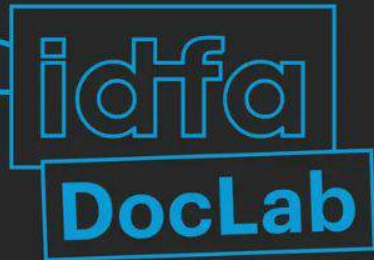




- Experiential & Phenomenological Framework
- *Impulse* Impact Study
- Transformation Economy, Mission-Oriented Change, & Co-Creation
- Other Models for Paradigm Shifts
- AI & Friction








# IDFA DOCLAB IMMERSIVE THINK TANK REPORT

Cross-sector insights and reflections on the future of immersive, AI, and interactive art

Written by Kent Bye | 21.04.2026

Produced with support from 



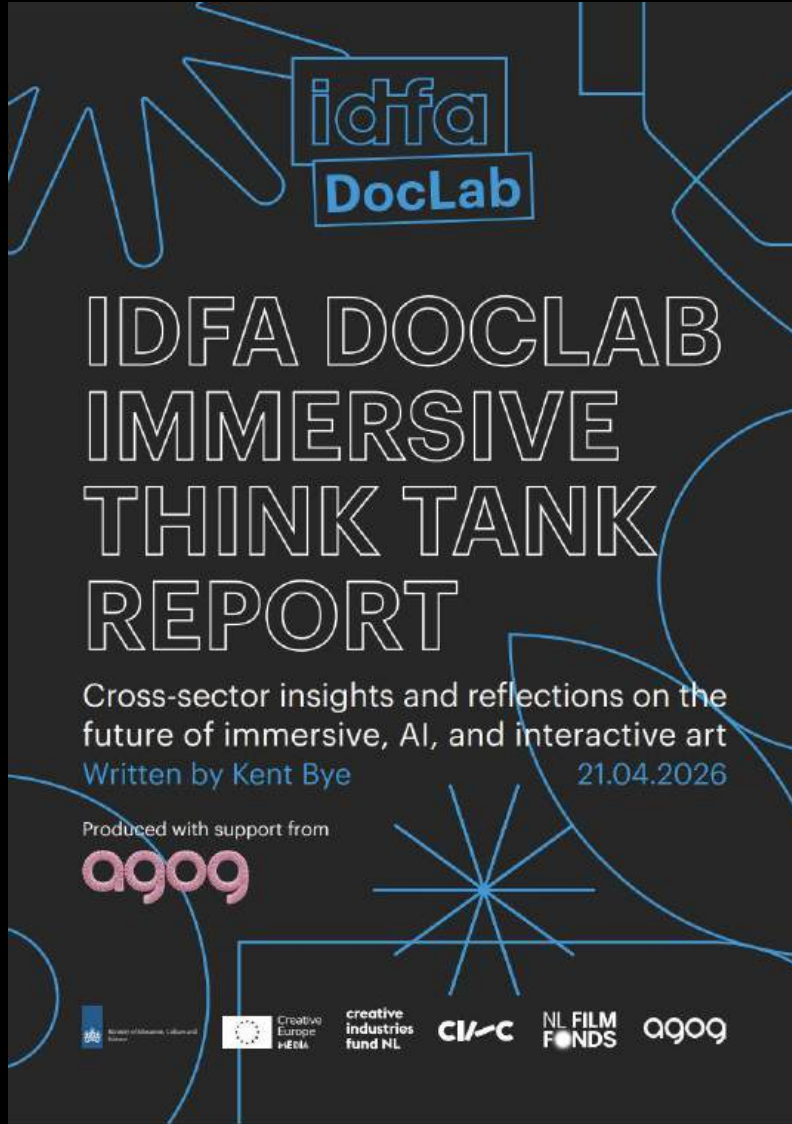
creative  
industries  
fund NL



NL FILM  
FONDS



# "Are we changing things with these pieces?"

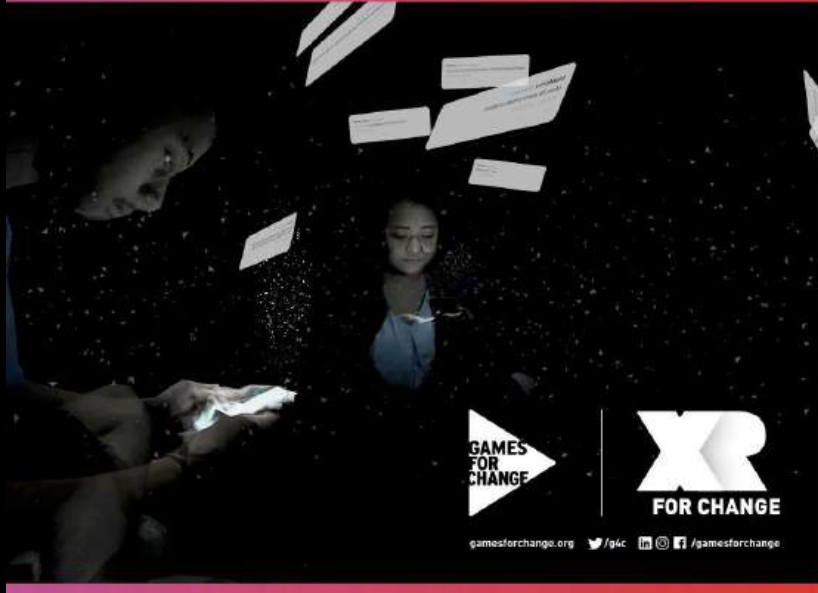


"We also need to think about the changemakers, the activists, and the non-profits. I don't think it's an artist's job to make all the change in the world. And we need to bring in the people who are on the ground doing the work related to these pieces that we're talking about... I don't want us to operate in a vacuum. And even if there is distribution, are we changing things with these pieces?"

## Deepening Engagement and Learning Impact through Virtual Reality Activations

Case Study Project: *On the Morning You Wake (to the End of the World)*

JAN PLASS, BRUCE HOMER, MICHAELA TERNASKY-HOLLAND, AND ERINN BUDD



## RESULTS OF IMPACT STUDY CARRIED OUT FOR MIXED REALITY EXPERIENCE IMPULSE

DIGEST FOR GENERAL  
PUBLIC

STUDY SUPPORTED BY

agog

IN PARTNERSHIP WITH

ANAGRAM



## IMPULSE RESEARCH STUDY DETAIL AND RESULTS

Prepared by Alexandra Sierra

December 19, 2025

pg 1

- Plass, J., Homer, B., Ternasky-Holland, M., & Budd, E. (2023, April) *Deepening Engagement and Learning Impact Through Virtual Reality Activations: Case Study Project: On the Morning You Wake to (to the End of the World)*. Games for Change. Retrieved May 30, 2026 via <https://www.gamesforchange.org/wp-content/uploads/2023/04/Deepening-Engagement-and-Learning-Impact-through-Virtual-Reality-Activations.pdf>
- Sierra, A (2026, May 28). Results of Impact Study Carried out for Mixed Reality Experience Impulse: Digest for General Public. Agog & Anagram. Retrieved on May 28, 2026 via <https://weareanagram.co.uk/impulse>
- Sierra, A. (2025, Dec 19) Impulse Research Study Details and Results. (pages 11-12) [Unpublished at time of talk]. Available via <https://weareanagram.co.uk/impulse/>

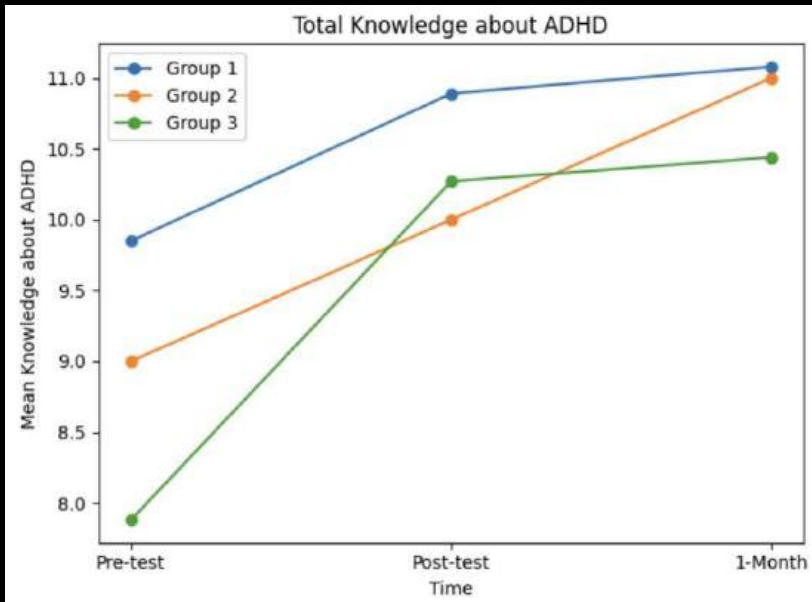


Figure 5. Total Knowledge of ADHD by Group and Time

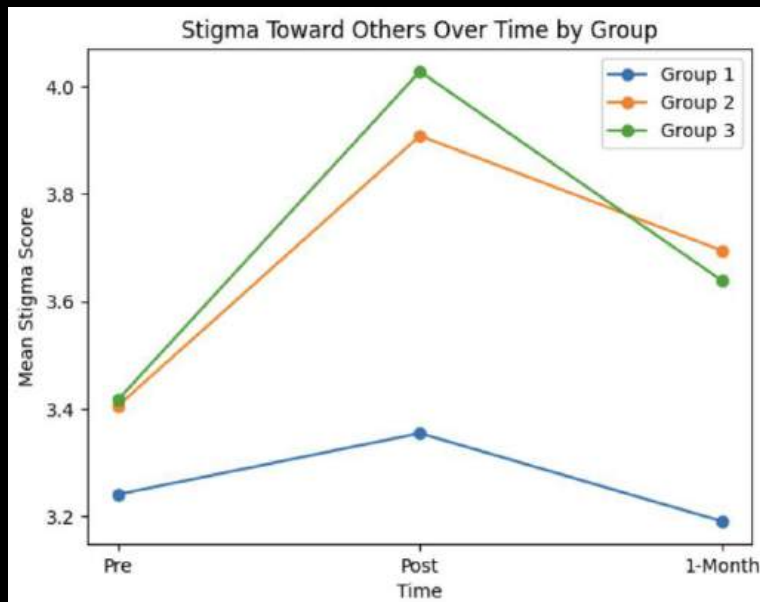


Figure 8. Stigma Toward Others Over Time by Group

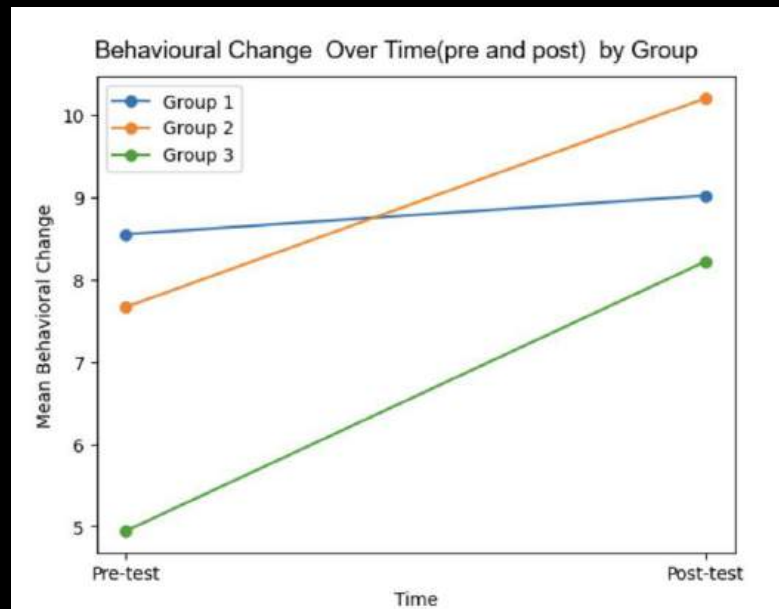


Figure 11. Behavioural Change toward others with ADHD Over Time (pre and post) by Group

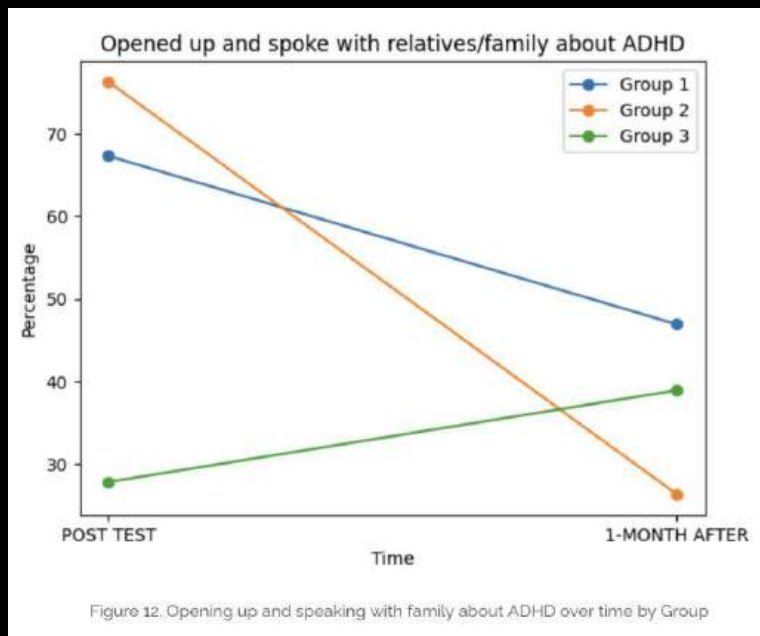
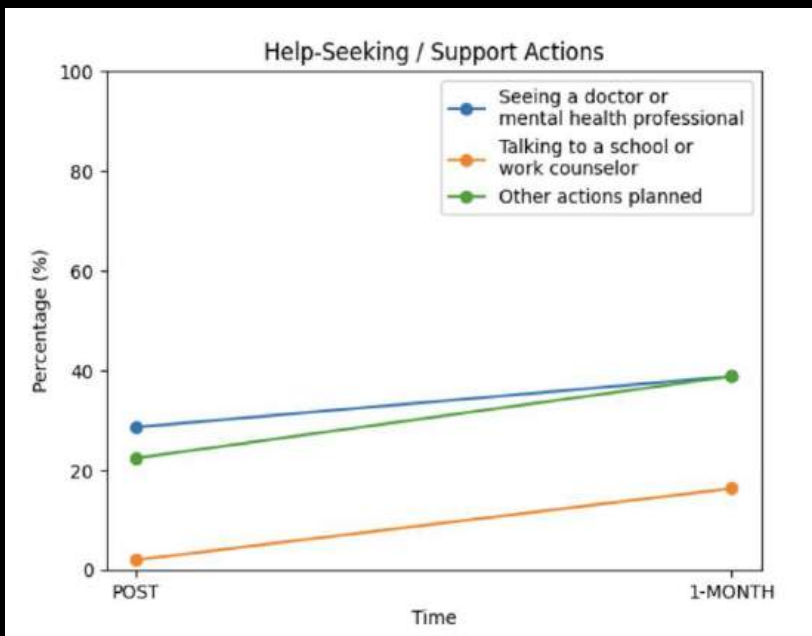


Figure 12. Opening up and speaking with family about ADHD over time by Group

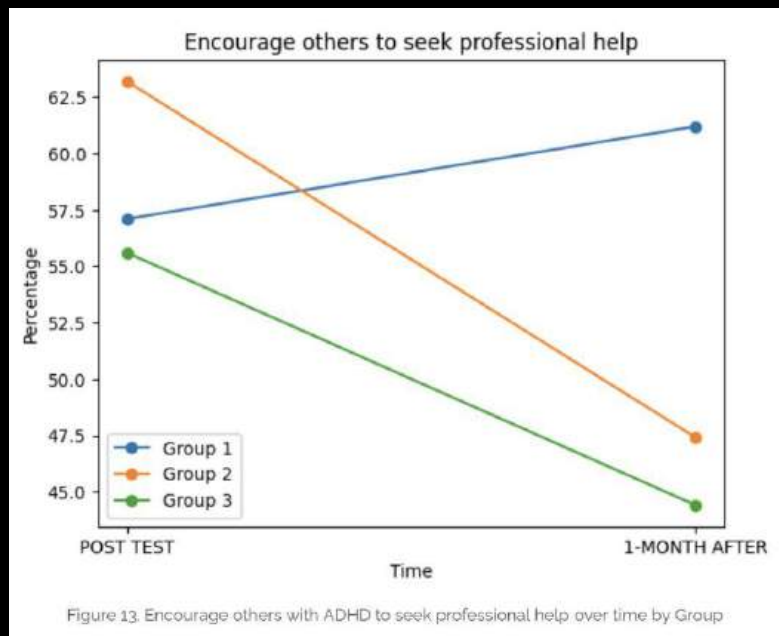


Figure 13. Encourage others with ADHD to seek professional help over time by Group

- Experiential & Phenomenological Framework
- *Impulse* Impact Study
- Transformation Economy, Mission-Oriented Change, & Co-Creation
- Other Models for Paradigm Shifts
- AI & Friction



Bye, K. (2019, May 16). #767: THE COLLIDER: Exploring Power Dynamics with Your Body as the Platform. *Voices of VR Podcast*. Retrieved on May 29, 2026 via <https://voicesofvr.com/767-the-collider-exploring-power-dynamics-with-your-body-as-the-platform/>



Bye, K. (2017, Feb 25). #508: Using VR as a Tool to Cultivate Compassion with Condition One. *Voices of VR Podcast*. Retrieved May 29, 2026 via <https://voicesofvr.com/using-vr-as-a-tool-to-cultivate-compassion-with-condition-one/>



Bye, K. (2025, Dec 6). #1704: "Lesbian Simulator" is an Interactive VR Narrative Masterclass Balancing Levity, Pride, & Naming of Homophobic Threats. *Voices of VR Podcast*. Retrieved June 3, 2023 via <https://voicesofvr.com/1704-lesbian-simulator-is-an-interactive-vr-narrative-masterclass-balancing-levity-pride-naming-of-homophobic-threats/>



- Photo by Moon Saris via Kouters, V (2022, July 14). Horizon is theater over klimaatverandering, maar geen somber doemverhaal. de Volkskrant. Retrieved May 29, 2026 via <https://www.volkskrant.nl/cultuur-media/horizon-is-theater-over-klimaatverandering-maar-geen-somber-doemverhaal~bbeb335c/>
- Bye, K. (2022, Dec 12). #1153: Imagining the Future of a 15-year old in 30 years in "Horizon" One-on-One Immersive Theater Piece. *Voices of VR podcast*. Retrieved May 29, 2026 via <https://voicesofvr.com/1153-imagining-the-future-of-a-15-year-old-in-30-years-in-horizon-one-on-one-immersive-theater-piece/>



**Active  
Presence**

**Mental & Social  
Presence**

**Embodied &  
Environmental  
Presence**

**Emotional  
Presence**





Bye, K. (2022, May 5). "A Primer on Presence, Immersive Storytelling, & Experiential Design." Presented at Storycon: A collision of (he)art and technology. Brussels, Belgium; BOZAR - Centre for Fine Arts. Published on Voices of VR Podcast on May 13, 2024 at <https://voicesofvr.com/1389-elemental-theory-of-presence/>

**Taking  
Action**

**Making  
Choices**



**Sensory  
Experience**

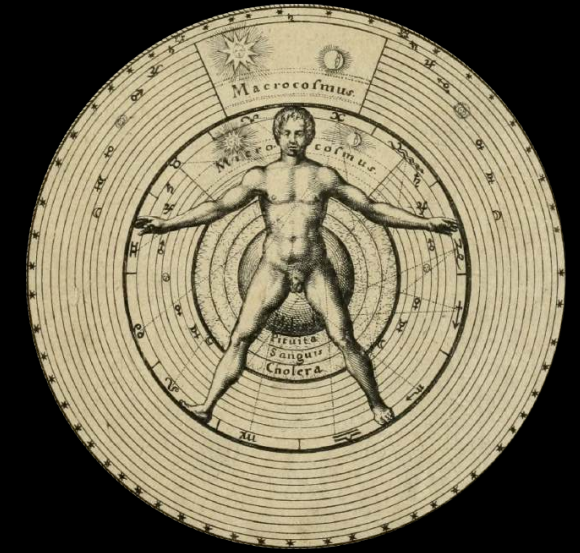
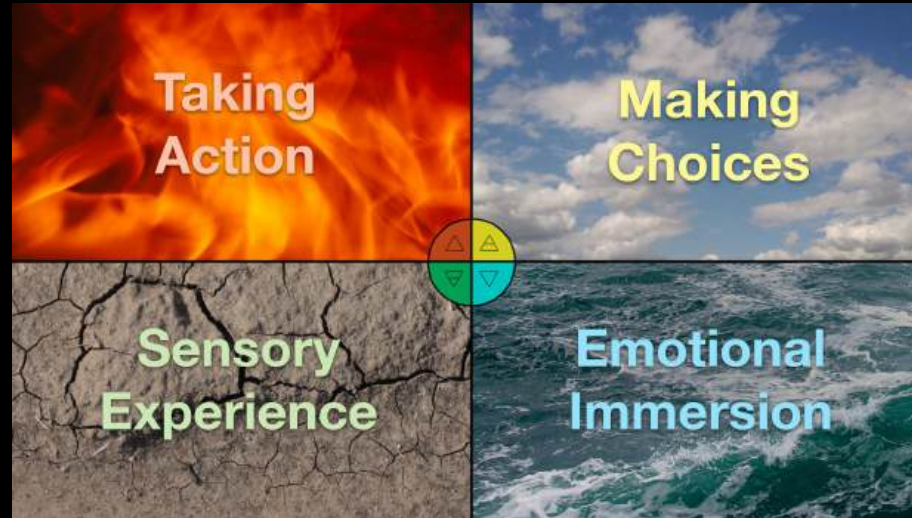
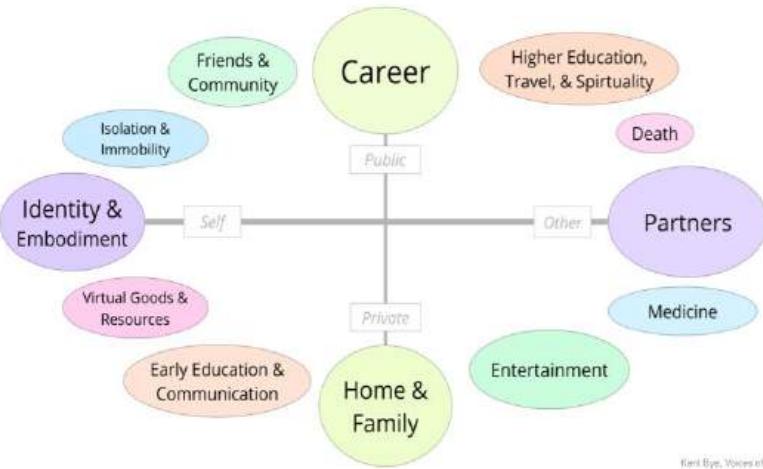
**Emotional  
Immersion**

**“True character is revealed in the choices a human being makes under pressure – the greater the pressure, the deeper the revelation, the truer the choice to the character's essential nature.”**

**— Robert McKee**

Placed in a Context with Pressure + Make Choices & Take Action = Essential Character is Revealed

Domains of Human Experience for Virtual Reality

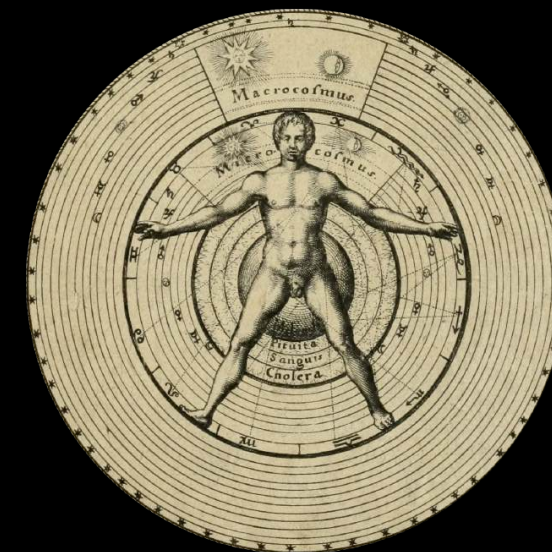
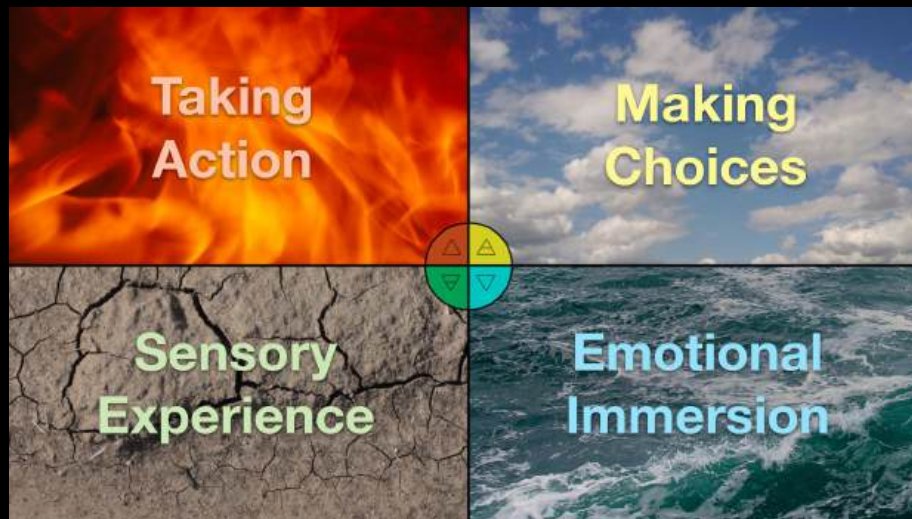
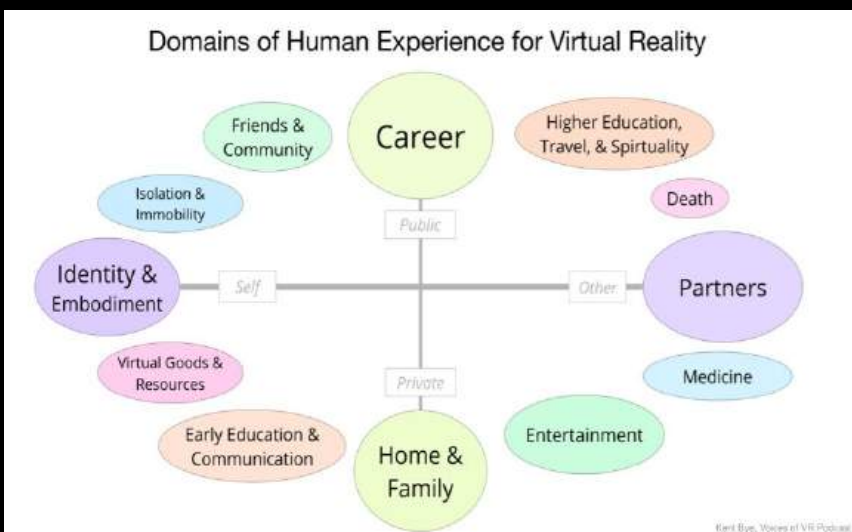


Story Unfolding over Time

# Context

# Quality

# Character



# Story

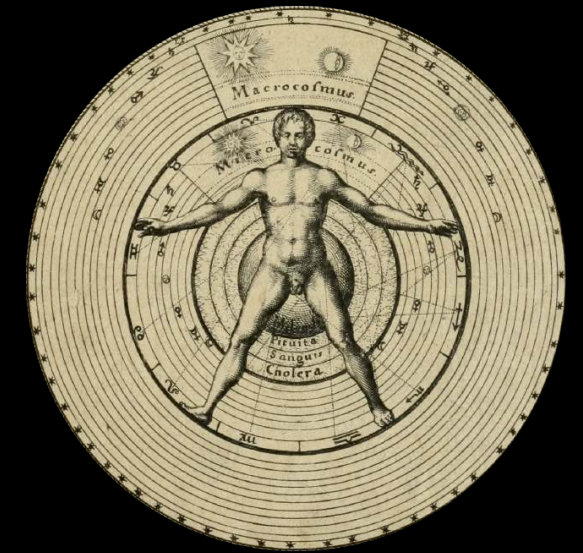
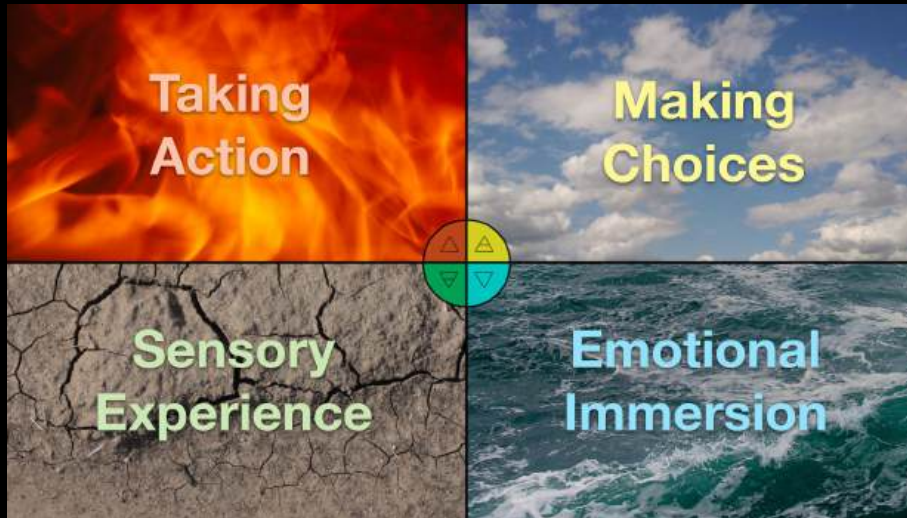
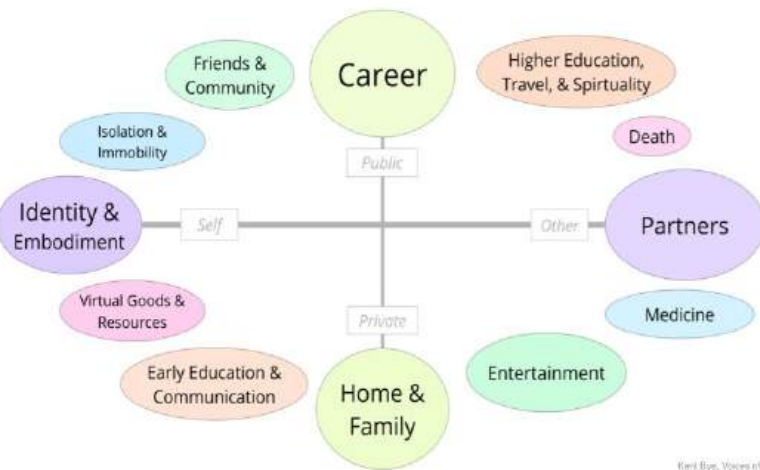


# Context

# Quality

# Character

Domains of Human Experience for Virtual Reality



# Story



**Active  
Presence**

**Mental & Social  
Presence**



**Embodied &  
Environmental  
Presence**

**Emotional  
Presence**

# Slater's Place Illusion & Plausibility Illusion (2009)

## **Place illusion and plausibility can lead to realistic behaviour in immersive virtual environments**

**Mel Slater**<sup>1,2,\*</sup>

<sup>1</sup>*EVENT Lab, Institute for Brain, Cognition and Behavior (IR3C), ICREA-University of Barcelona, 08035 Barcelona, Spain*

<sup>2</sup>*Department of Computer Science, University College London, London WC1E 6BT, UK*

In this paper, I address the question as to why participants tend to respond realistically to situations and events portrayed within an immersive virtual reality system. The idea is put forward, based on the experience of a large number of experimental studies, that there are two orthogonal components that contribute to this realistic response. The first is ‘being there’, often called ‘presence’, the qualia of having a sensation of being in a real place. We call this place illusion (PI). Second, plausibility illusion (Psi) refers to the illusion that the scenario being depicted is actually occurring. In the case of both PI and Psi the participant knows for sure that they are not ‘there’ and that the events are not occurring. PI is constrained by the sensorimotor contingencies afforded by the virtual reality system. Psi is determined by the extent to which the system can produce events that directly relate to the participant, the overall credibility of the scenario being depicted in comparison with expectations. We argue that when both PI and Psi occur, participants will respond realistically to the virtual reality.

**Keywords:** virtual reality; virtual environment; presence; telepresence; plausibility

# Slater's Place Illusion & Plausibility Illusion (2009)



## Place Illusion

“It is the strong illusion of being in a place in spite of the sure knowledge that you are not there.”



## Plausibility Illusion

“the illusion that what is apparently happening is really happening (even though you know for sure that it is not).”

- Slater, M. (2009, Dec 14). *Place illusion and plausibility can lead to realistic behaviour in immersive virtual environments*. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 364(1535), 3549–3557. <https://doi.org/10.1098/rstb.2009.0138>.
- Images via Toast (2019, July 21). *Richie's Plank Experience Oculus Quest Trailer*. YouTube Retrieved on April 25, 2022 from <https://www.youtube.com/watch?v=faNsP7ExSt0>.

# Plausibility Illusion

# Place Illusion



# Slater et al (2022) Update to Presence Illusions adds Co-presence & Body Ownership Illusion (Embodiment)

## A Separate Reality: An Update on Place Illusion and Plausibility in Virtual Reality



Mel Slater<sup>1,2\*</sup>,



Domna Banakou<sup>1,2</sup>,



Alejandro Beacco<sup>1</sup>,



Jaime Gallego<sup>1</sup>,



Francisco Macia-Varela<sup>1</sup> and



Ramon Oliva<sup>1</sup>

<sup>1</sup> Event Lab, Faculty of Psychology, Universitat de Barcelona, Barcelona, Spain

<sup>2</sup> Institute of Neurosciences of the University of Barcelona, Barcelona, Spain



# Plausibility Illusion & Co-presence Illusion



# Place Illusion & Body Ownership Illusion

**Behaviors**

**Thoughts &  
Relations**

**Sensations**

**Feelings**



# Chertoff's Experiential Design & Presence Work (2008–2010) via Skarbez

**Dustin B. Chertoff\***

Institute for Simulation and Training  
University of Central Florida  
3280 Progress Drive  
Orlando, FL 32826

**Sae Lynne Schatz****Rudy McDaniel****Clint A. Bowers**

Department of Digital Media  
University of Central Florida  
Orlando, FL 32826

## Improving Presence Theory Through Experiential Design

---

**Abstract**

Despite ongoing research over the last 15 years, the presence construct remains somewhat limited in its ability to be applied beyond the sensory domain. In order to increase its usefulness for applied challenges (e.g., using presence theory to enhance simulators' effectiveness), a discussion about a new conceptualization of presence is introduced. This novel perspective on presence is rooted in the notion of "experiential design," an approach businesses use to create strategically compelling and memorable experiences. The paper begins with a brief review of presence and then a description of the concepts of experimental design. Following this, a theoretical model of presence, based upon experimental design, is offered. Using this model, an exploration on the mitigation of breaks in presence is offered (a break in presence occurs when presence fails to be maintained). These ideas are presented in order to improve the likelihood of presence emerging for simulation participants and to enhance interdisciplinary researchers' shared conceptualizations of presence.

- Chertoff, D. B., Schatz, S. L., McDaniel, R., & Bowers, C. A. (2008). *Improving Presence Theory Through Experiential Design*. *Presence: Teleoperators and Virtual Environments*, 17(4), 405–413. <https://doi.org/10.1162/pres.17.4.405>.
- Chertoff, Dustin, "Exploring Additional Factors Of Presence" (2009). *Electronic Theses and Dissertations*. 3910. <https://stars.library.ucf.edu/etd/3910>.
- Chertoff, D. B., Goldiez, B., & LaViola, J. J. (2010). *Virtual Experience Test: A virtual environment evaluation questionnaire*. 2010 IEEE Virtual Reality Conference (VR). <https://doi.org/10.1109/vr.2010.5444804>.

**Active**

**Cognitive &  
Relational**



**Sensory**

**Affective**

# Experiential Marketing: “Strategic Experiential Modules” (1999)

*Journal of Marketing Management*, 1999, 15, 53-67

---

**Bernd  
Schmitt<sup>1</sup>**

## **Experiential Marketing**

Director, Centre of  
Global Brand  
Management  
Columbia Business  
School

*In this article, I contrast traditional marketing with a new approach to marketing called Experiential Marketing and provide a strategic framework for Experiential Marketing. Traditional marketing views consumers as rational decision-makers who care about functional features and benefits. In contrast, experiential marketers view consumers as rational and emotional human beings who are concerned with achieving pleasurable experiences. Five different types of experiences, or strategic experiential modules (SEMs), that marketers can create for customers are distinguished: sensory experiences (SENSE); affective experiences (FEEL); creative cognitive experiences (THINK); physical experiences, behaviours and lifestyles (ACT); and social-identity experiences that result from relating to a reference group or culture (RELATE). These experiences are implemented through so-called experience providers (ExPros) such as communications, visual and verbal identity, product presence, electronic media, etc. The ultimate goal of experiential marketing is to create holistic experiences that integrate individual experiences into a holistic Gestalt. The paper concludes with an examination of strategic issues and a discussion about how to create the experience-oriented organization.*

**Act**

**Think, Relate**

**Sense**

**Feel**



# Measuring Brand Experience (2009)

J. Joško Brakus, Bernd H. Schmitt, & Lia Zarantonello

## **Brand Experience: What Is It? How Is It Measured? Does It Affect Loyalty?**

Brand experience is conceptualized as sensations, feelings, cognitions, and behavioral responses evoked by brand-related stimuli that are part of a brand's design and identity, packaging, communications, and environments. The authors distinguish several experience dimensions and construct a brand experience scale that includes four dimensions: sensory, affective, intellectual, and behavioral. In six studies, the authors show that the scale is reliable, valid, and distinct from other brand measures, including brand evaluations, brand involvement, brand attachment, customer delight, and brand personality. Moreover, brand experience affects consumer satisfaction and loyalty directly and indirectly through brand personality associations.

*Keywords:* experience marketing, brand experience, customer experience management, scale development, marketing communications

**Behavioral**

**Intellectual**

**Sensory**

**Affective**

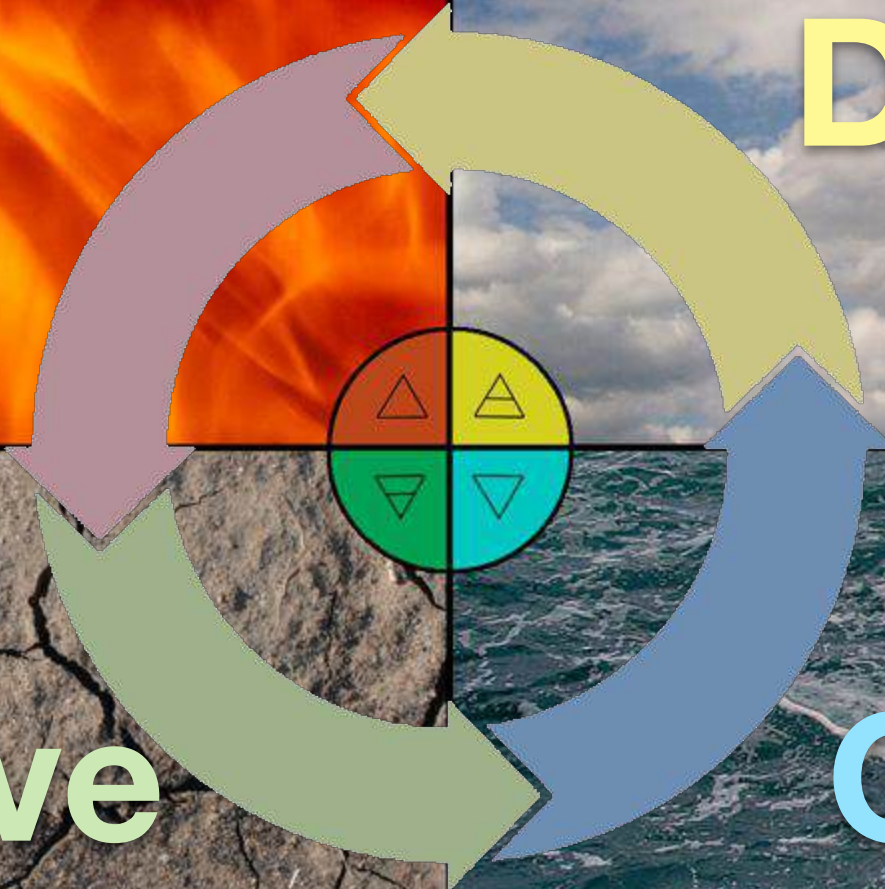


**Act**

**Decide**

**Observe**

**Orient**



**Behaviors &  
Agency**

**Thoughts &  
Relations**

**Sensations &  
Immersion**

**Feelings &  
Experiential**



**Active  
Presence**

**Mental & Social  
Presence**



**Embodied &  
Environmental  
Presence**

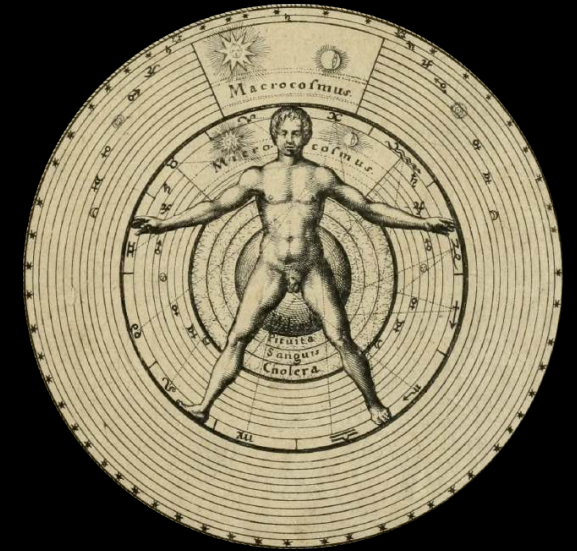
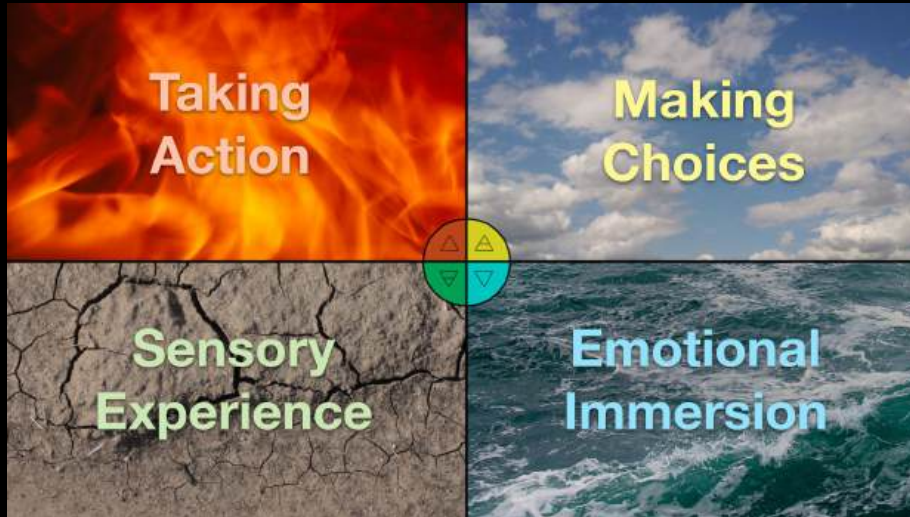
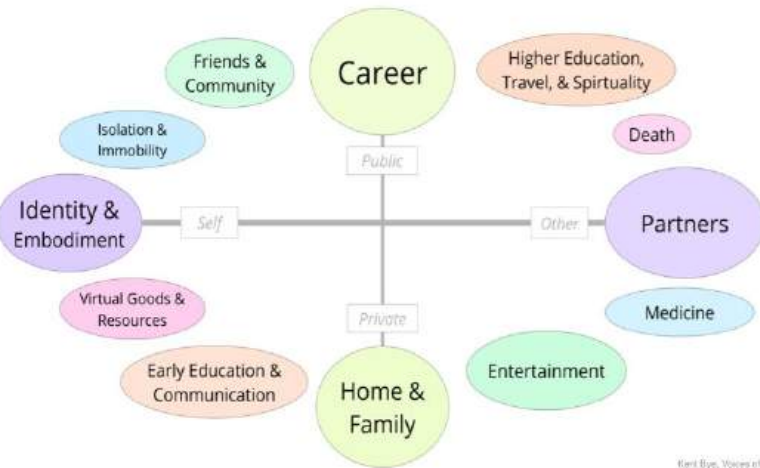
**Emotional  
Presence**

# Context

# Quality

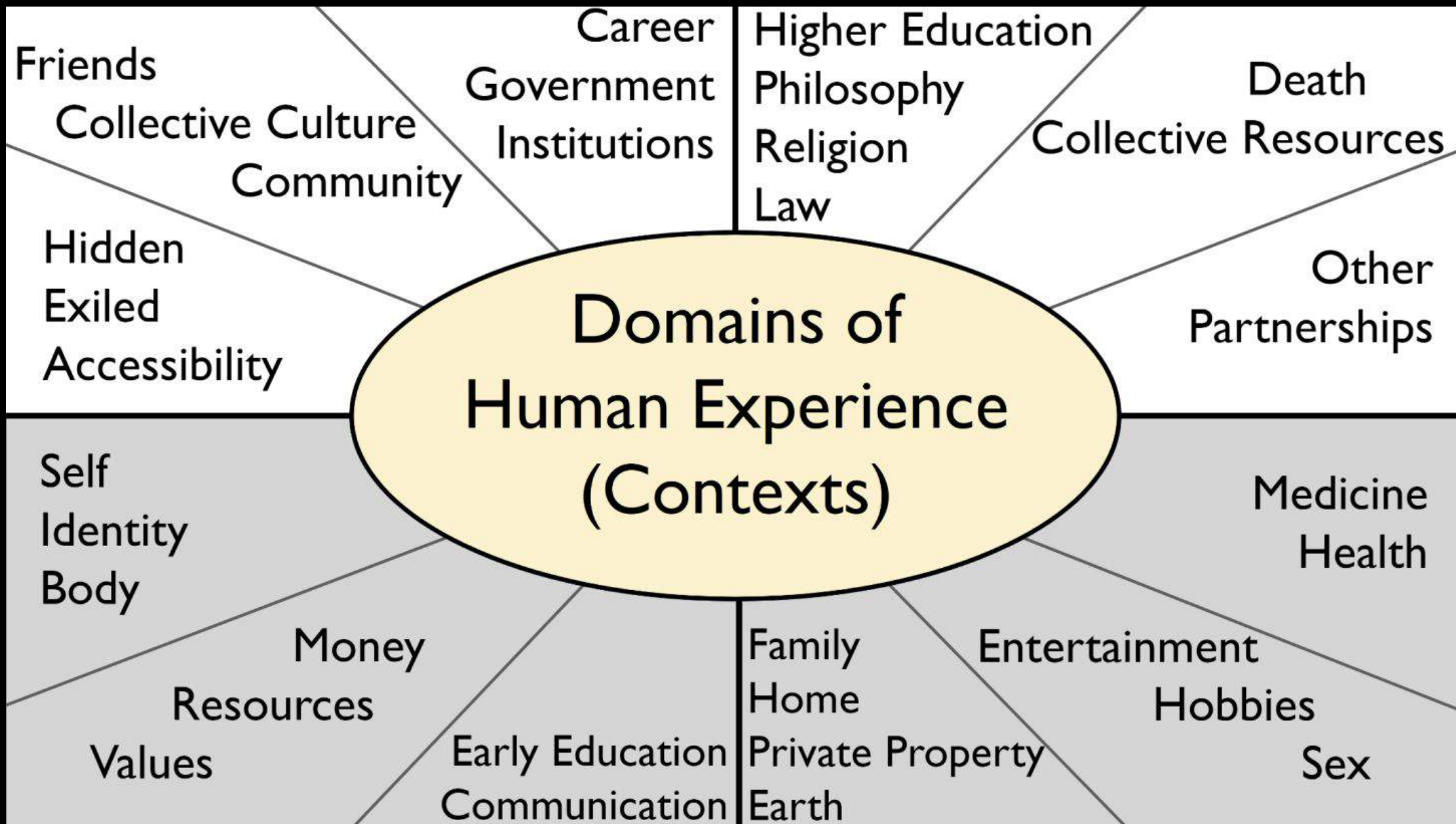
# Character

Domains of Human Experience for Virtual Reality



# Story





## Hanging Out with Friends



## Virtual Screens for Productivity



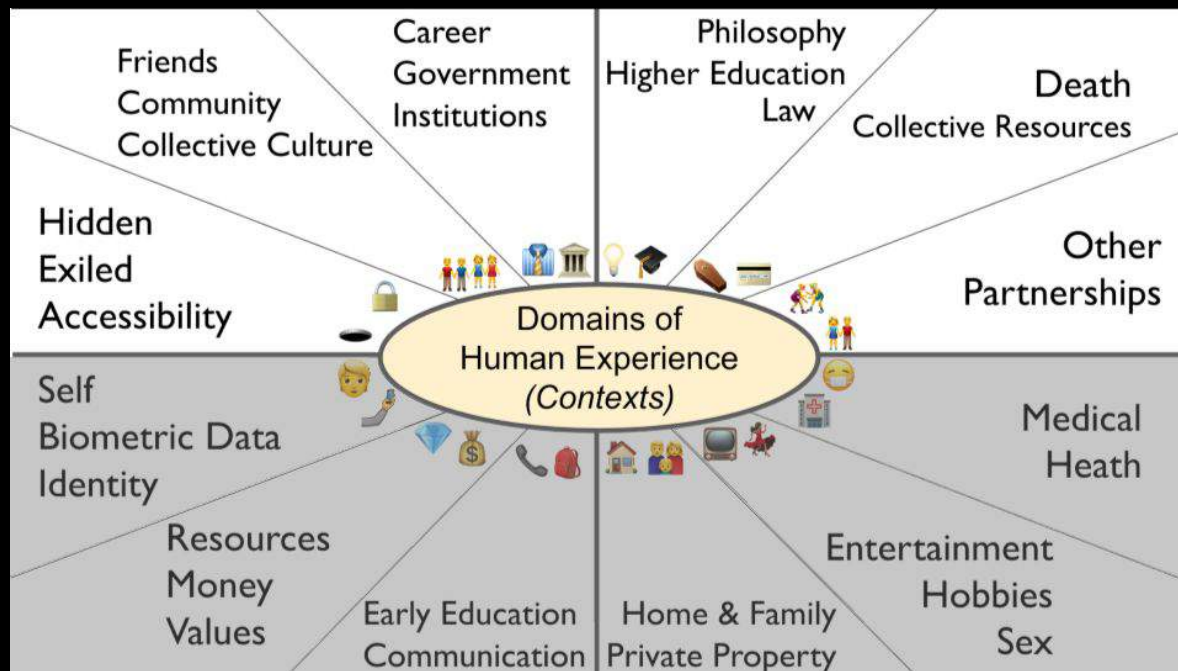
## Training



## Grief Rituals



## Accessibility



## Virtual Dates



## Stylized Expression of Identity



## Medical Applications



## Virtual Gift Economies



## Early Education



## Volumetric Memories



## Gaming & Flow States



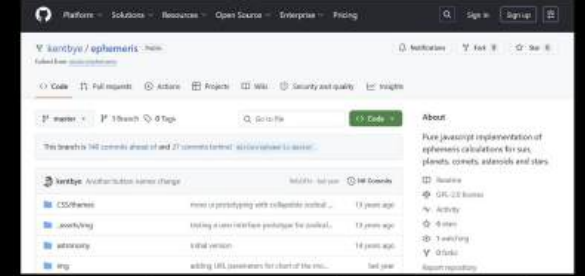
# I am a Friend



# I am a Podcaster I am a Philosopher



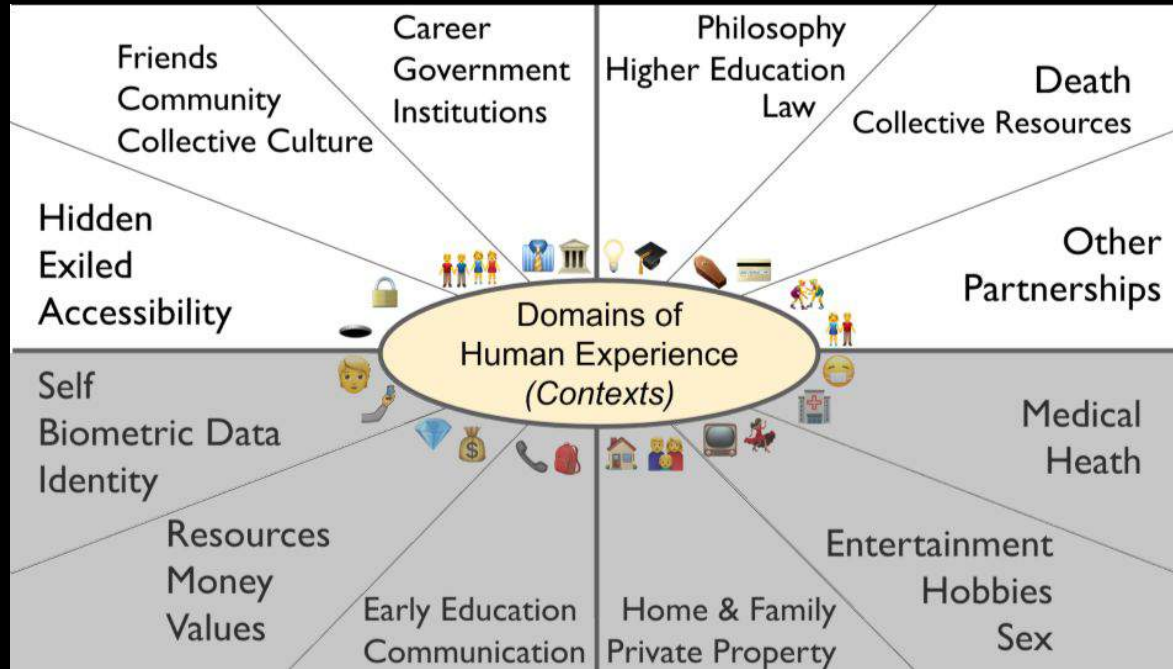
# I am an Open Source Dev



# I am a [Redacted]



# I am Kent Bye



# I am a Husband



# I am a Daily Walker



# I am Patreon-Supported



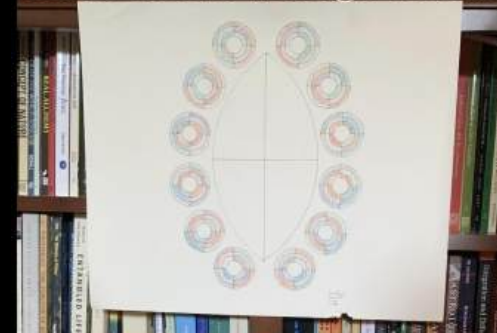
# I am a Writer



# I am a Son



# I am a Knowledge Artist



THE ABC OF

CONTEXTUAL

INTEGRITY

[HTTPS://PRIVACI.INFO](https://privaci.info)

**A** **Privacy** = appropriate flow of information

**B** **Appropriateness** = informational norms in a given context

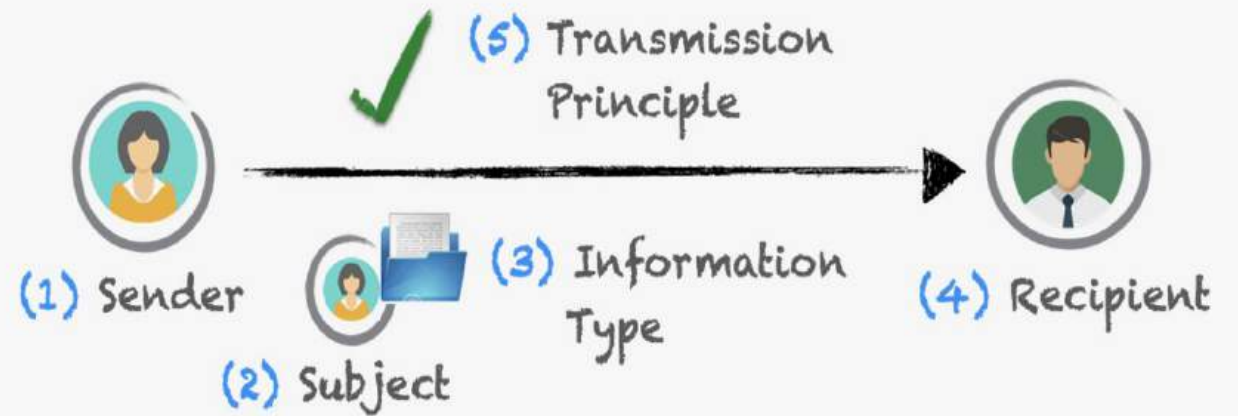
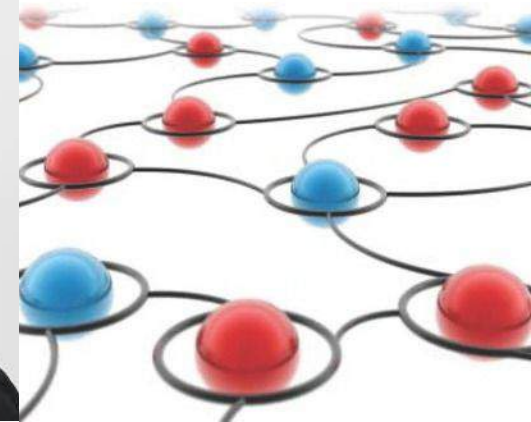
**C** **Information Norms** = 5 key parameters



# PRIVACY IN CONTEXT

Technology, Policy, and the Integrity of Social Life

HELEN NISSENBAUM

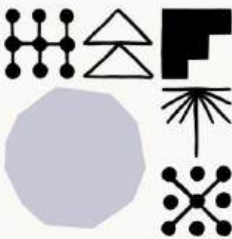


- Image via Yan Shvartzshnaider (April 15, 2020) <https://twitter.com/ynotez/status/1250578500588879873>.
- Nissenbaum, H. (2010). *Privacy in Context: Technology, Policy, and the Integrity of Social Life*. Stanford University Press.
- Bye, K. & Nissenbaum, Helen. (2021, June 24). #998: Primer on the Contextual Integrity Theory of Privacy with Philosopher Helen Nissenbaum. *Voices of VR Podcast*. Retrieved on April 2, 2023 from <https://voicesofvr.com/998-primer-on-the-contextual-integrity-theory-of-privacy-with-philosopher-helen-nissenbaum>.

# Context is Important for AI

ANTHROPIC Research Economic Futures Commitments Learn News Try Claude

Engineering at Anthropic








## Effective context engineering for AI agents

Published Sep 29, 2025

Context is a critical but finite resource for AI agents. In this post, we explore strategies for effectively curating and managing the context that powers them.

## Meta's Ego4D Challenges for Contextually-Aware AI

				
Episodic Memory	Forecasting	Hand-Object Interactions	AV Diarization	Social
What happened when?	What will I do next?	What am I doing & how?	Who said what when?	How are we interacting?

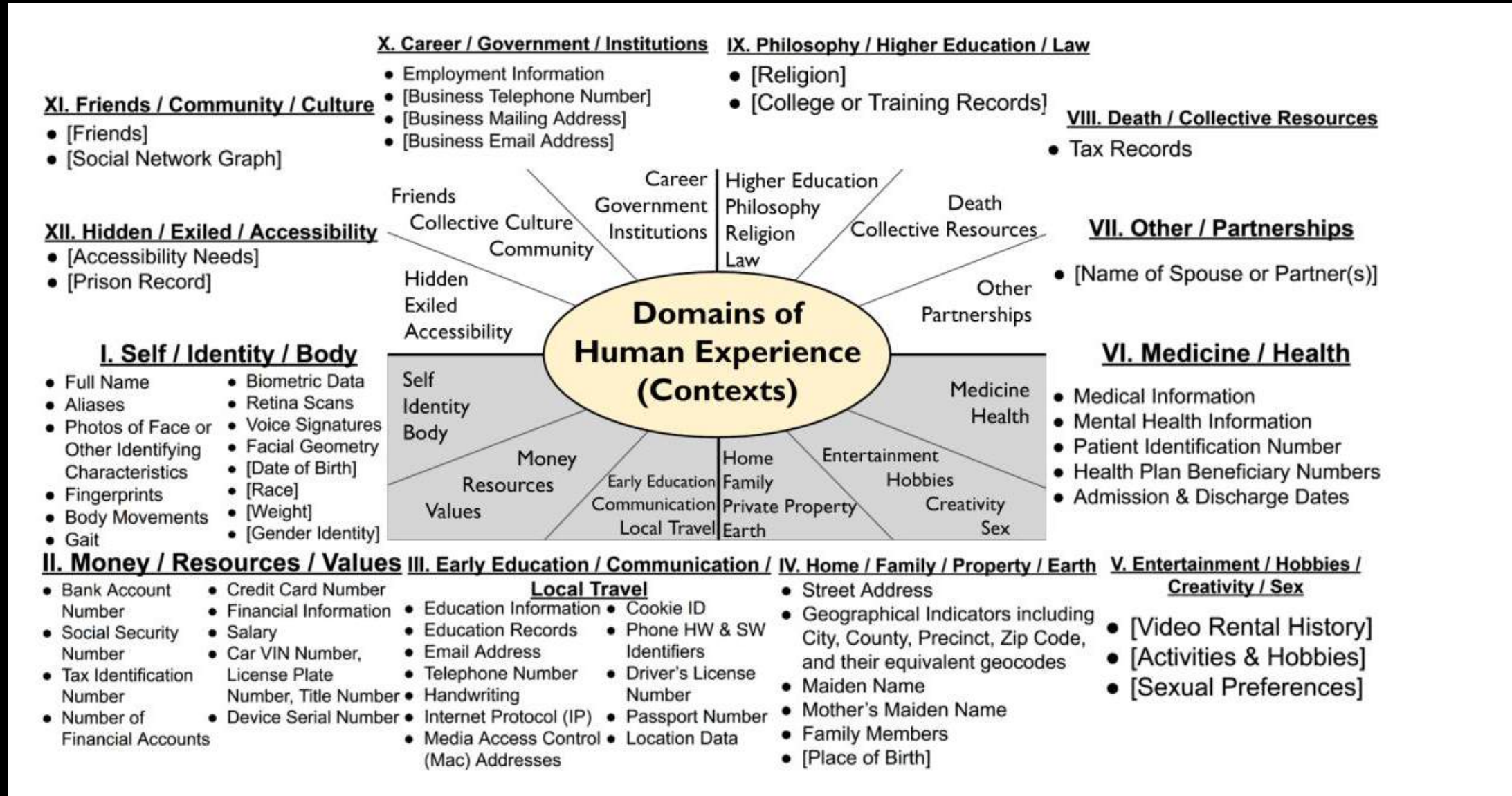
- Anthropic. (2025, September 29). Effective context engineering for AI Agents. Anthropic Blog.
- Egocentric 4D perception (EGO4D). (2021, October 14). Retrieved January 5, 2023, from <https://ego4d-data.org/#challenges>
- Meta. (2025, September 18). Contextual AI & the Future of Human Connection. Meta Blog. Retrieved June 3, 2026 via

# Meow Wolf's Immersive Art Exhibitions will quickly switch from one context (home) to another (liminal surreality)



- Photo by Kate Russell (n.d.) Fridge. Meow Wolf (Santa Fe, NM), Retrieved on January 24, 2026 via [https://packrat.meowwolf.zip/m/3426626446b53ff3/original/MeowWolfSantaFe\\_Fridge\\_PhotoCreditKateRussell\\_1.jpg](https://packrat.meowwolf.zip/m/3426626446b53ff3/original/MeowWolfSantaFe_Fridge_PhotoCreditKateRussell_1.jpg)
- Photo by Kate Russell (n.d.) The Forest. Meow Wolf (Grapevine, TX), Retrieved on January 24, 2026 via [https://packrat.meowwolf.zip/m/504698983aab9ba3/original/MeowWolfGrapevineTX\\_TheForest\\_PhotoCreditKateRussell\\_4.jpg](https://packrat.meowwolf.zip/m/504698983aab9ba3/original/MeowWolfGrapevineTX_TheForest_PhotoCreditKateRussell_4.jpg)

# Relationship between Context, Privacy, & Identity



## XI. Friends / Community / Culture

- Diversity & inclusion
- Cultural differences
- Cultural norm conflicts
- Algorithmic bias
- Code of Conduct
- Elements of culture
- Trust & safety social scores
- Harms to society
- Changing social norms
- Social hallucinations
- Weaken implicit racism
- Sustainable communities
- Reducing inequalities
- Social anxiety
- Augmenting other people
- Sharing public sphere
- Context-blind tech
- Stakeholder deliberations
- Data during humanitarian crises.
- Extremist indoctrination
- Japanese "hikikomori" & acute social withdrawal
- Sharing biometric data as part of identity expression

## XII. Hidden / Exiled / Accessibility

- Accessibility
  - Render content depending on ability
- Inclusive design
- Truly anonymized avatars
- Re-identifying de-identified PII data
- Combating social isolation
- Temporary & permanent exile of user suspensions
- Prisoner rehabilitation
- Addictive escapism
- Dark spatial web
- Closing technology gap for older generations

## I. Self / Biometric Data / Identity

- Psychological Impacts
- Embodiment
- Avatar Representation
- Body Perception
- Identity
- Self-Model Changes
- Sensory Experience
- Long-Term Impacts
- Virtual Body Ownership
- Self-Determination
- Context Sensitivity
- Cybersickness
- Biometrically-Inferred Data
- Agency
- Suggested Memories
- Proteus Effect
- Planting Memories
- Modulating Memories
- Affective Computing
- Body Swap
- Mind Plasticity
- Epigenetic Traits

## II. Resources / Money / Values

- Virtual Commerce
- Virtual Goods
- Virtual Economy
- Business Models
  - Surveillance Capitalism
  - Subscription Models
- Who owns data?
- Exporting data
- Pay for Privacy?
- Closed vs Open Ecosystem
- Anti-Money Laundering
- Cryptocurrency
- Blockchain
- Digital Divide
- Economic Disparities
- Neuromarketing
- Advertising as Behavioral Modification
- Attention Economy
- Homomorphic encryption
- Lobbyist Influence of Policy

## X. Career / Government / Institutions

- Enterprise XR Ethics
- Remote work
- Using XR for hiring decisions
- Automation & job displacement
- Conflicts of interest between academia & industry
- Governmental surveillance
- Fourth Amendment
  - Third-Party Doctrine
- Governmental loyalty tests
- Governmental nudging
- Governmental propaganda
- Future of online public space
- Right to augment public space

## IX. Philosophy / Higher Education / Law

- Philosophical implications
  - What is reality?
  - What is truth?
  - The virtual vs the real
- Filter bubbles of reality
- Religious manipulation
- XR ethics & design
- Philosophy of privacy
- Neuroethics
- Ethics of human augmentation
- Workforce skills training
- XR's impact on law
- XR as judicial evidence
- What content is illegal?
- Future risks of XR tech
- Terms of conditions
- Algorithmic oversight
- Institutional Review Boards
- International Law
- Human Rights Law
- Longitudinal studies
- Beneficence vs autonomy
- Informed consent

## VIII. Death

- Virtual resurrections
- Image rights after death
- Account blocks & permanent bans
- Right to be forgotten
  - Account/data erasure
- Violence & killing in VR
  - Humanoid vs non-humanoid NPCs
- Filtering violent or terrorist content
- Military dual use
- Using VR for torture
- Experiential Warfare
- Autonomous weapons systems & drones
  - Virtual suicide bombing
  - Virtually-mediated extrajudicial killings
- Life-threatening security vulnerabilities

## VII. Other / Partnerships

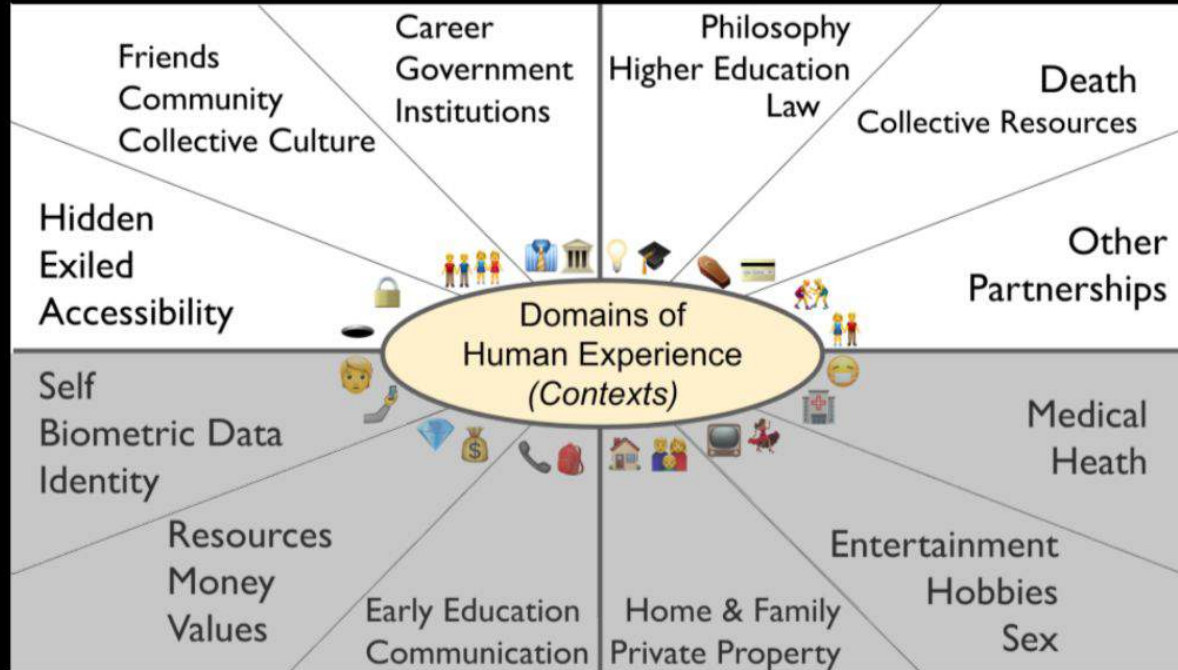
- Harassment Prevention
  - Personal Space Bubble
- Assault
- Hostile Conflict Zone
- Information Warfare
- Disinformation
- Deep Fakes
- Identity Theft
- Nudging Behaviors
- Deception
- Virtual Beings
  - Dangers of Anthropomorphic AI
  - Dangers of Synthetic Phenomenology
  - Relationships with AI
- Super Intelligence
- Empathy Machine & Technological Determinism
- Ethics Washing

## VI. Medicine / Healing

- Do Not Harm
- Detecting Medical Conditions
- Triggering Seizures
- Harm to Mental Health
- Depersonalization / Derealization Disorder
- Out-of-Body Disassociation
- PTSD Treatment/triggering
- Biometrically-inferred info
- Telemedicine privacy
- Health Insurance Portability & Accountability Act
- Autonomy of Healing
- Public health
- Recovered memories of abuse
- XR as a medical device
- False hope of XR's promise
- Mandatory treatments
- Body dysmorphic disorder
- Virtual therapeutics
- Well-being applications
- VR rehabilitation
- VR exercise
- Physiological reactions to Sexual Assault

## V. Entertainment / Content Creation / Sex

- Virtual Violence
- Addictive Entertainment
- Hijacking Attention
- The Dopamine Economy
- Escapism
- Game Ratings
- Content Warnings
- Content Moderation
- Children's Online Privacy Protection Rule (COPPA)
- Undermining User Agency
- Media Ethics
- Psychographic profiling of entertainment preferences
- Undermine User Agency
- XR Porn Implications
- Dystopia Narratives
- New forms of immersive storytelling
- Who can augment?
  - Property rights
- Context of places
  - (e.g. Pokémon at Holocaust Museum)
- Control & modulate perception of environment
- Data security
- Ecological Impact



## III. Early Education / Communication / Local Travel

- Minimum Age for VR
- Negative Transference
- Personalized Education
- Family Educational Rights & Privacy Act
- Ability to Mute Others
- Mitigating & Moderating Hate/Dangerous Speech
- Telepresence Fidelity
- Broadcasting Biometrics
- Non-verbal comm norms
- Recording Conversations
- Automatic Audio Transcripts
- BCI Reading Thoughts
- End-to-End Encryption
- Geolocation Tracking
- Navigation Distractions

## IV. Home & Family / Private Property / Earth

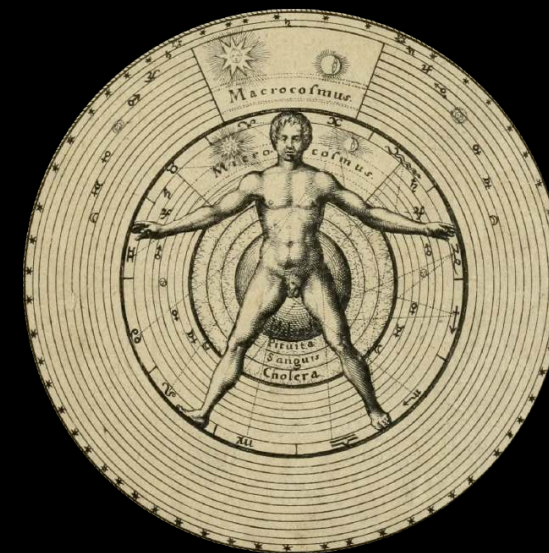
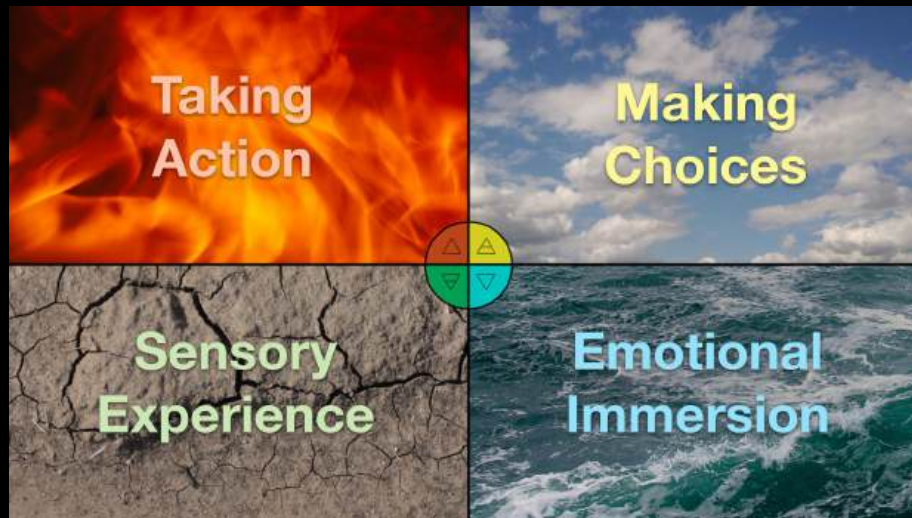
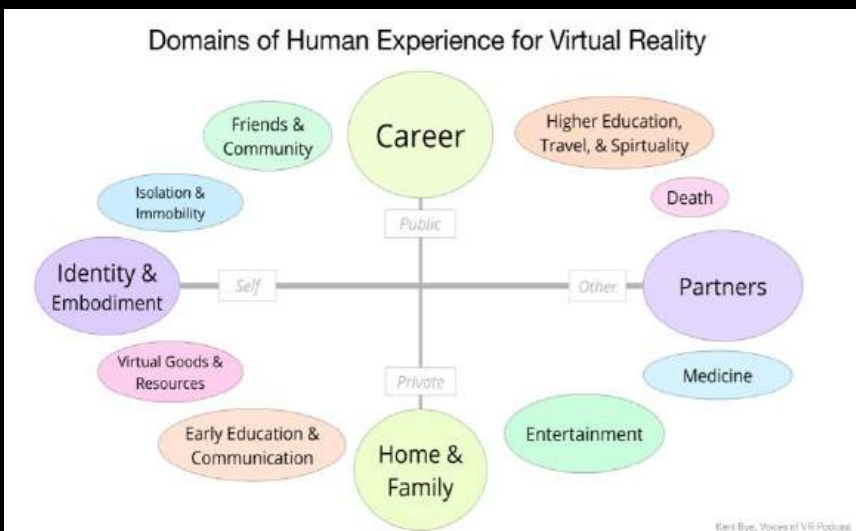
- Privacy of volumetric scans of your home
- Collective privacy of family in your home
- Spatial doxxing
- Fourth Amendment defines public vs private spaces
  - All of cyberspace is "public"
  - Third-Party Doctrine
- Who can augment?
- Context of places
- Control & modulate perception of environment
- Data security
- Ecological Impact



# Context

# Quality

# Character



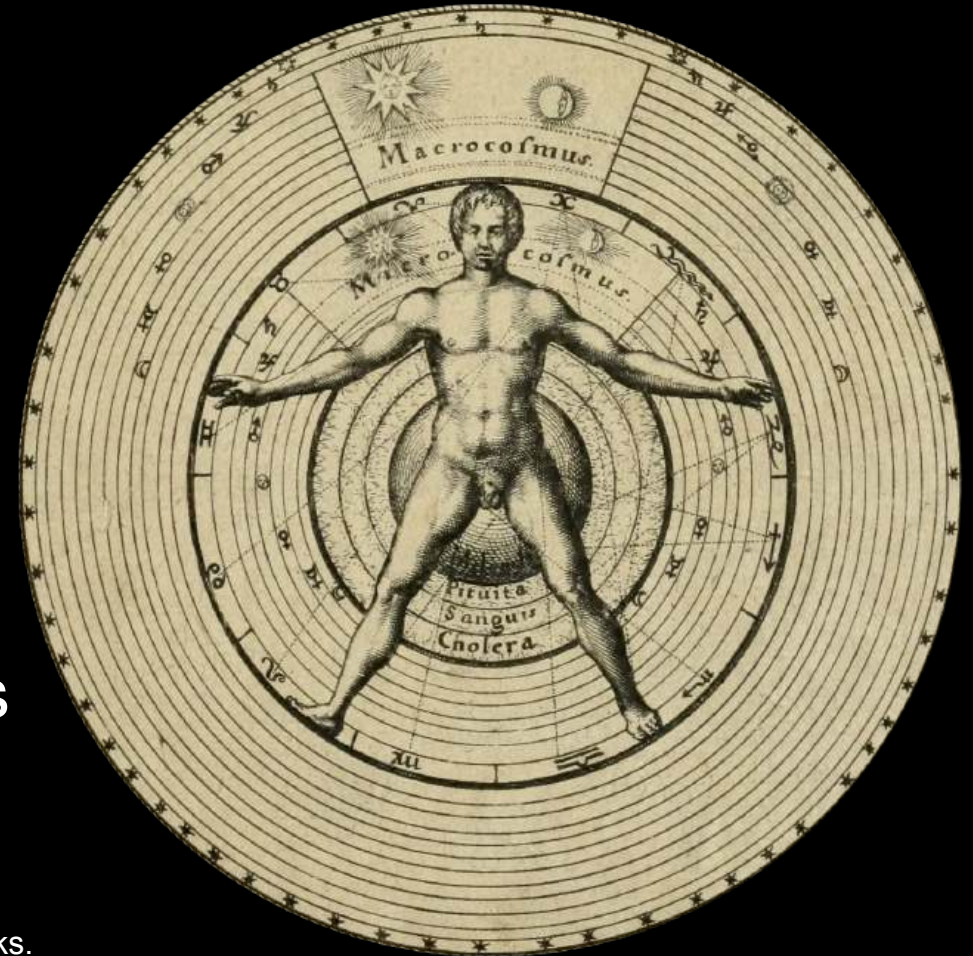
# Story



# Connection Between Value-Theory & Archetypal Character

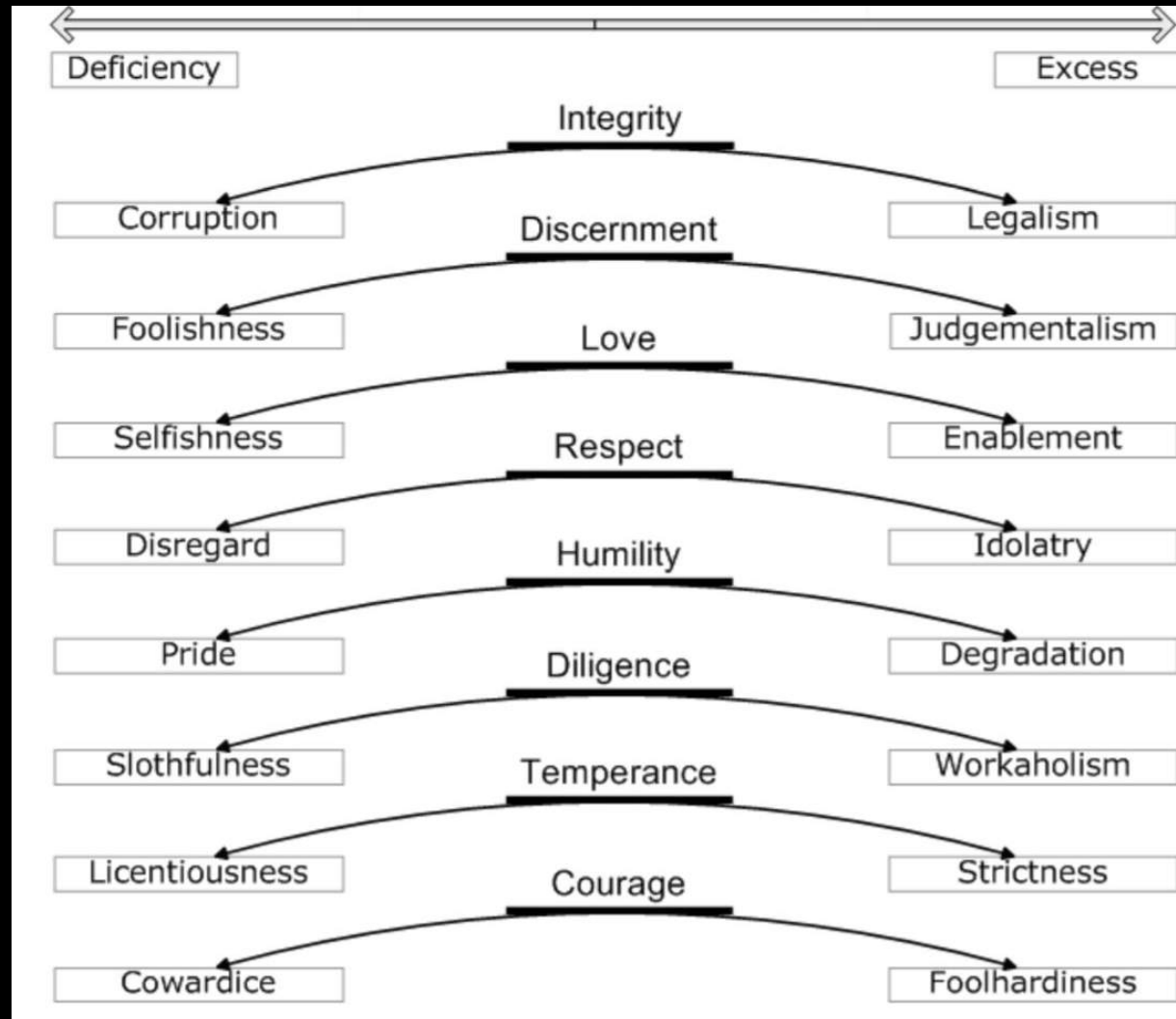
"We now need to return to a fundamental conviction surrounding the axiological status of possibilities — that is, the fact that possibilities, as experienced and entertained, are not neutral and value-less, but *value-full*. For Whitehead, all possibilities are "possibilities of value"

- Andrew M. Davis

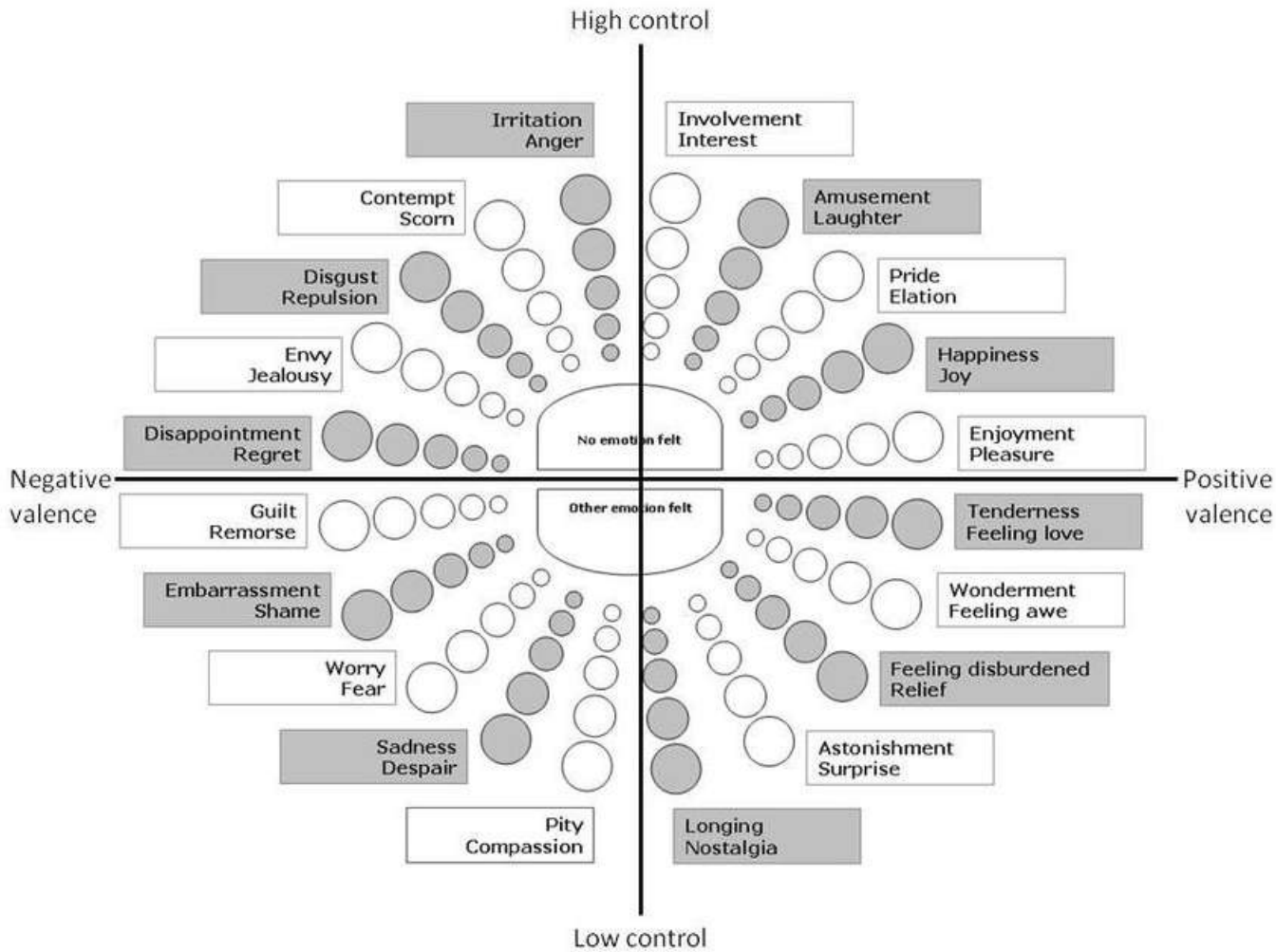


- Davis, Andrew M. (Forthcoming in 2026). *Whitehead's Universe: A Prismatic Introduction*. Orbis Books.
- Bye, K. & Davis, A.M. (2025, Dec 6). #1708: How Process Philosophy Centers Experience. A Prismatic Tour of "Whitehead's Universe" by Andrew M. Davis. Voices of VR Podcast. Retrieved Dec 10, 2025 <https://voicesofvr.com/1708-how-process-philosophy-centers-experience-a-prismatic-tour-of-whiteheads-universe-by-andrew-m-davis/>.

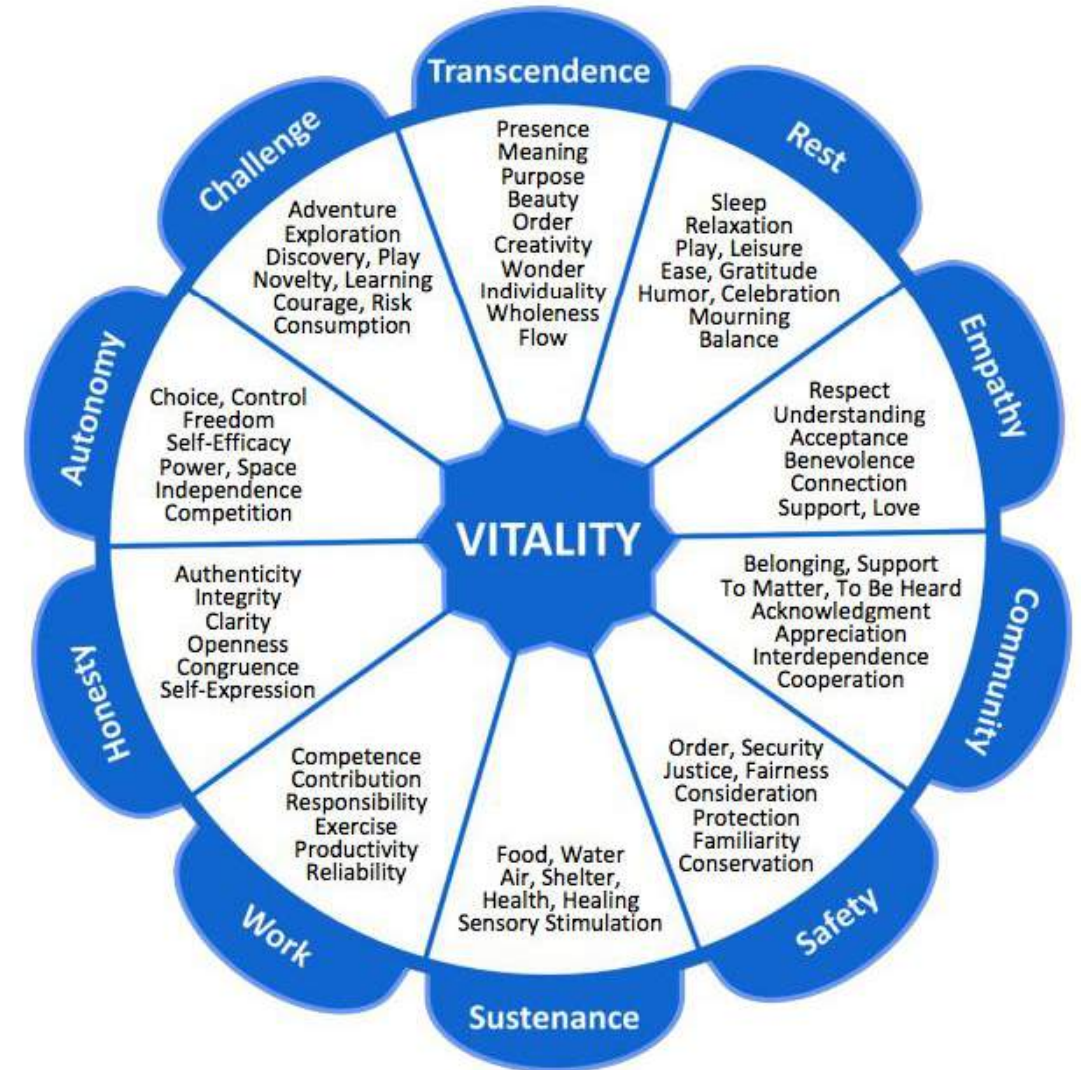
# Virtue Continuum



# Feelings



# Needs



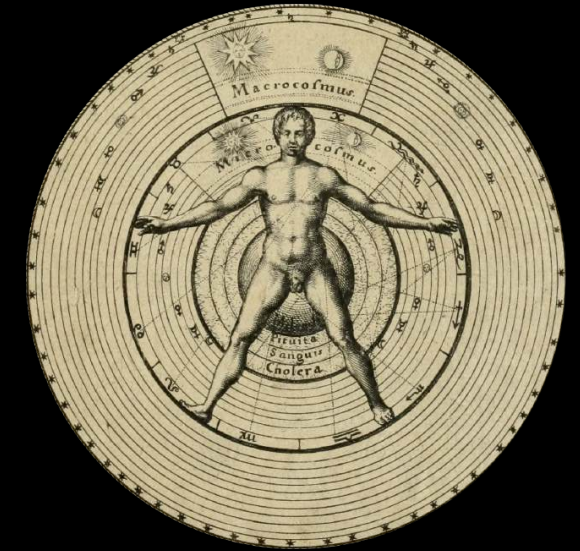
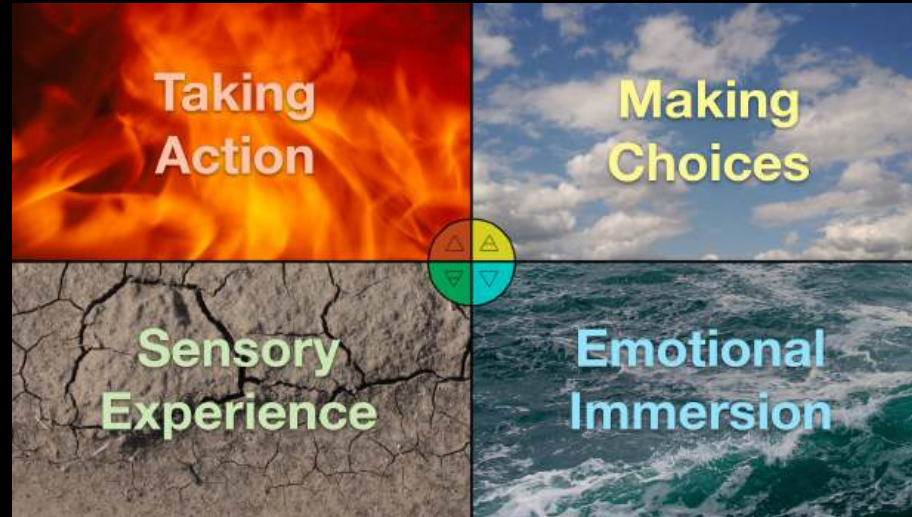
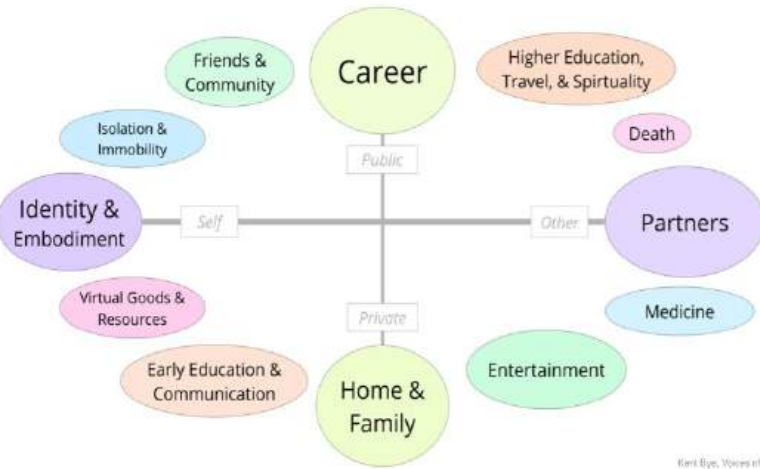
- Sacharin, V., Schlegel, K., & Scherer, K. R. (2012). *Geneva Emotion Wheel rating study* (Report). Geneva, Switzerland: University of Geneva, Swiss Center for Affective Sciences. Retrieved on November 13, 2021 from [https://www.unige.ch/cisa/files/4514/6720/4016/Geneva\\_Emotion\\_Wheel\\_Rating\\_Study\\_Report\\_2012\\_08\\_11\\_2.0.pdf](https://www.unige.ch/cisa/files/4514/6720/4016/Geneva_Emotion_Wheel_Rating_Study_Report_2012_08_11_2.0.pdf).
- Tschannen-Moran, B. (2012, February). *Appreciative Empathy: New Frameworks for New Conversations*. International Journal of Appreciative Inquiry: AI Practitioner. Volume 14 Number 1. Retrieved November 14, 2021 from [http://www.schooltransformation.com/wp-content/uploads/2012/06/Appreciative\\_Empathy.pdf](http://www.schooltransformation.com/wp-content/uploads/2012/06/Appreciative_Empathy.pdf)

# Context

# Quality

# Character

Domains of Human Experience for Virtual Reality



**Story**

# Spectrum of Story Authorship

Authored  
Narrative

Generative  
Narrative

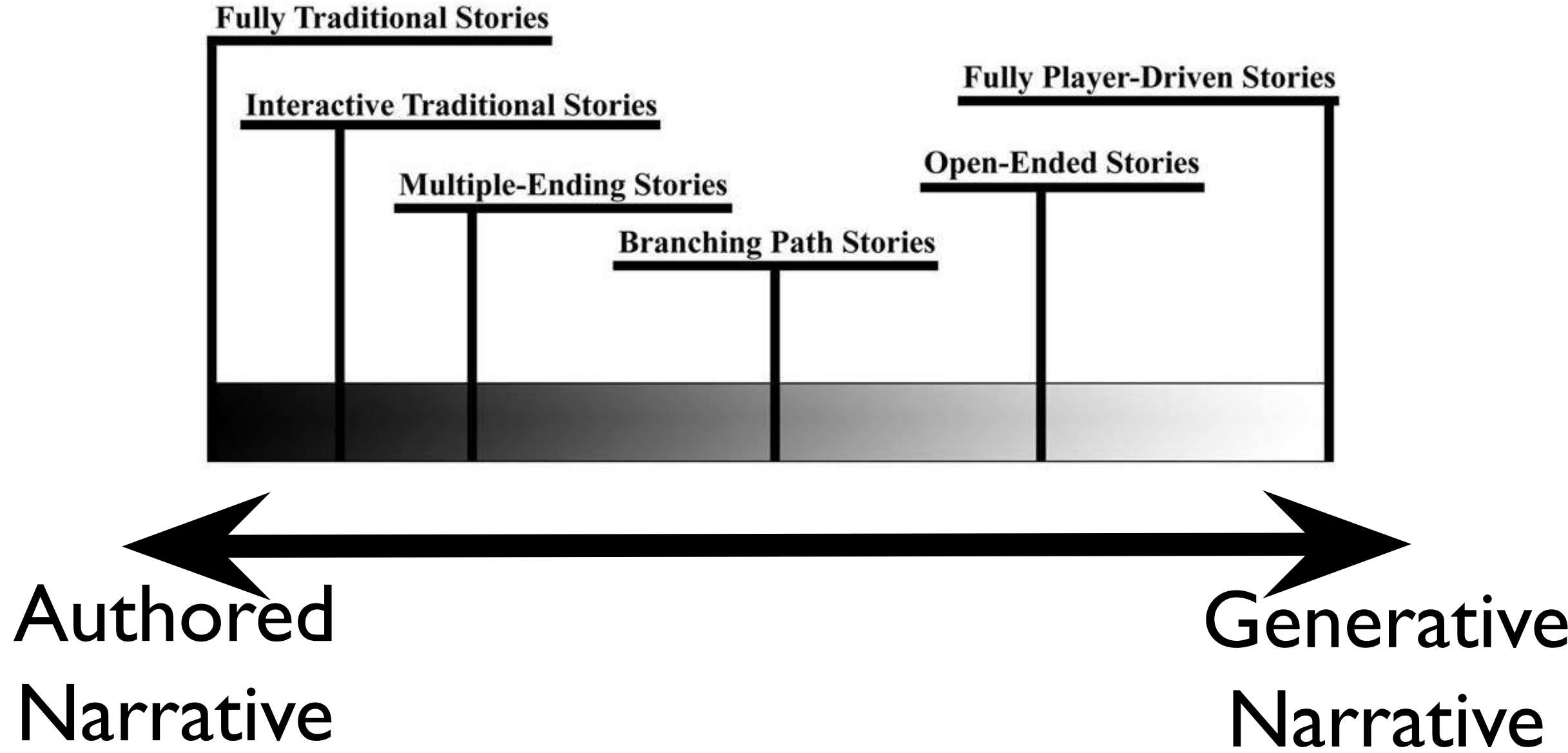


No Agency or  
Impact on Story

Maximized Agency &  
Expression of Will



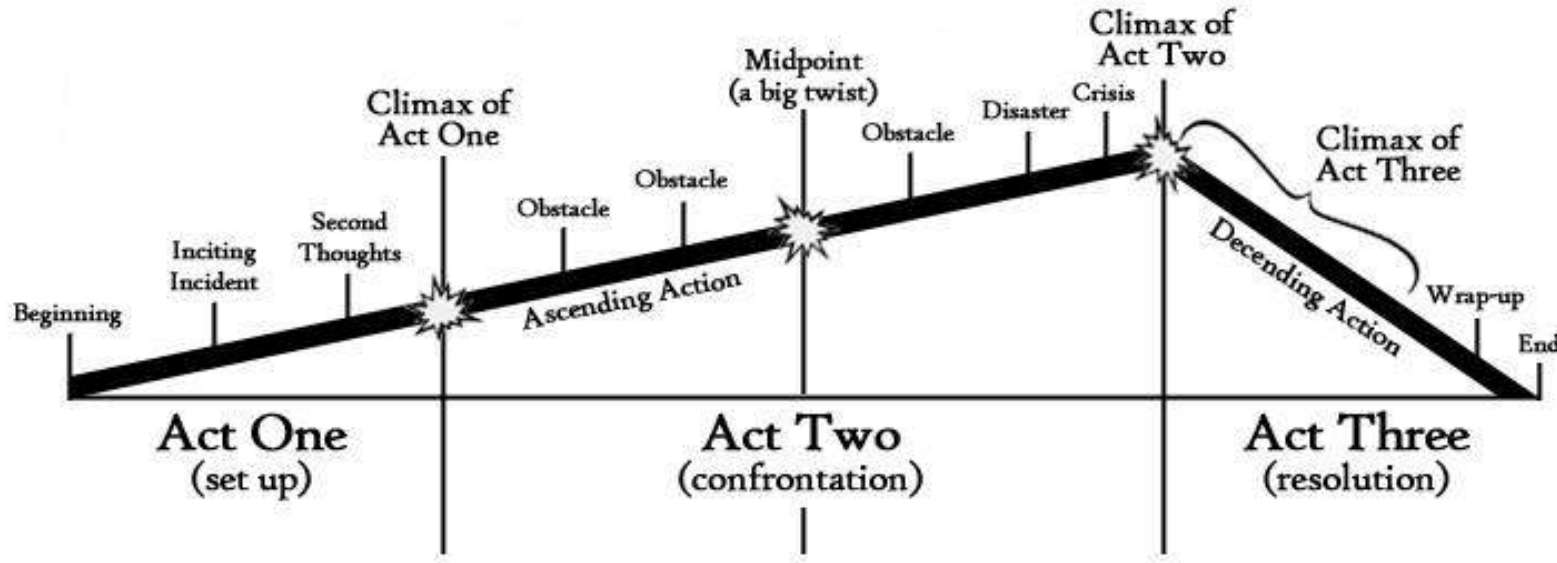
# Lebowitz & Klug's Interactive Storytelling Spectrum (2011)



Lebowitz, Josiah and Klug, Chris. (2011) *Interactive Storytelling for Video Games: A Player-Centered Approach to Creating Memorable Characters and Stories.* (pp. 120) Focal Press

# Fully Traditional Stories

## Three-Act Structure



Authored  
Narrative

Generative  
Narrative

# Interactive Traditional Story

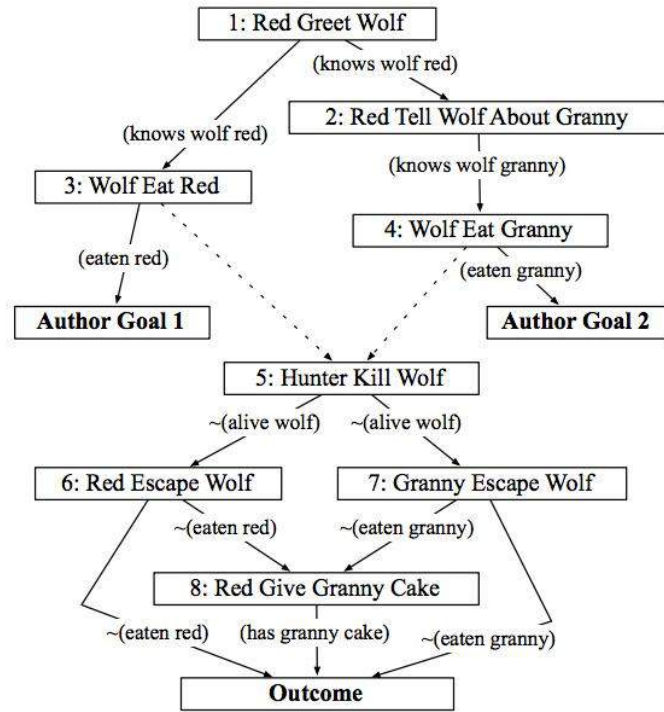
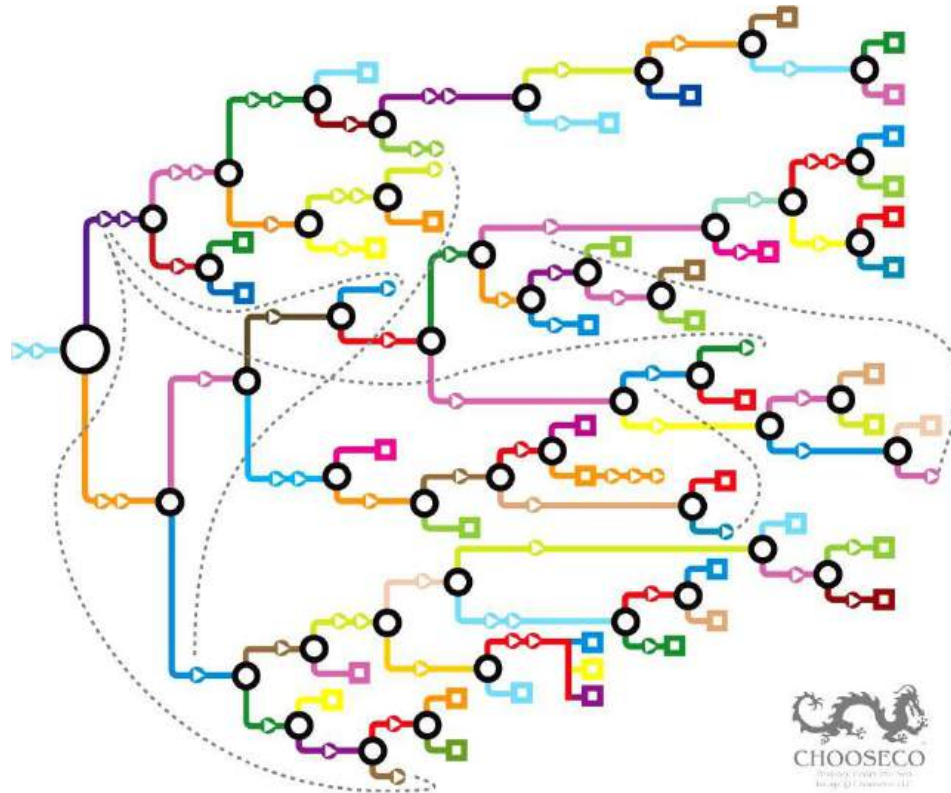


Figure 2: Example narrative plan set in the Little Red Riding Hood world.

Authored  
Narrative

Generative  
Narrative

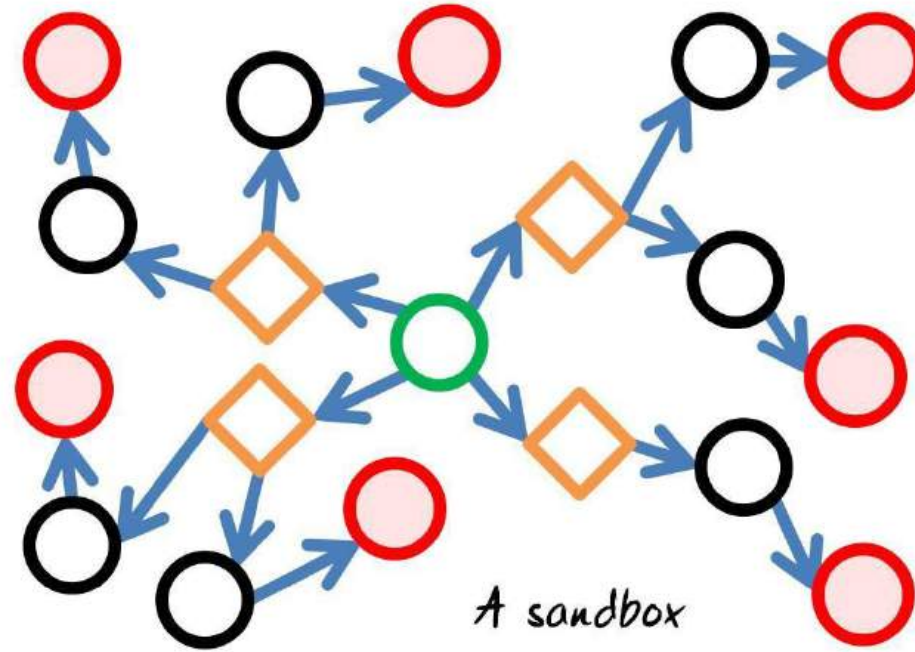
# Branching Path Stories



**Authored  
Narrative**

**Generative  
Narrative**

# Open-Ended Stories



←  
**Authored  
Narrative**

→  
**Generative  
Narrative**

# Drama Manager

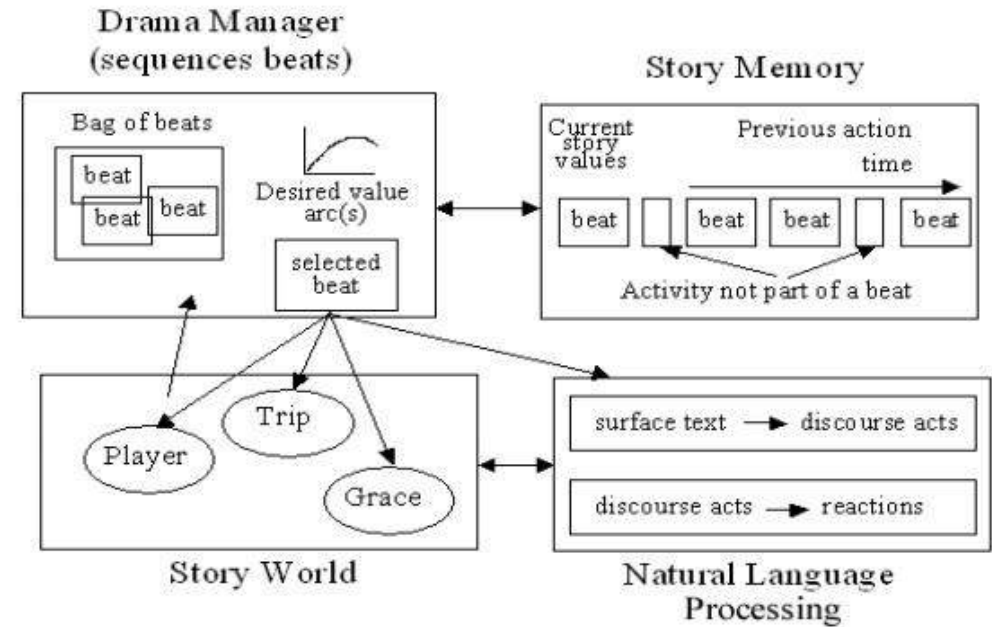
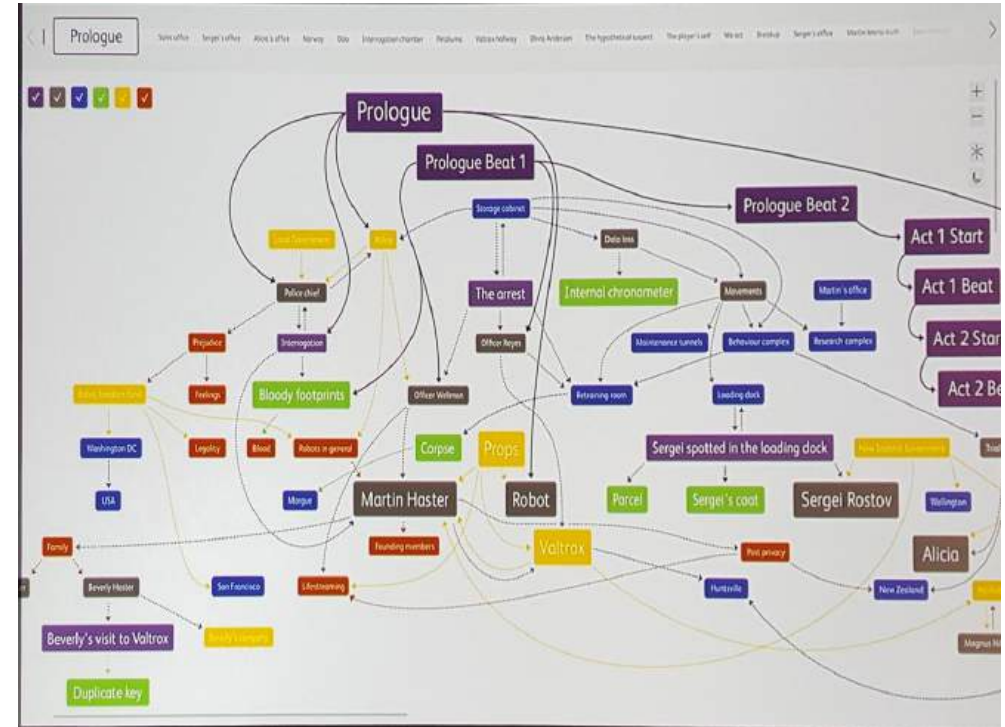


Figure 2. Façade interactive drama architecture



# Fully Player-Driven Stories



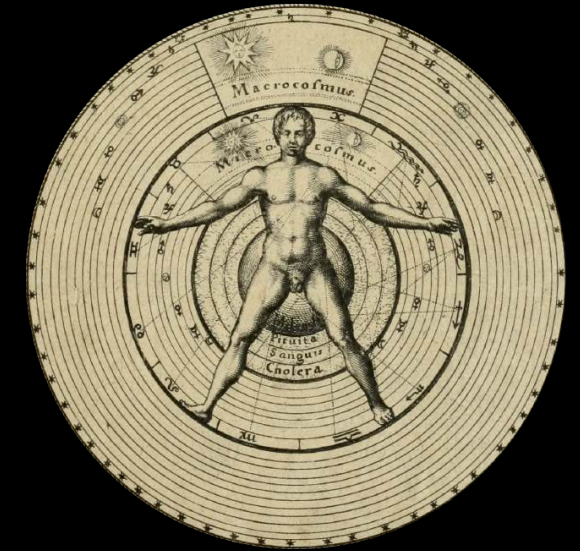
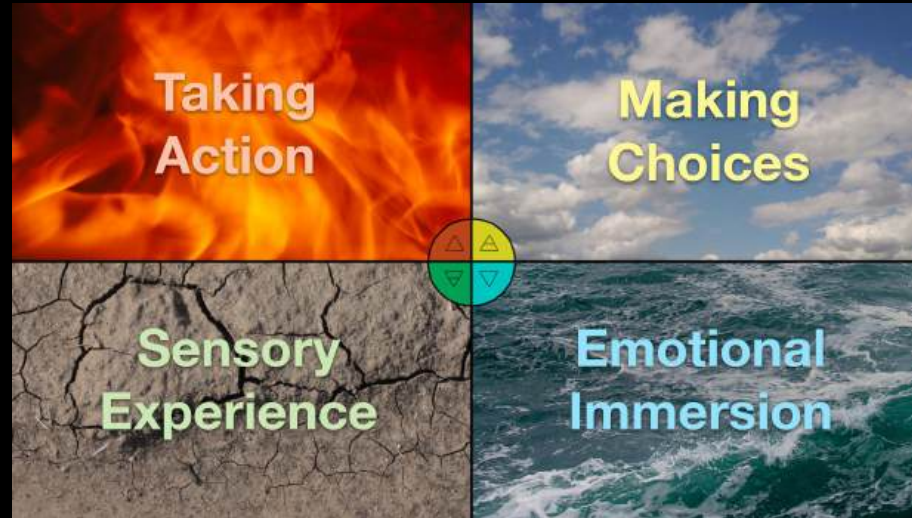
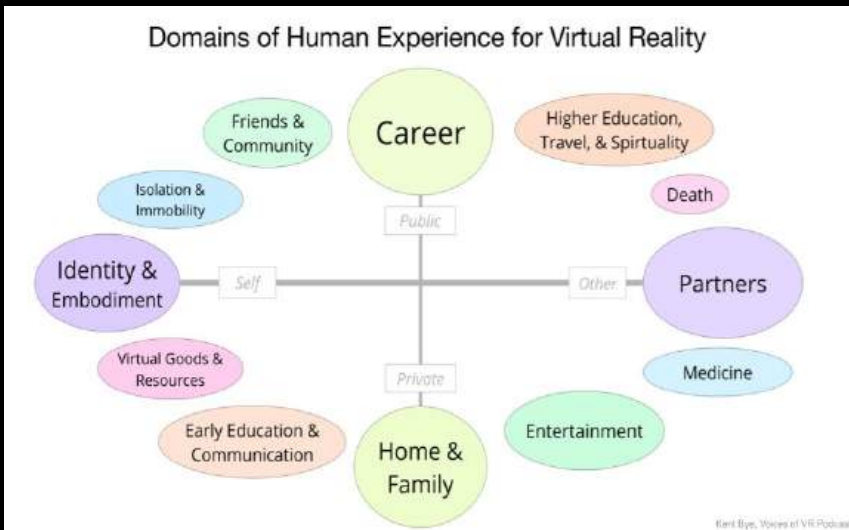
←  
**Authored  
Narrative**

→  
**Generative  
Narrative**

# Context

# Quality

# Character



# Story



- Experiential & Phenomenological Framework
- *Impulse* Impact Study
- Transformation Economy, Mission-Oriented Change, & Co-Creation
- Other Models for Paradigm Shifts
- AI & Friction



- Murphy, B. G., & Abdalla, M. (2024, September 12). Impulse: Playing with Reality. [Virtual Reality Experience]. Anagram. Published on Oculus at <https://www.meta.com/experiences/impulse-playing-with-reality/6468391126573976/>
- Bye, K. (2024, April 4). #1378: Anagram's Mental Health Series Continues with Preview of "Impulse" Mixed Reality Story about ADHD. *Voices of VR Podcast*. Retrieved May 29, 2026 via <https://voicesofvr.com/1378-anagrams-mental-health-series-continues-with-preview-of-impulse-mixed-reality-story-abou-adhd/>
- Bye, K. (2024, September 16). #1421: *Interactive Mixed Reality Doc on ADHD "Impulse: Playing With Reality" Takes Home Immersive Achievement Prize at Venice Immersive 2024*. *Voices of VR Podcast*. Retrieved May 29, 2026 via <https://voicesofvr.com/1421-interactive-mixed-reality-doc-on-adhd-impulse-playing-with-reality-takes-home-immersive-achievement-prize-at-venice-immersive-2024/>

# "The *Impulse* VR experience was designed with the following learning and impact objectives"

## IMPULSE RESEARCH STUDY DETAIL AND RESULTS

Prepared by Alexandra Sierra

December 19, 2025

pg 1

- Experiential Understanding of ADHD
- Embodied Experience of Overwhelm
- Importance of Diagnosis
- Reflective Space
- Societal Impact on Outcomes
- Compassion and Self-Compassion
- Appreciation of Condition Severity
- Proactive Adaptations
- Social and Economic Awareness
- Empowerment Through Support

- **Societal Impact on Outcomes**
- **Proactive Adaptations**
- **Empowerment Through Support**

- **Importance of Diagnosis**
- **Appreciation of Condition Severity**
- **Social and Economic Awareness**

- **Embodied Experience of Overwhelm**
- **Reflective Space**

- **Experiential Understanding of ADHD**
- **Compassion and Self-Compassion**





RESULTS OF  
IMPACT STUDY  
CARRIED OUT FOR  
MIXED REALITY  
EXPERIENCE  
*IMPULSE*

DIGEST FOR GENERAL  
PUBLIC

STUDY SUPPORTED BY

**agog**

IN PARTNERSHIP WITH

**ANAGRAM**



**A MONTH AFTER DOING IMPULSE  
OVER HALF THE PEOPLE  
WHO SUSPECTED THEY HAD ADHD SYMPTOMS  
HAD EITHER SEEN A DOCTOR  
OR SPOKEN TO A COUNSELLOR.**

- **Encourage healthy habits and alternatives**
- **Respect boundaries around advice**

- **Create accountability and support systems**
- **Promote understanding at work**
- **Learn about ADHD**
- **Share helpful resources**
- **Talk openly about ADHD**
- **Avoid assuming or labelling**

- **Provide a safe space to talk**

- **Support through awareness and empathy**



- **Immediate Behavioural Change Toward Others with ADHD After Impulse**

- **Impulse Successfully Created a Strong Sense of Immersion for Most Participants**

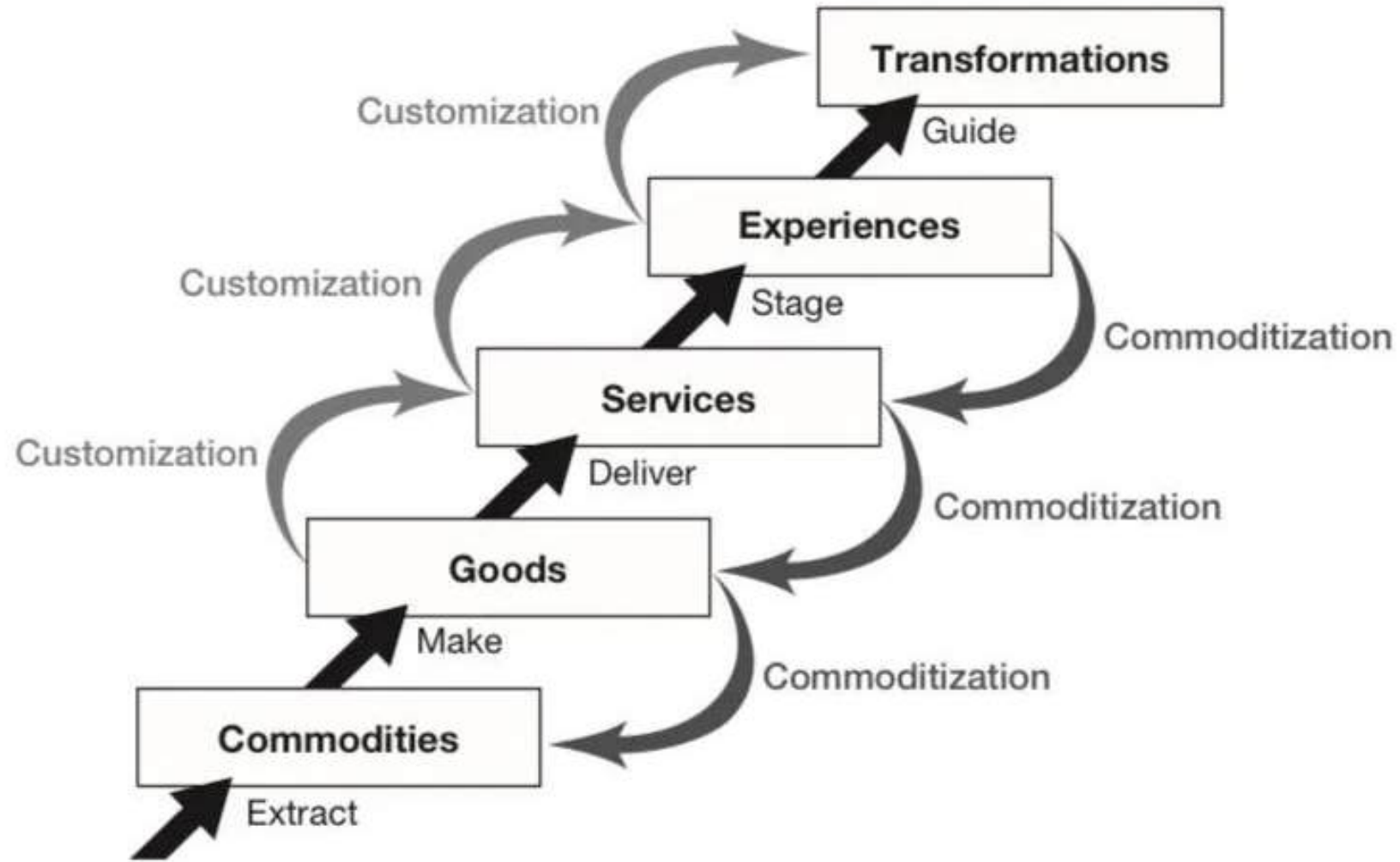
- **The Mixed Reality Experience Impulse Improves Knowledge About ADHD**
- **Learning About ADHD Using the Mixed Reality Experience Impulse**
- **Impulse Increases Awareness of ADHD Stigma and Supports Attitude Change Over Time**
- **Impulse Encourages Ongoing Self-Care and Support-Seeking Among People with ADHD**
- **Changes in Attitudes and Behaviours Toward Others with ADHD One Month After Impulse**
- **New Ideas About Helping People with ADHD**

- **Empathy Toward People with ADHD Was High Across All Groups**
- **Impulse Shows That Empathy Is Key to Behaviour Change Toward People with ADHD**



- Experiential & Phenomenological Framework
- *Impulse* Impact Study
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# Pine & Gilmore's Progression of Economic Value



# Pine's Encapsulation Happens Over Time

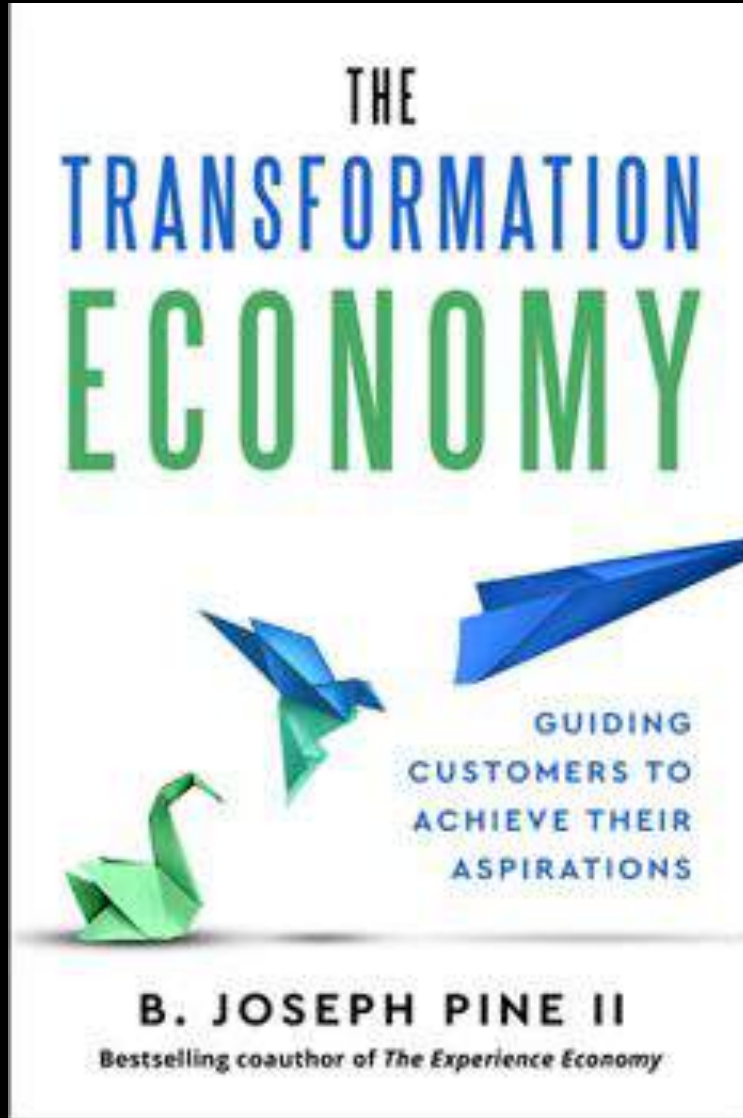
FIGURE 4-1

---

## Encapsulation



# Transformation as Identity Change



"All transformation is identity change — that aspirants desire to go from X to Y."

- Joe Pine.

Identity as “all the ways you can complete the statement ‘I am...’”

- Suzy Ross.

# Mazzucato's Mission-Oriented Framework

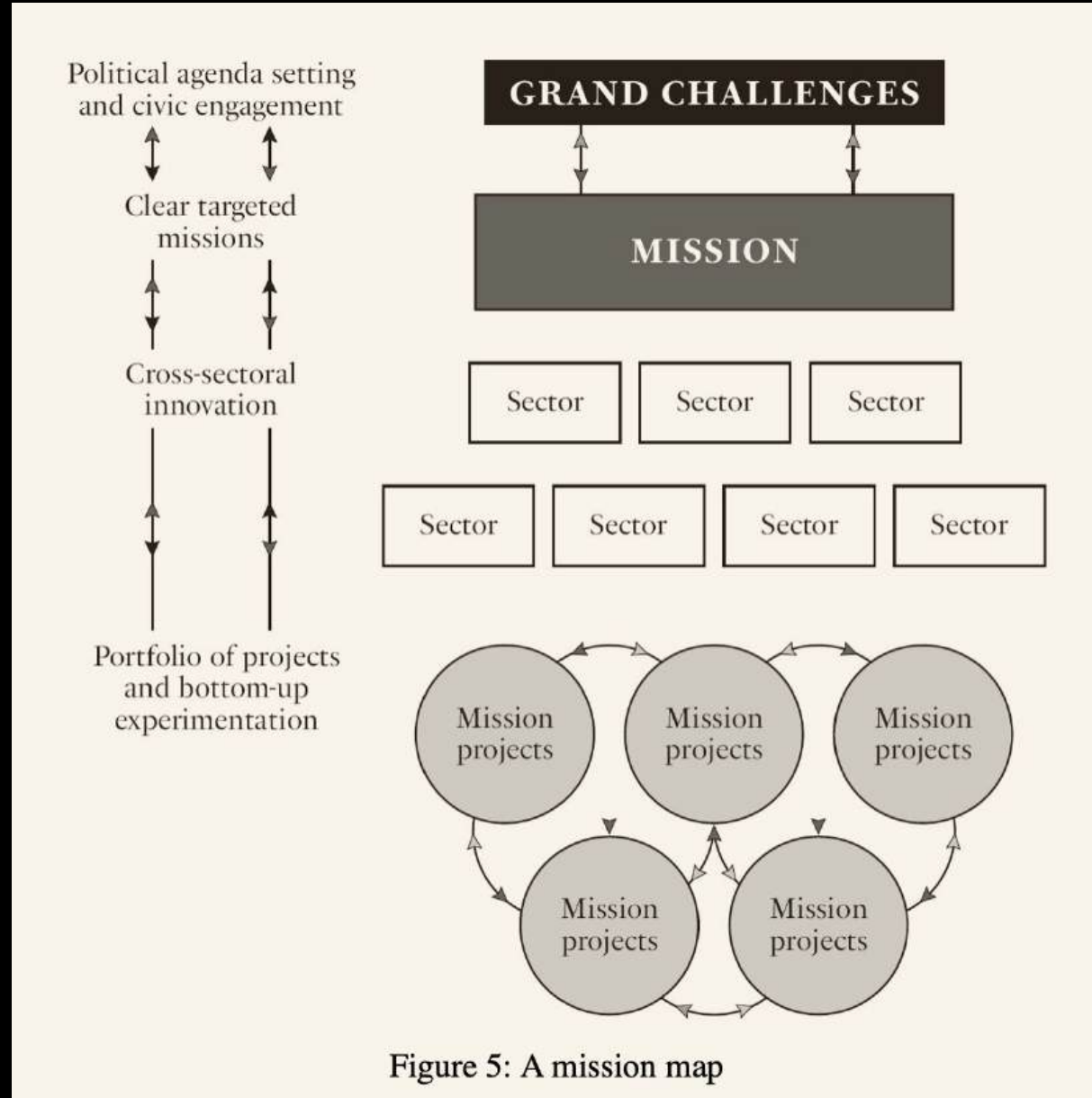
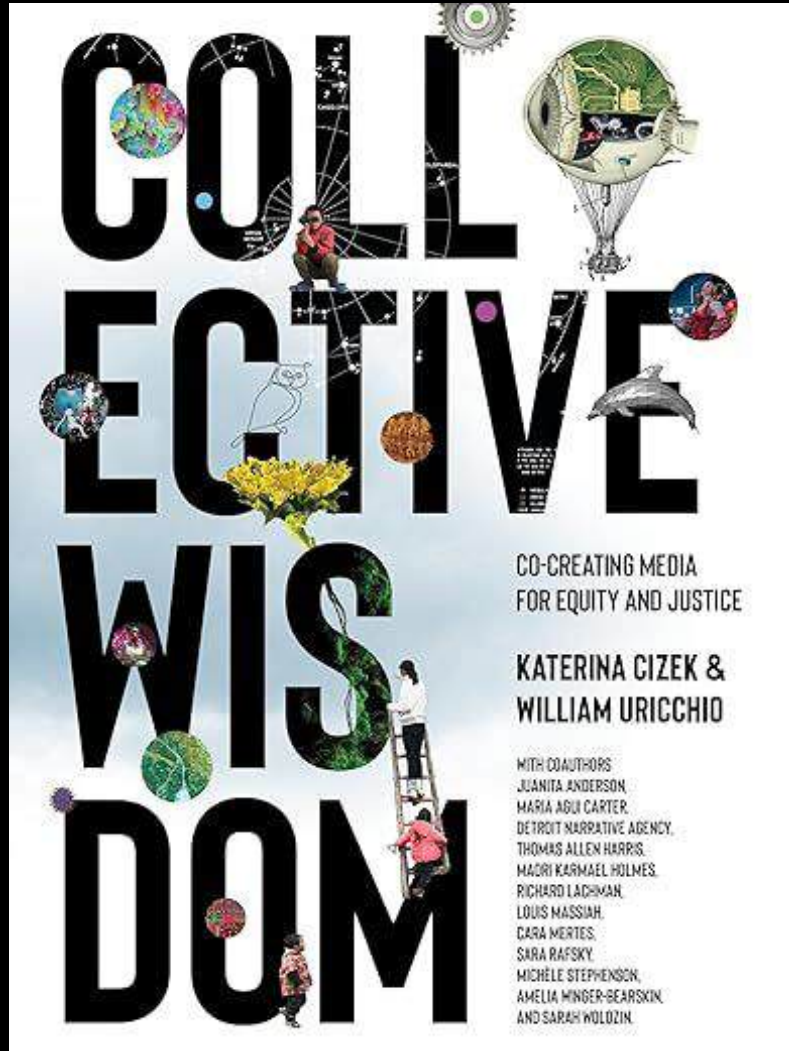


Figure 5: A mission map



# Media Fragments that Facilitate Process

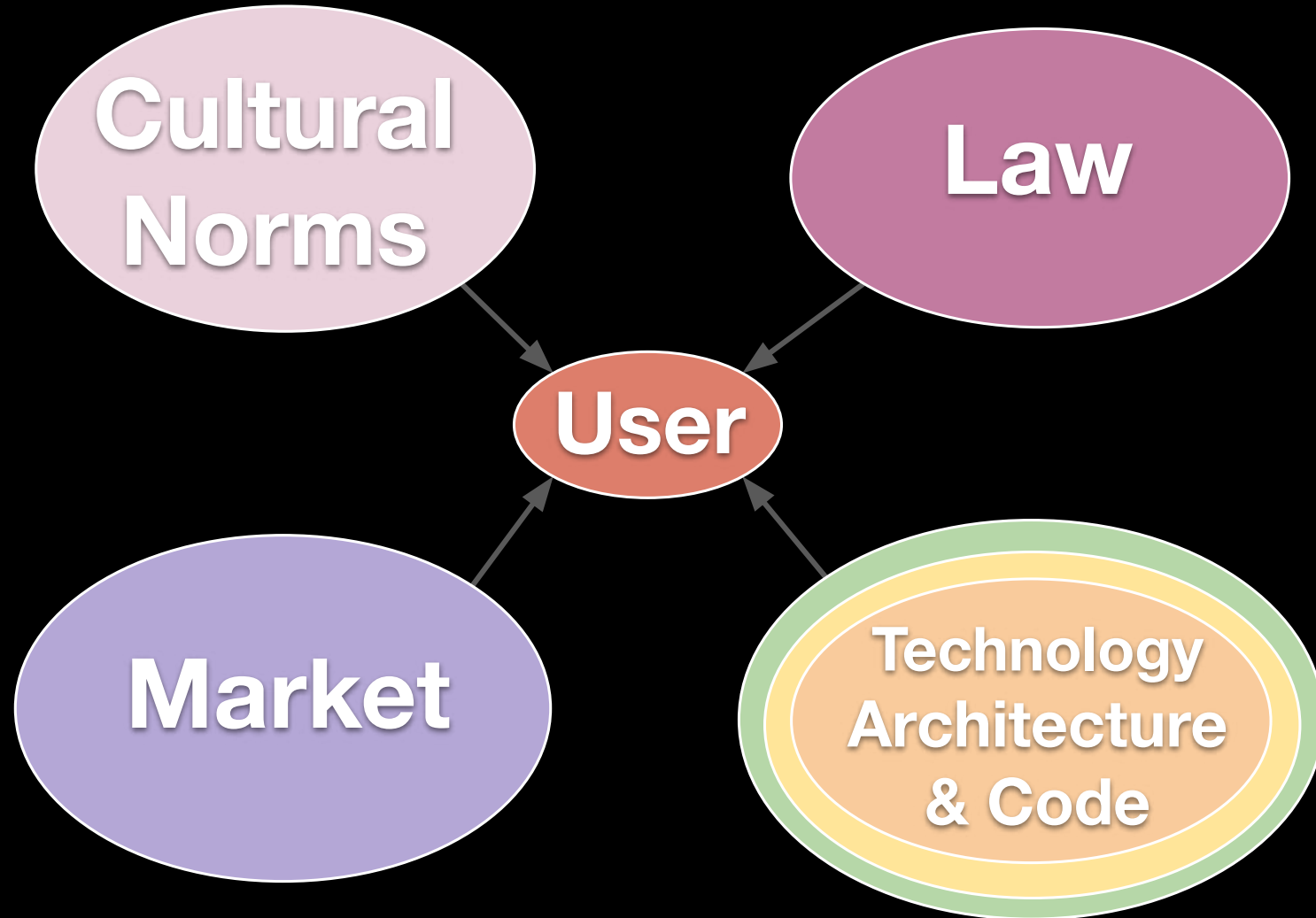


"Over the course of co-creative methodologies, there is a tension between product and process. And we chart in the book different waves. So at the National Film Board of Canada, for example, in the 60s and 70s there was a rejection of product. The Challenge for Change prided themselves in making no finished films, or very few of them. It was all about these fragments of films, thousands of them, that would be employed in community-development processes. So it was really privileging process way above product. And then there was a bit of a pushback to that in later community work that product does matter, and it does have an impact and a consequence in the world in ways that these fragments maybe don't. So there's been a balancing of that. Now the people that we spoke to, the contemporary co-creators, would argue that they're both important, and they both need to be in balance with one another."

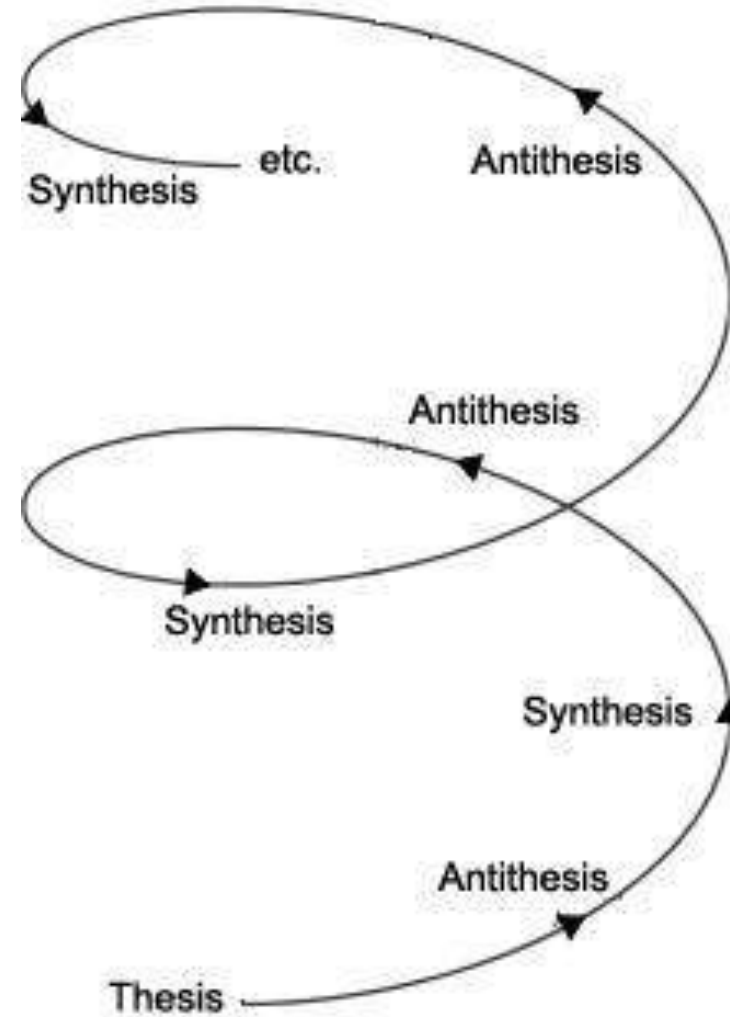
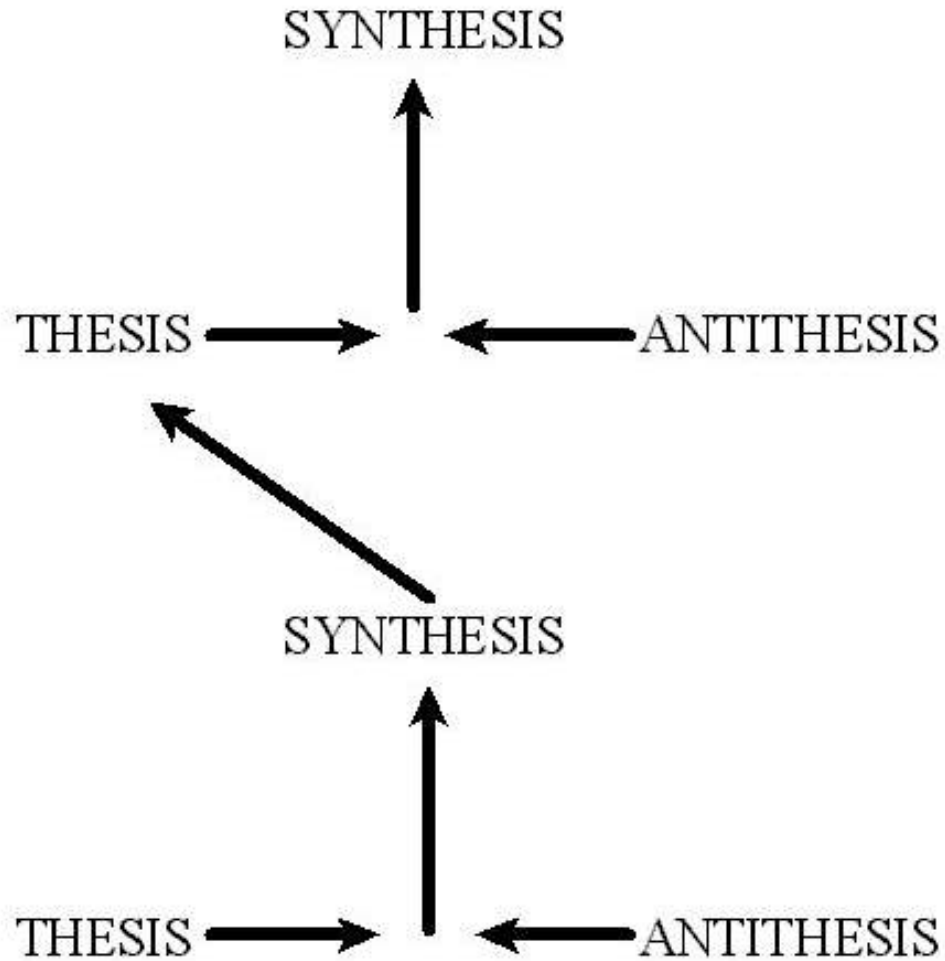
- Cizek, K. & Uricchio, W. (2022) *Collective Wisdom: Co-Creating Media for Equity and Justice*. The MIT Press.
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- Experiential & Phenomenological Framework
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# Lessig's Pathetic Dot Theory

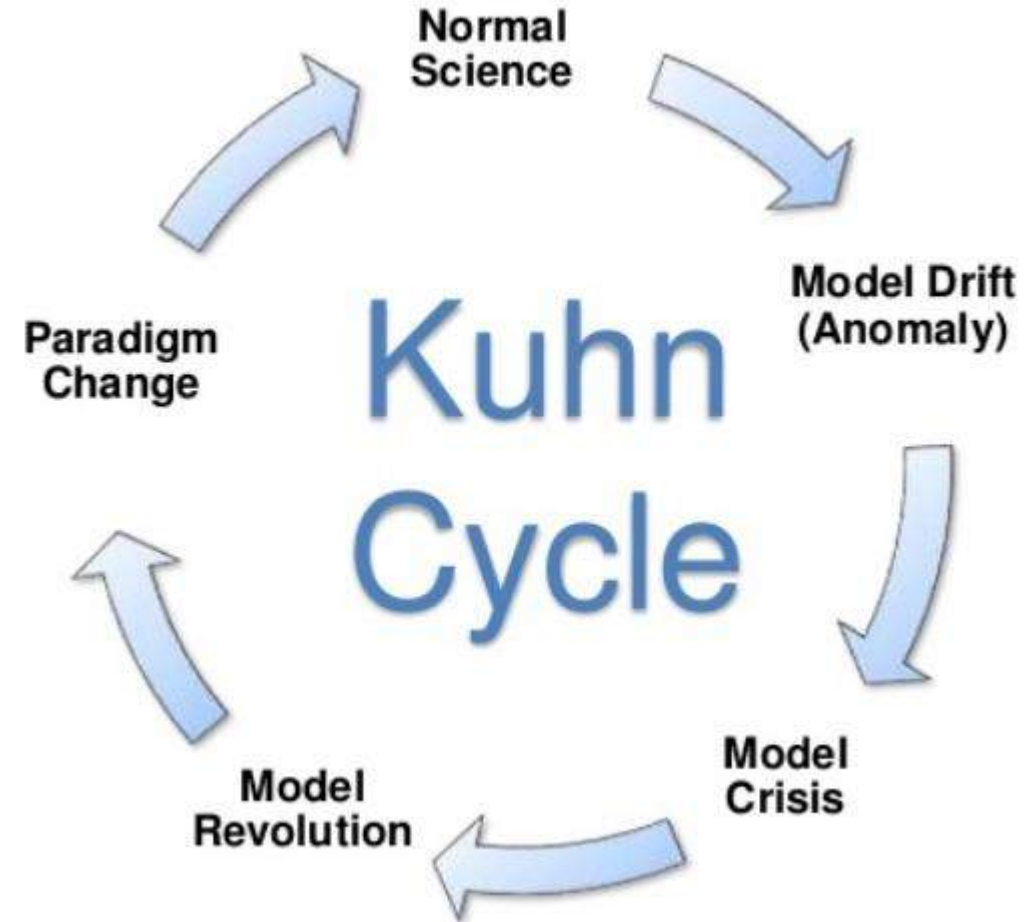
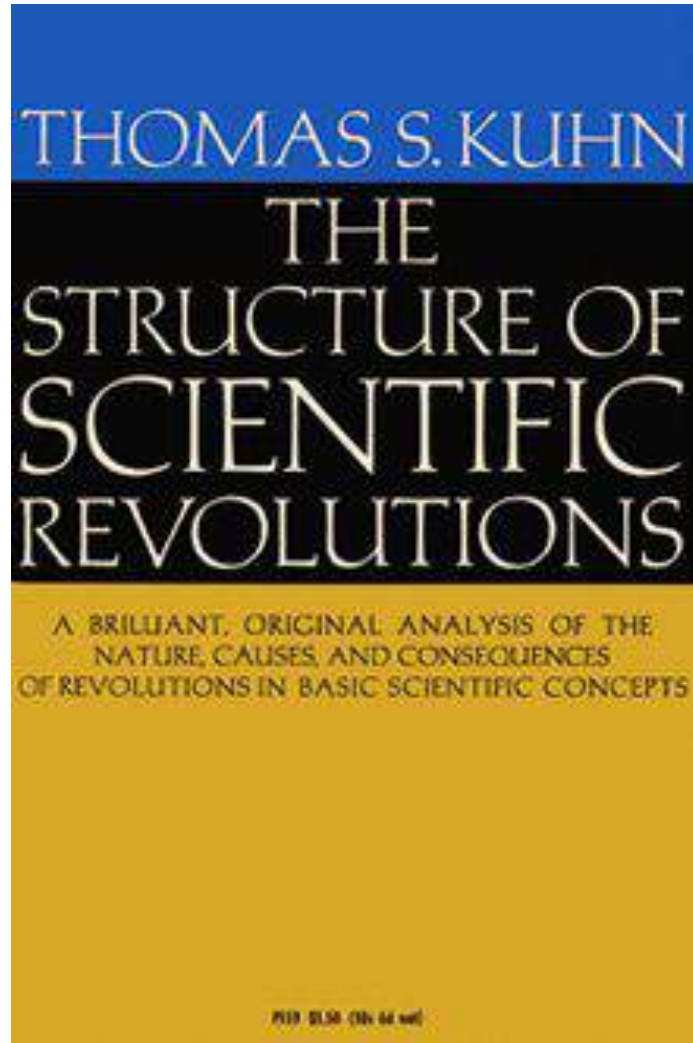


# Hegelian Dialectic as described by Fichte: Thesis, Antithesis, Synthesis



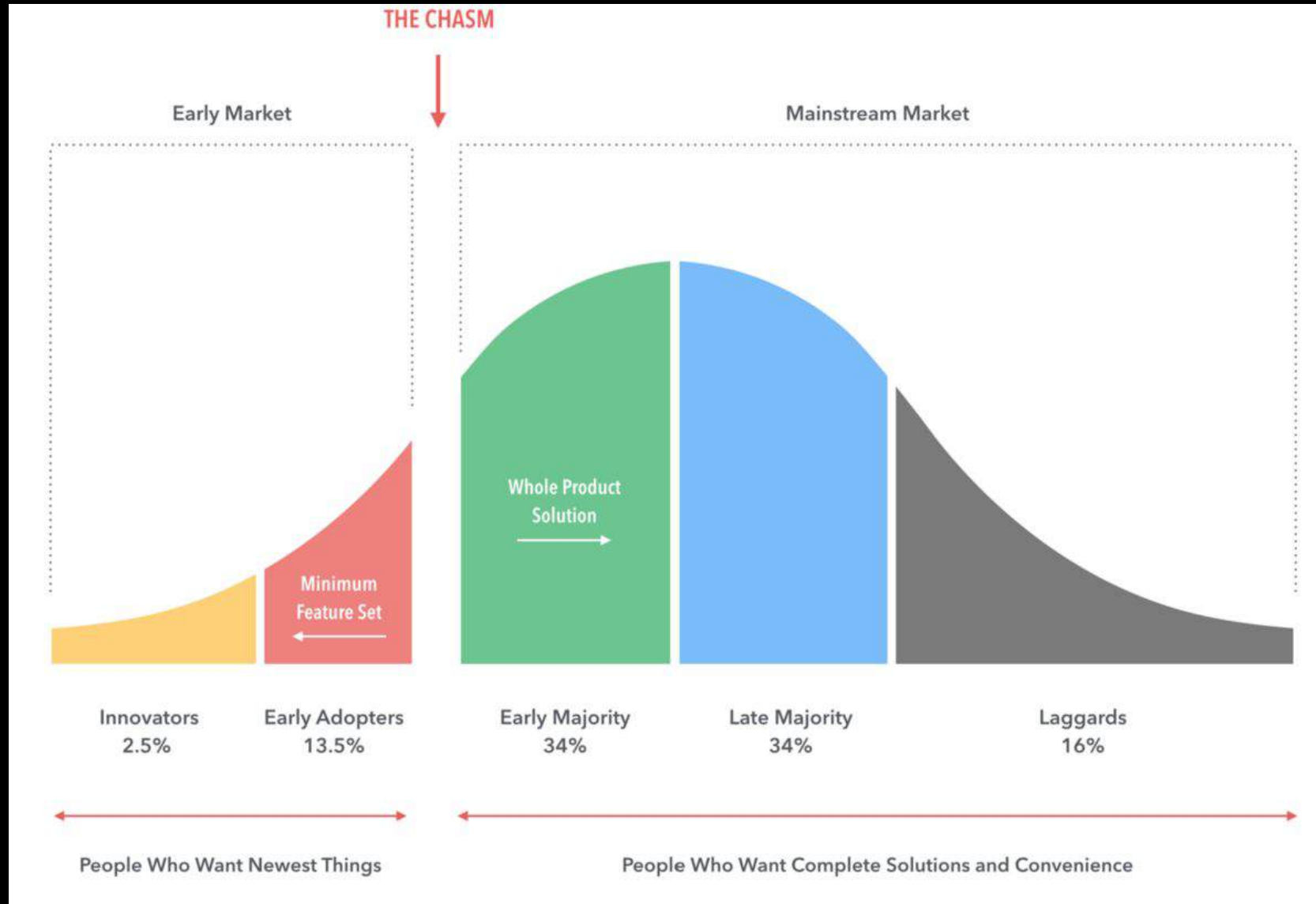
- Dialectic. *Wikipedia*. Retrieved on May 30, 2026 via <https://en.wikipedia.org/wiki/Dialectic>
- The Myth of Thesis-Antithesis-Synthesis. Dialectic Institute. Retrieved on May 30, 2026 via [https://www.dialecticinstitute.org/white\\_papers/WP-myth\\_thesis\\_antithesis\\_synthesis.htm](https://www.dialecticinstitute.org/white_papers/WP-myth_thesis_antithesis_synthesis.htm)

# Kuhn: Paradigm Shifts Catalyzed by Anomalies



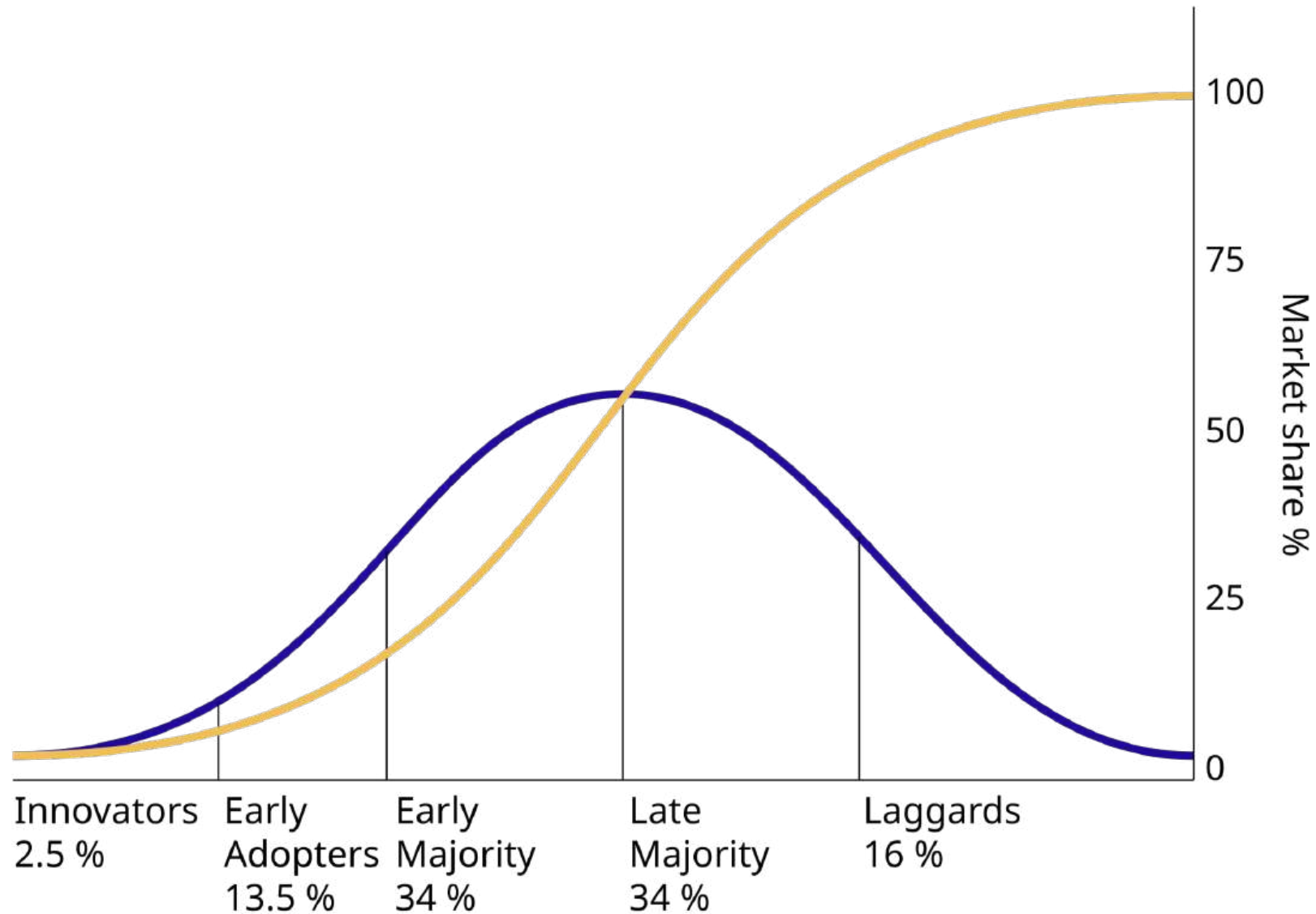
- Kuhn, T. S. (1996). *The structure of scientific revolutions*. Chicago, IL: University of Chicago Press.
- Graphic via <http://faculty.humanities.uci.edu/bjbecker/revoltingideas/week1d.html>

# “Crossing the Chasm” into the Mainstream

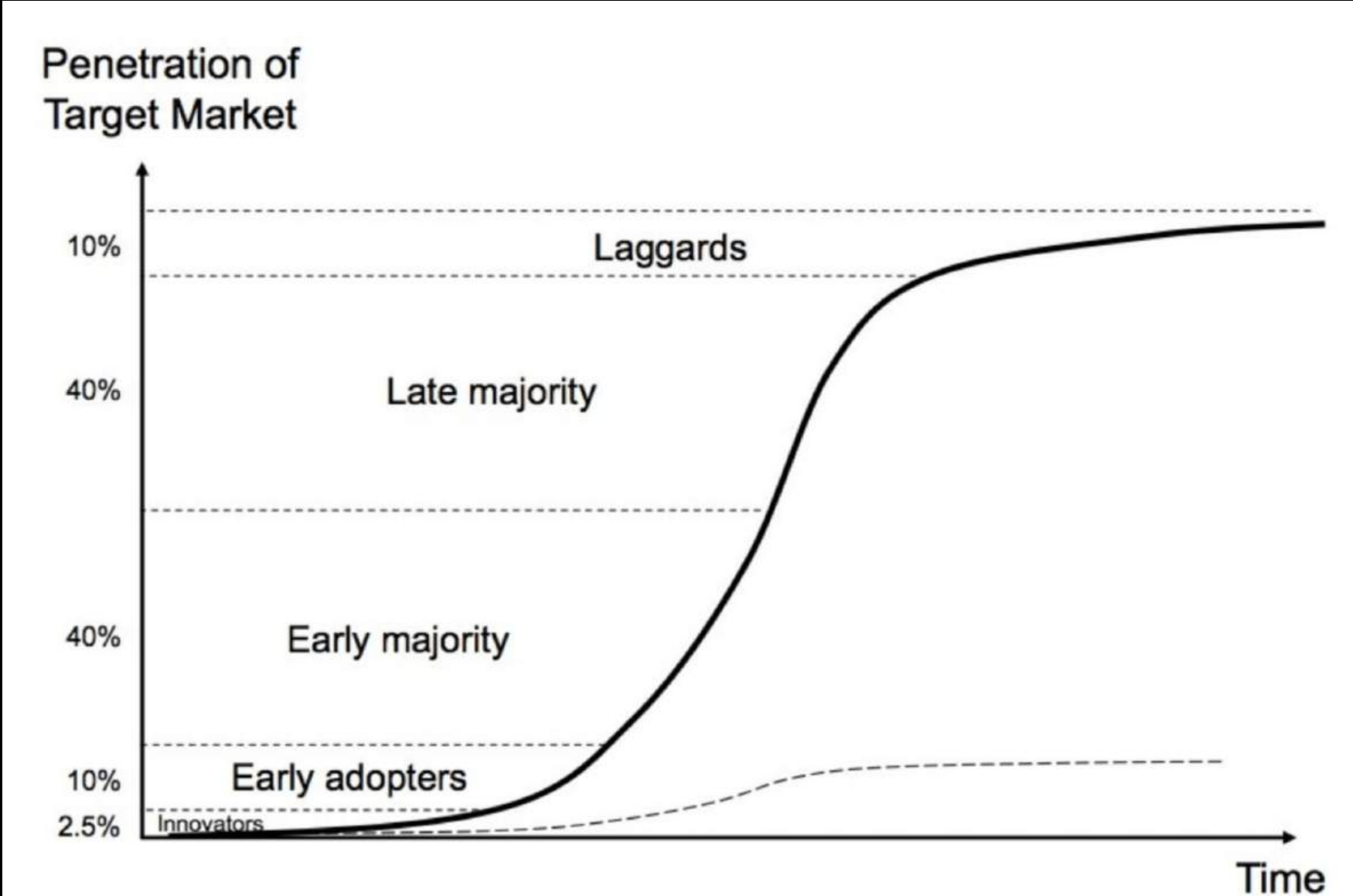


- Moore, G. A. (1991). *Crossing the Chasm: Marketing and selling disruptive products to mainstream customers*. Collins Business Essentials.
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# Everett Rogers' Diffusion of Innovation Model

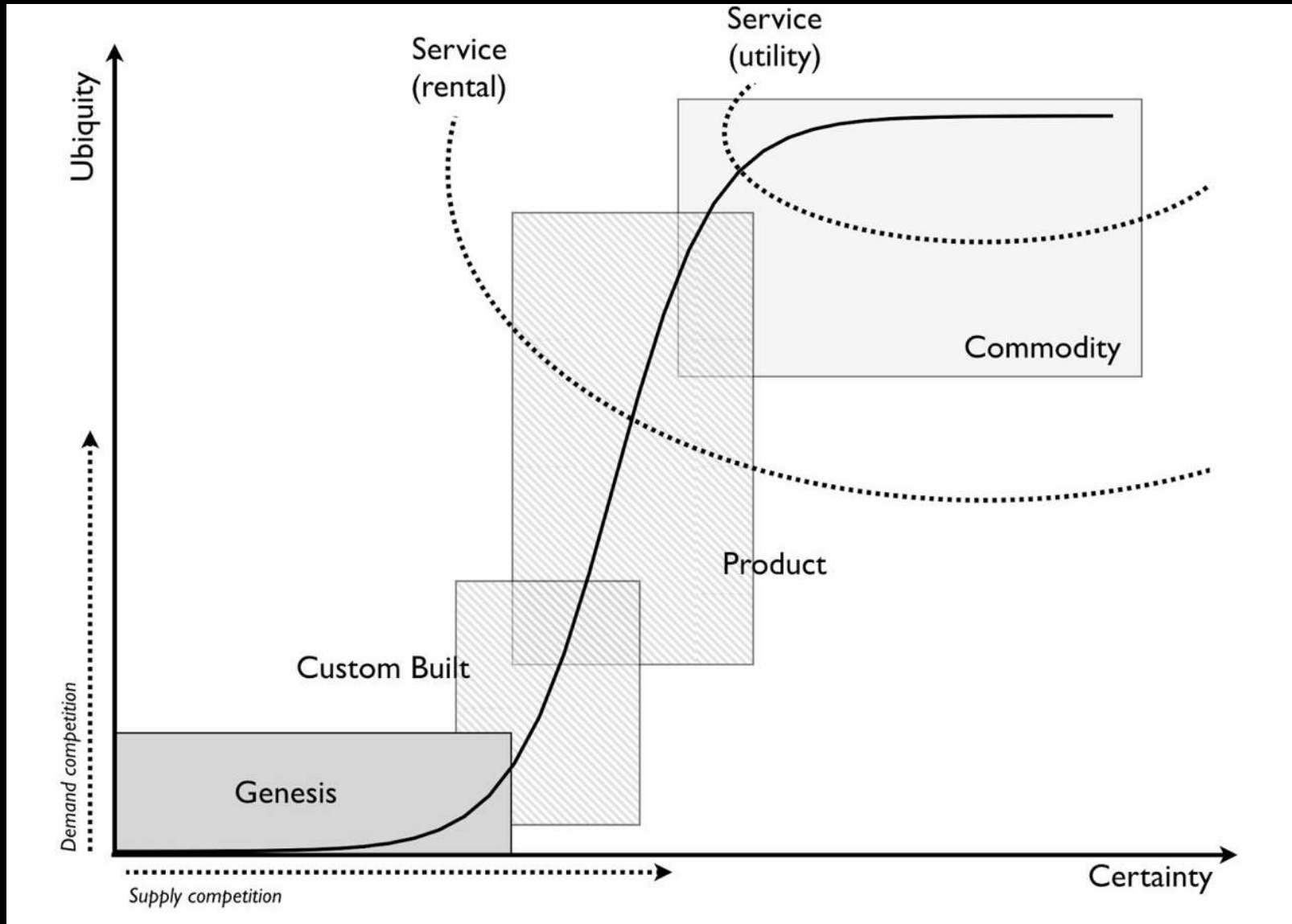


# Diffusion Theory & The S-Curve



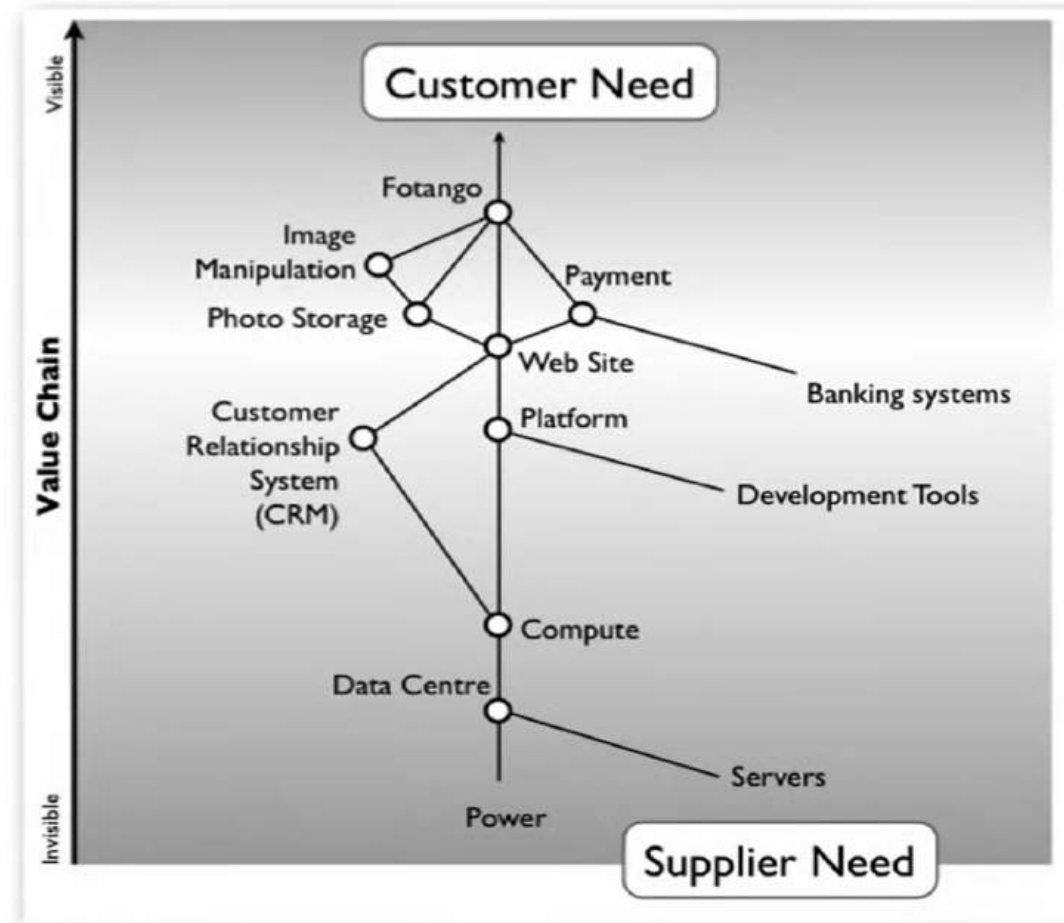
El-Zoghbi, M, (2021, December 16). *Diffusion Theory, the S-Curve, and Why We Need to Go Beyond Inclusion*. Retrieved December 18, 2025, from <https://www.centerforfinancialinclusion.org/diffusion-theory-the-s-curve-and-why-we-need-to-go-beyond-inclusion/>

# Simon Wardley's Model of Technology Evolution

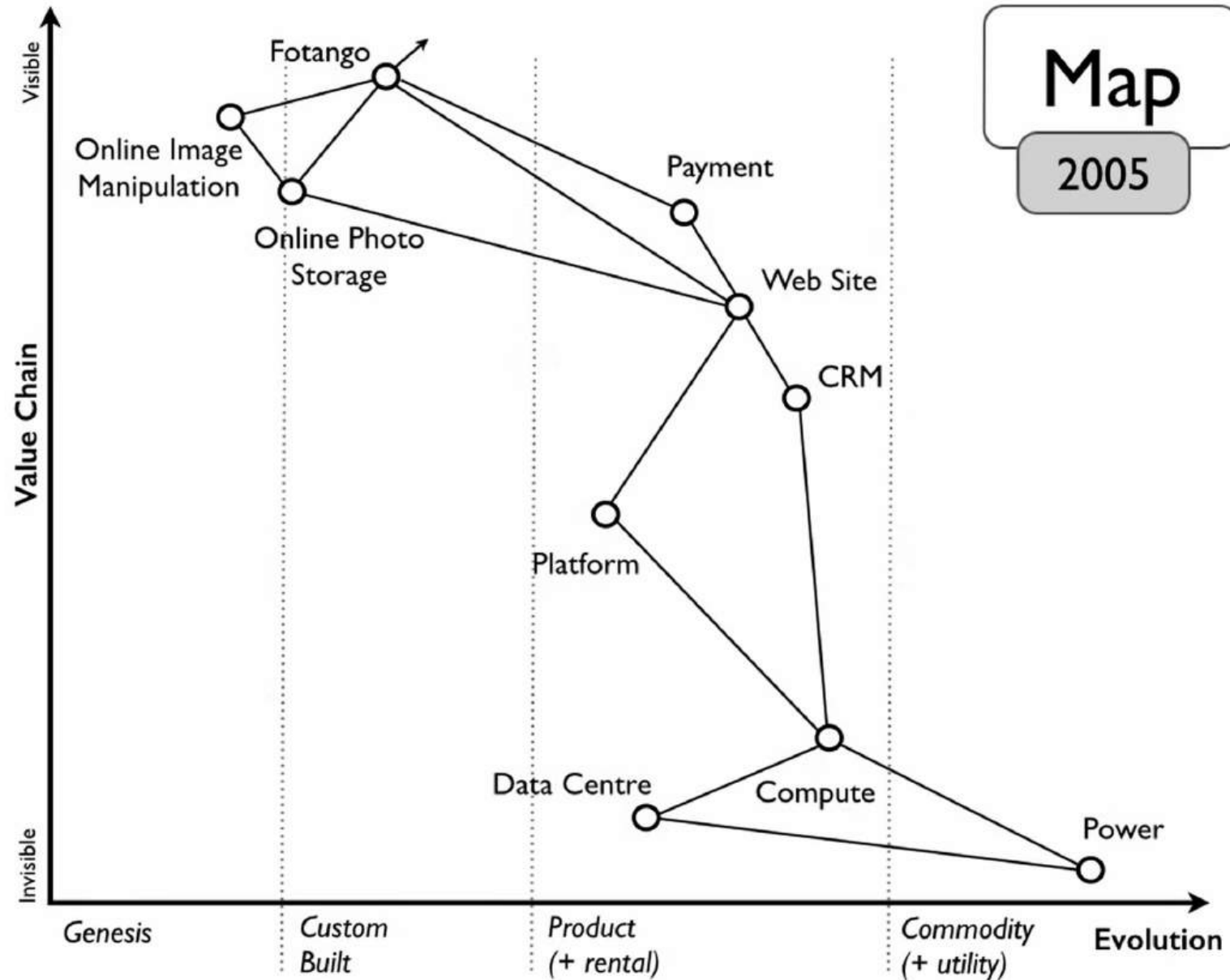


# Wardley Mapping

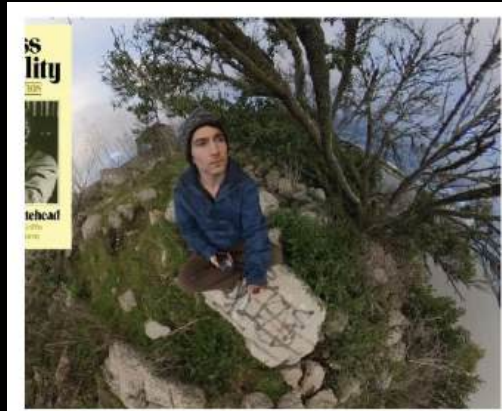
## Value Chain (describes organization)



# Wardley Mapping

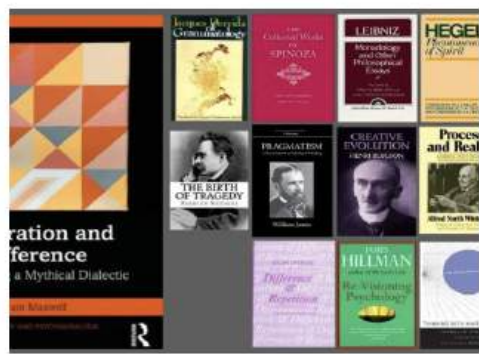


# Five Episodes on Process Philosophy



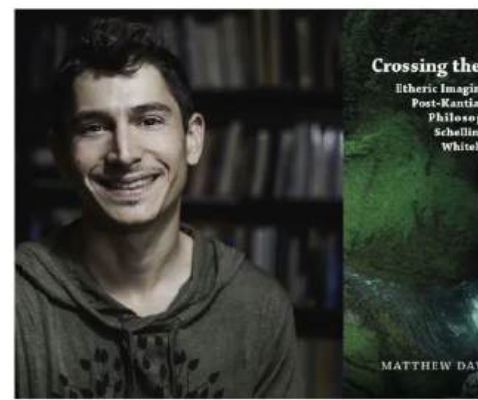
## #965: Primer on Whitehead's Process Philosophy as a Paradigm Shift & Foundation for Experiential Design

by kentbye // December 10, 2020



## #1147: Thirteen Philosophers on the Problem of Opposites: Grant Maxwell's Integration & Difference Book & Archetypal Approaches to Character

by kentbye // October 27, 2022



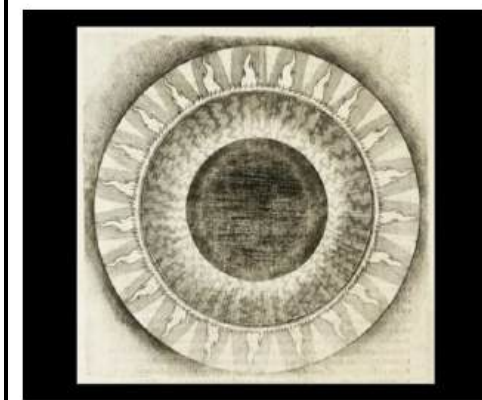
## #1183: From Kant to an Organic View of Reality: Scaffolding a Process-Relational Paradigm Shift with Whitehead Scholar Matt Segall

by kentbye // March 9, 2023



## #1568: A Process-Relational Philosophy View on AI, Intelligence, & Consciousness with Matt Segall

by kentbye // June 4, 2025



## #1708: How Process Philosophy Centers Experience. A Prismatic Tour of "Whitehead's Universe" by Andrew M. Davis

by kentbye // December 6, 2025

- Bye, K. & Segall, Matt. (2020, December 10). #965: Primer on Whitehead's Process Philosophy as a Paradigm Shift & Foundation for Experiential Design. *Voices of VR Podcast*. Retrieved on May 10, 2024 from <https://voicesofvr.com/primer-on-whiteheads-process-philosophy-as-a-paradigm-shift-foundation-for-experiential-design>.
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- Bye, K. & Segall, M. (2023, March 9). #1183: From Kant to an organic view of reality: Scaffolding a process-relational paradigm shift with Whitehead scholar Matt Segall. *Voices of VR Podcast*. Retrieved on May 10, 2024, from <https://voicesofvr.com/1183-from-kant-to-an-organic-view-of-reality-scaffolding-a-process-relational-paradigm-shift-with-whitehead-scholar-matt-segall/>.
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# From Substance to Process (Davis 2026)

## Substance Philosophy

Nouns

Things

Discrete Individuality

Separateness & Independence

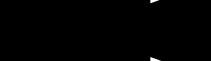
Fixity & Stability

Surface-Level Change

Eternity

Passivity & Indifference

Being



## Process Philosophy

Verbs

Happenings

Active Relations

Relationality & Interdependence

Innovation & Novelty

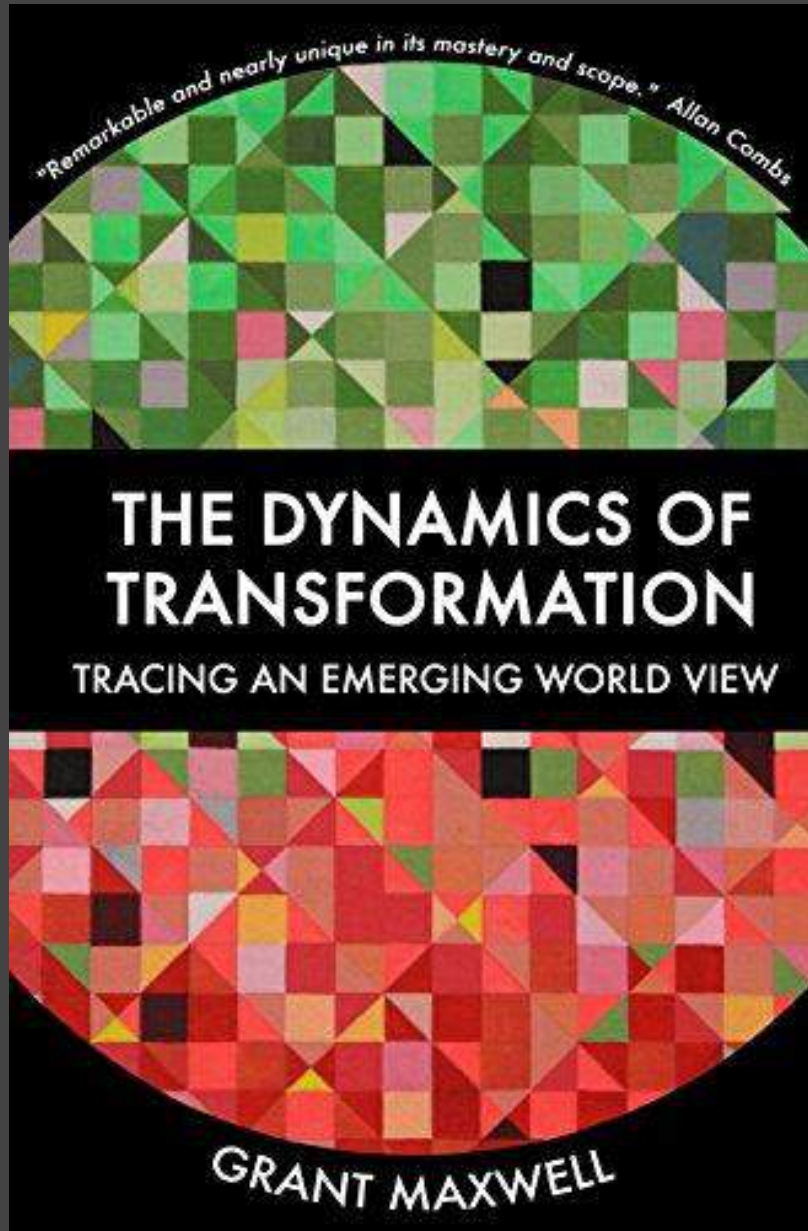
Fundamental Change

Temporality

Activity & Participation

Becoming

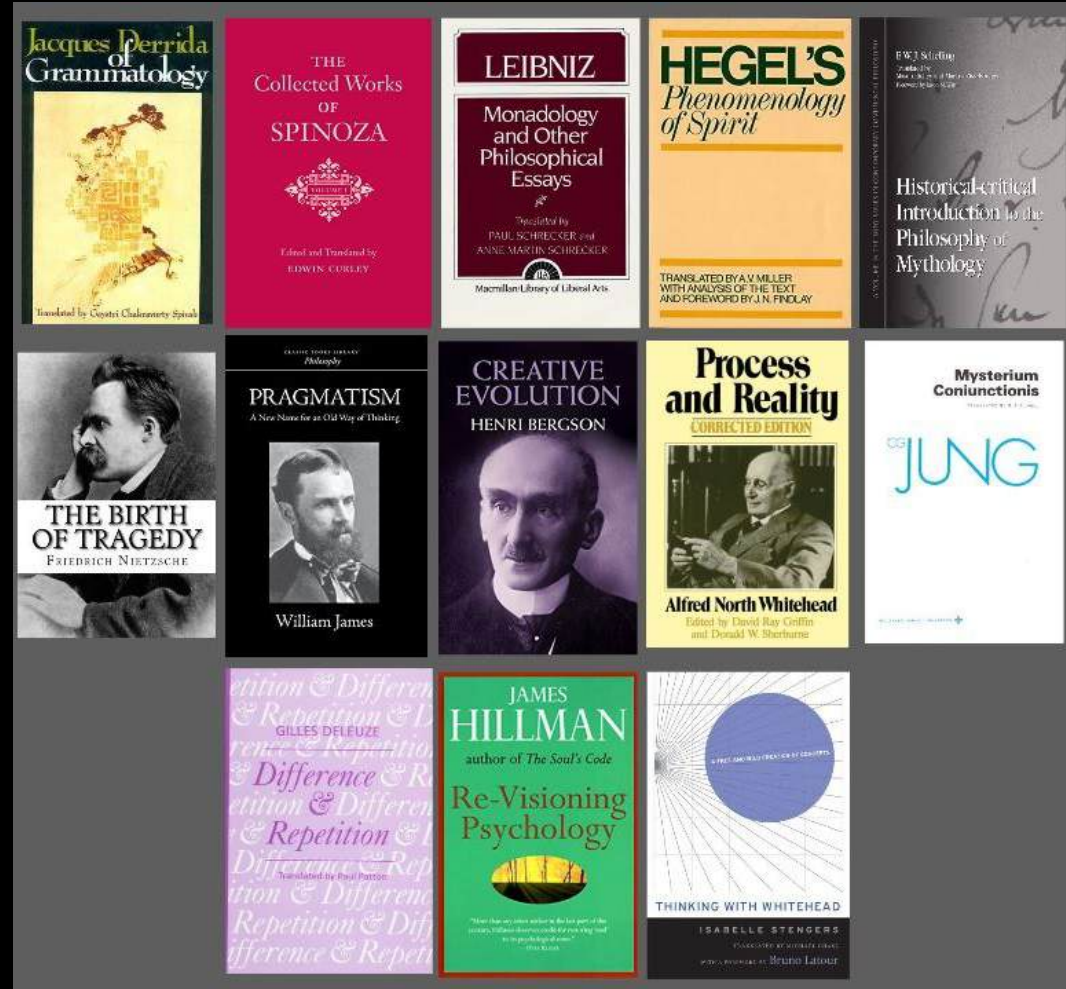
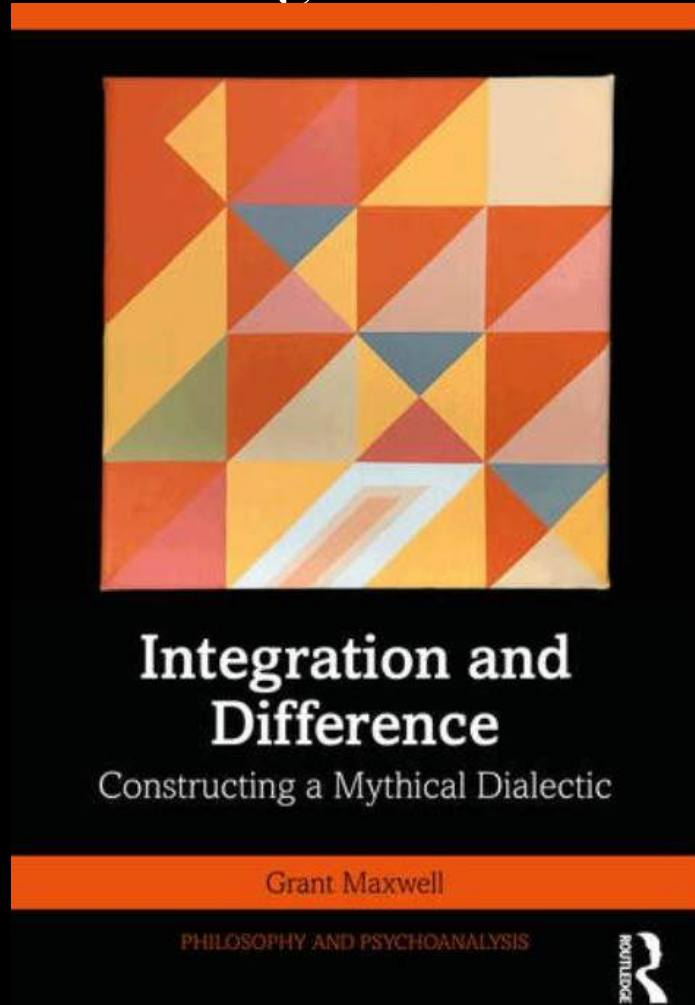
- Davis, Andrew M. (Forthcoming in 2026). *Whitehead's Universe: A Prismatic Introduction*. Orbis Books.
- Bye, K. & Davis, A.M. (2025, Dec 6). #1708: How Process Philosophy Centers Experience. A Prismatic Tour of "Whitehead's Universe" by Andrew M. Davis. Voices of VR Podcast. Retrieved Dec 10, 2025  
<https://voicesofvr.com/1708-how-process-philosophy-centers-experience-a-prismatic-tour-of-whiteheads-universe-by-andrew-m-davis/>.



# Tracing of an Emerging World View

1. Participatory Quality of Process
2. Novelty & the Will to Believe
3. Reconciling Third Integrative Method
4. Discontinuity of Process
5. Development Through Emergent Phases
6. Emergence of a New World View
7. Fractal Quality of Process
8. Forms, Archetypes, & Eternal Objects
9. Qualitative Temporality & Formal Causation
10. Final Causation & Teleological Introduction of Novelty
11. An Exponentially Accelerating Process
12. Concretion of Time & Spatio-Temporal Freedom

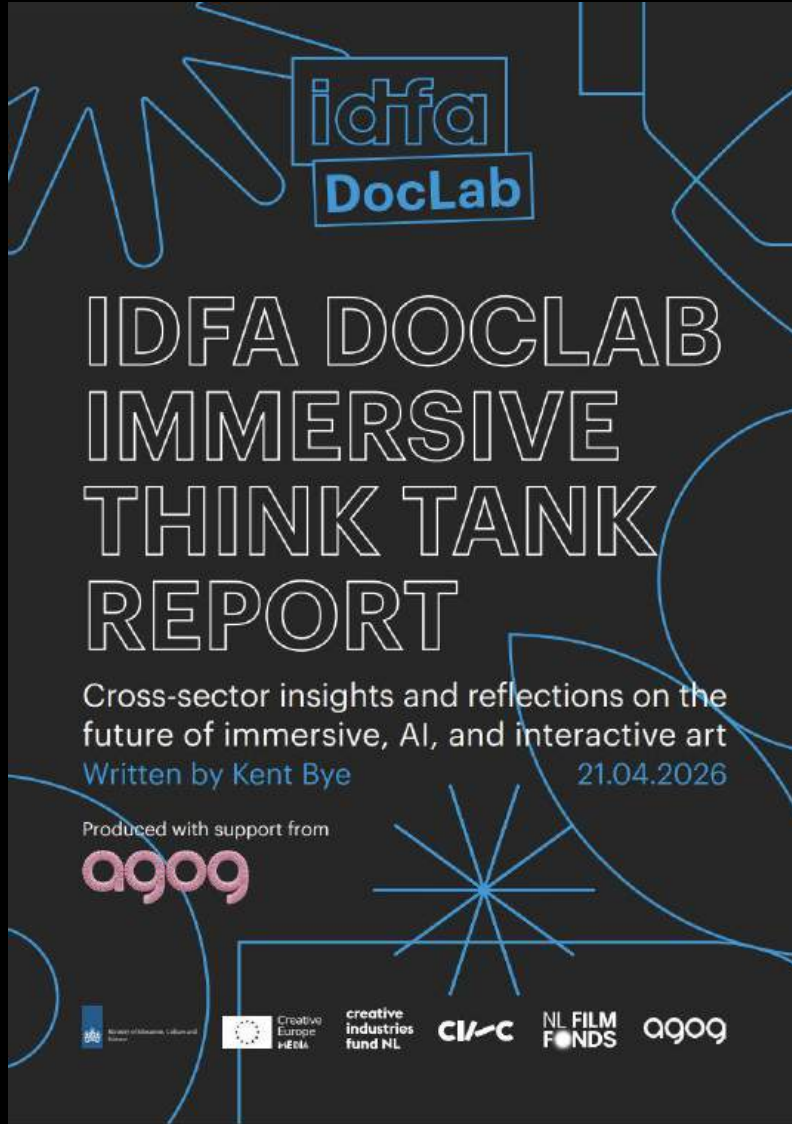
# Maxwell Covers 13 Process Thinkers: Spinoza, Leibniz, Hegel, Schelling, Nietzsche, James, Bergson, Whitehead, Jung, Deleuze, Hillman, & Stengers



- Maxwell, G. (2022) *Integration and Difference: Constructing a Mythical Dialectic*. Routledge, Taylor & Francis Group.
- Bye, K. & Maxwell, G. (2022, October 27). #1147: Thirteen Philosophers on the Problem of Opposites: Grant Maxwell's Integration & Difference Book & Archetypal Approaches to Character. Voices of VR Podcast. Retrieved on May 10, 2024 from <https://voicesofvr.com/1147-thirteen-philosophers-on-the-problem-of-opposites-grant-maxwells-integration-difference-book-archetypal-approaches-to-character>.

- Experiential & Phenomenological Framework
- *Impulse* Impact Study
- Transformation Economy, Mission-Oriented Change, & Co-Creation
- Other Models for Paradigm Shifts
- AI & Friction

# I can't talk about AI "objectively"



"In the spirit of demonstrating that a human wrote this report rather than an AI, I, the author (Kent Bye), will switch to a first-person narrative for the remainder of this section. I have strong opinions about AI, based on extensive research going back a decade which includes in-person interviews with AI scholars, historians, and artists."



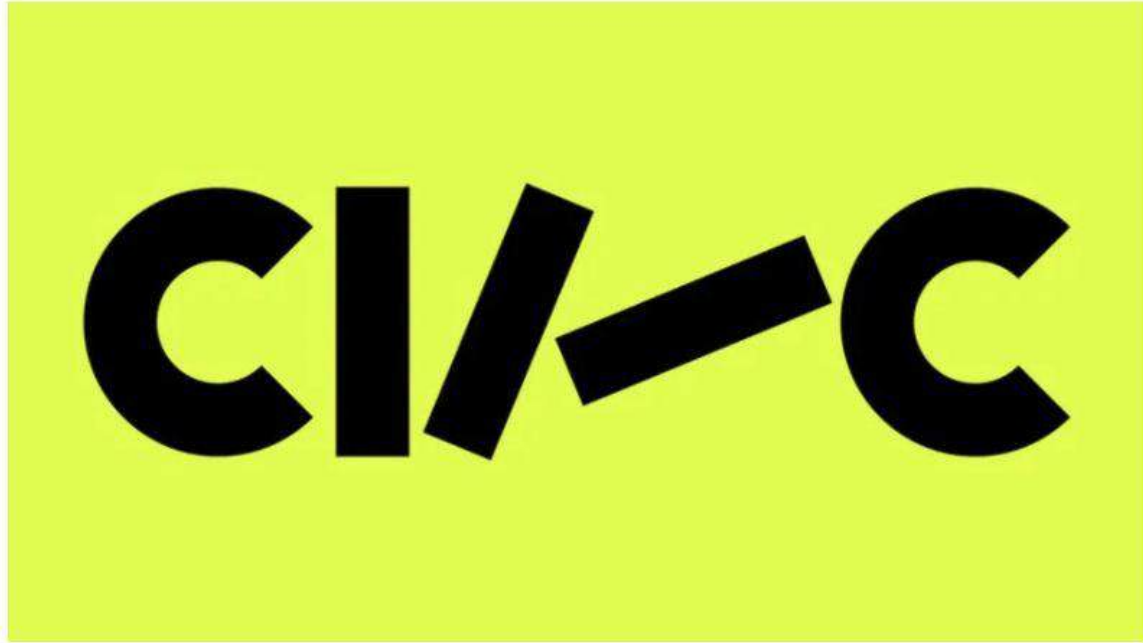
## #1563: Deconstructing AI Hype with “The AI Con” Authors Emily M. Bender and Alex Hanna

by kentbye // May 23, 2025



## **#1691: A Call for Human Friction Over AI Slop in “Deep Soup” Participatory Film Based on “Designing Friction” Manifesto**

by kentbye // December 6, 2025



## 1713: CIIC's €200 Million in Public Funding: The Creative Industries Immersive Impact Coalition

by kentbye // May 1, 2026

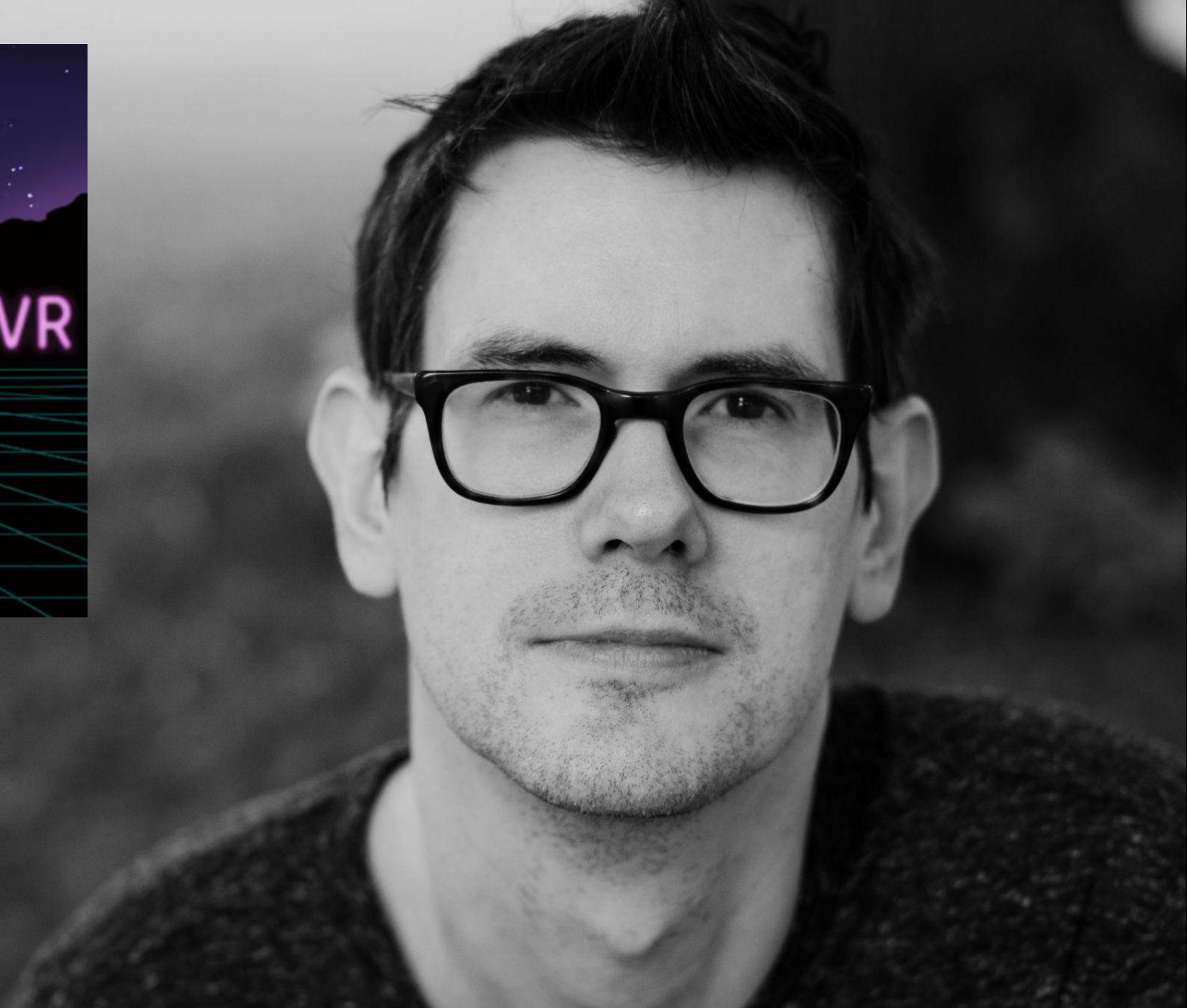


## #1697: Can Immersive Art Revitalize Civic Engagement? Netherlands CIIC Funds “Shared Reality” Initiative

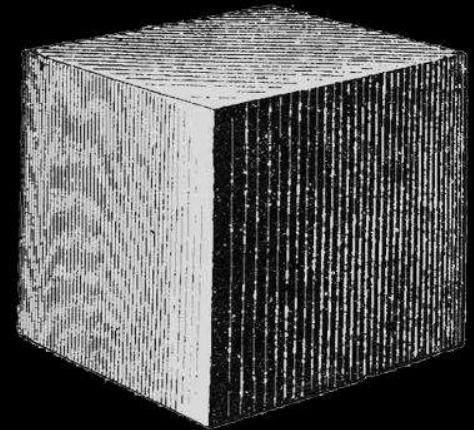
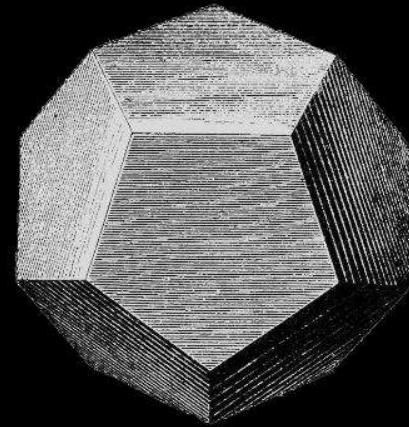
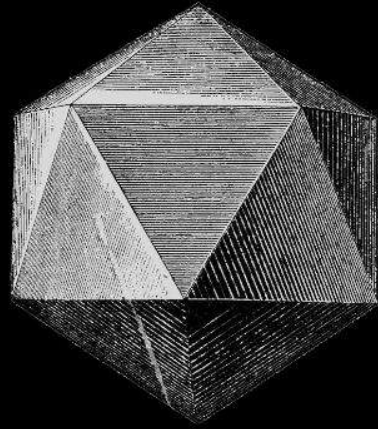
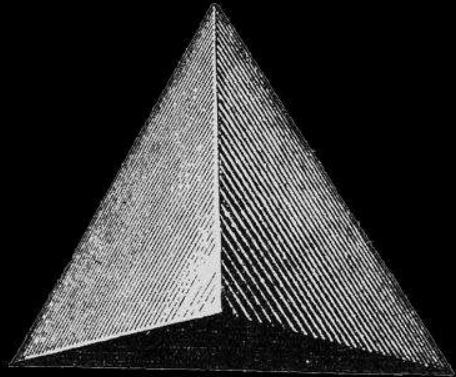
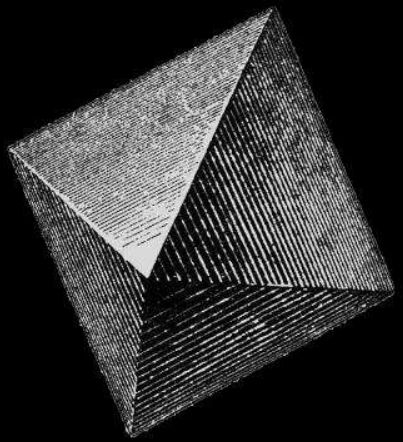
by kentbye // December 6, 2025

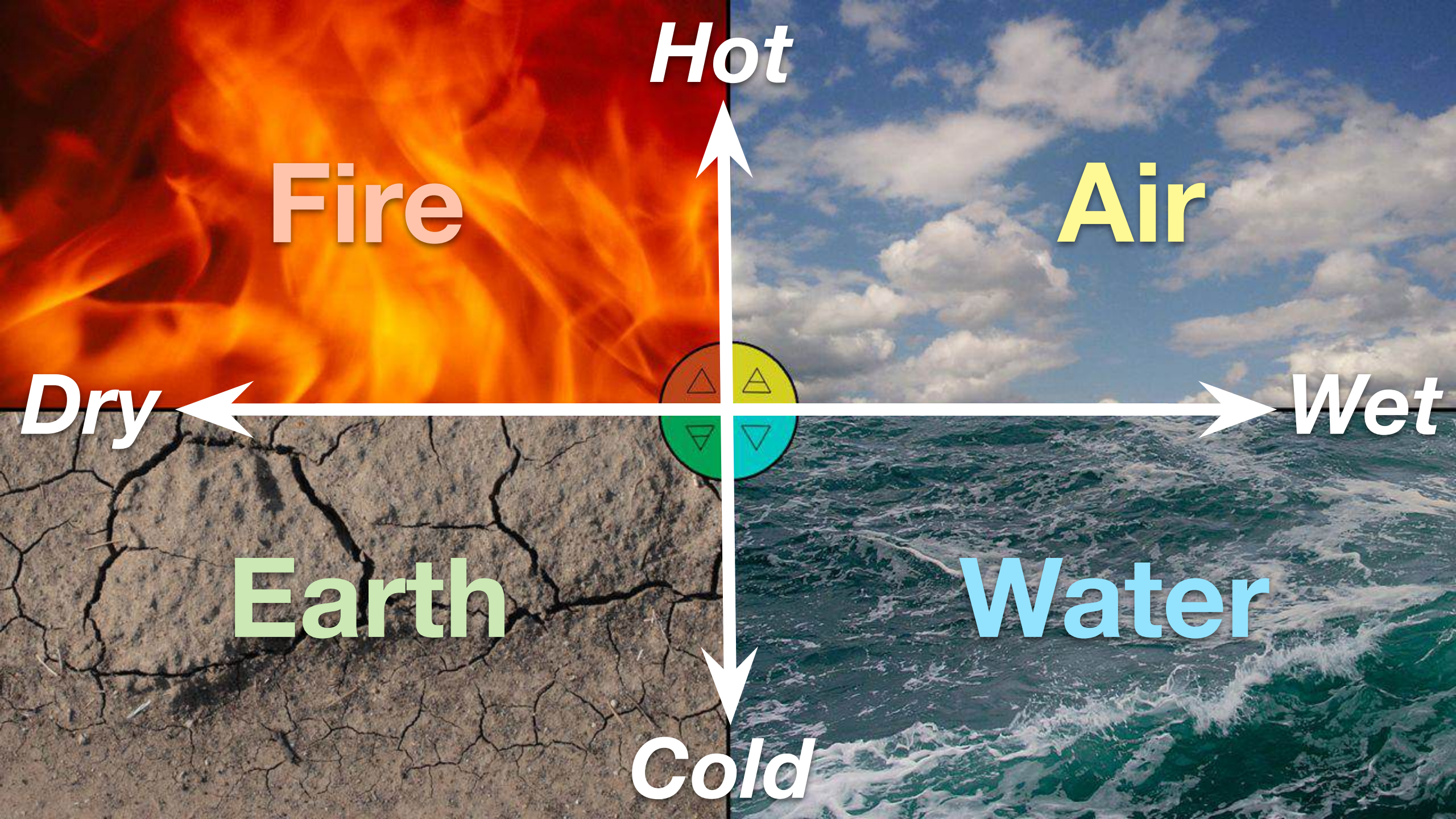
- Bye, K. (2026, May 1). #1713: CIIC's €200 Million in Public Funding: The Creative Industries Immersive Impact Coalition. *Voices of VR Podcast*. Retrieved on May 30, 2026 via <https://voicesofvr.com/1713-ciiics-e200-million-in-public-funding-the-creative-industries-immersive-impact-coalition/>
- Bye, K. (2025, December 6). #1697: Can Immersive Art Revitalize Civic Engagement? Netherlands CIIC Funds “Shared Reality” Initiative. *Voices of VR Podcast*. Retrieved on May 30, 2026 via <https://voicesofvr.com/1697-can-immersive-art-revitalize-civic-engagement-netherlands-ciic-funds-shared-reality-initiative/>

- Experiential & Phenomenological Framework
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# Patterns of Meaning, Transformation, and Impact in XR

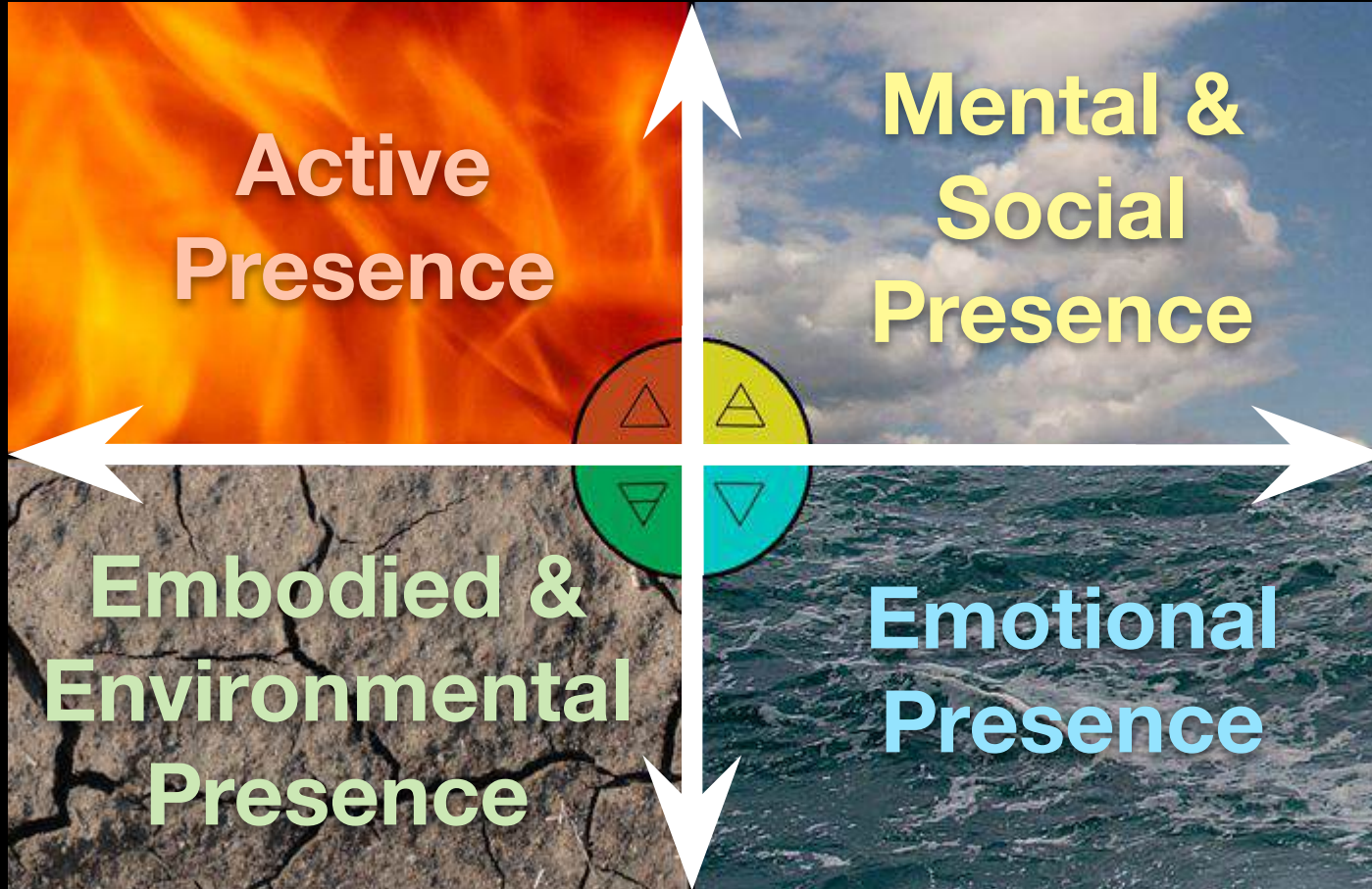




*Fire:*  
*Hot & Dry*

**Hot**  
*(Active & Expanding)*

*Air:*  
*Hot & Wet*



**Dry**  
*(Separative  
& Resisting)*

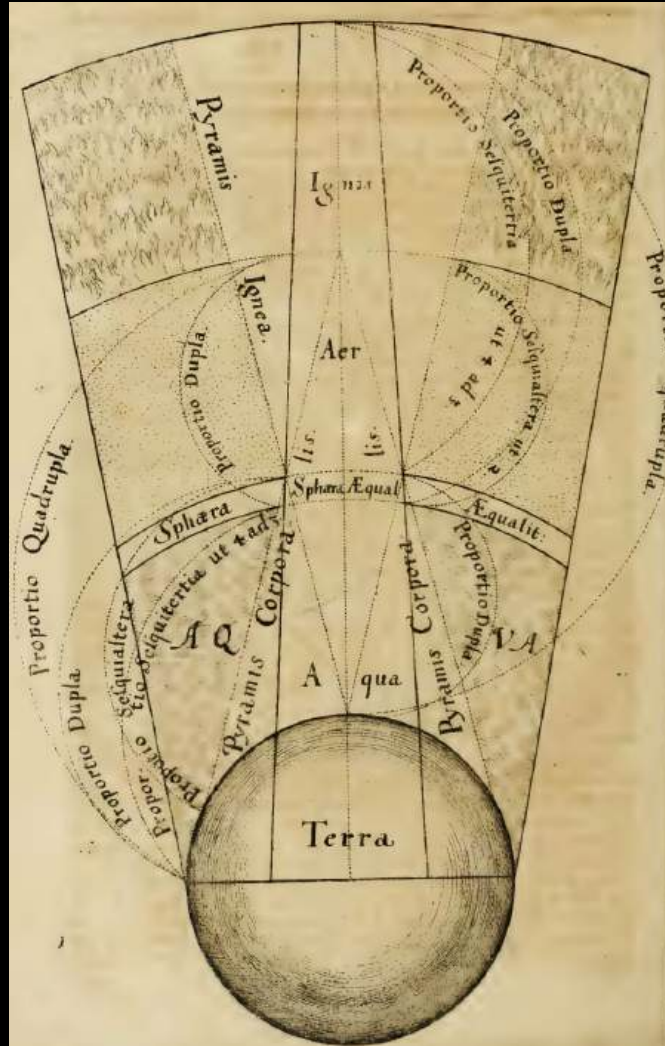
**Wet**  
*(Connective  
& Flowing)*

*Earth:*  
*Cold & Dry*

**Cold**  
*(Passive & Constricting)*

*Water:*  
*Cold & Wet*

# Aristotle on the “Natural Place” of the Four Elements

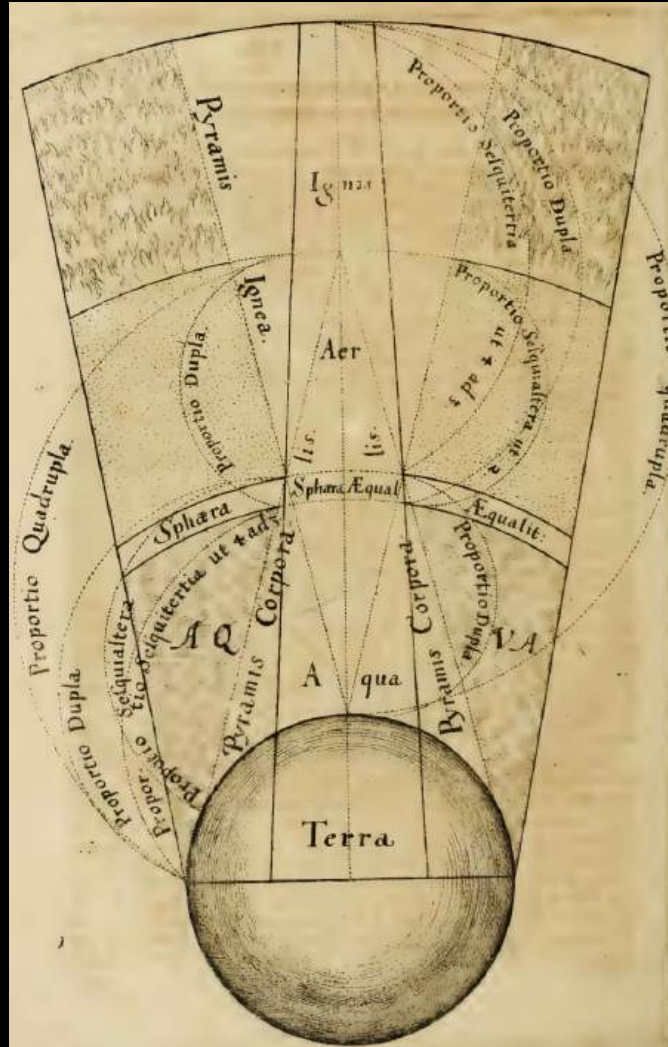


“Again, a place in which a thing rests or to which it moves unnaturally, must be the natural place for some other body,... fire, in whatever quantity, so long as there is no external obstacle, moves upward, and earth downward... But the heaviness and lightness of bodies which combine these qualities is different from this, since while they rise to the surface of some bodies they sink to the bottom of others. Such are air and water... compared together, however, the one has absolute weight, the other absolute lightness, since air in any quantity rises to the surface of water, while water in any quantity sinks to the bottom of air.”

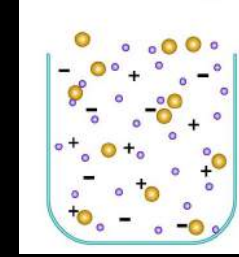
Aristotle

- Photo via Fludd, R. (1617). *Utriusque Cosmi maioris scilicet et minoris mysteria, Physica atque Technica Historia: In duo Volumina Secundum cosmi Differentiam Diuisa.* (scanned page 110 of 1036). Aere Johanne Theodori de Bry, typis Hieronymi Galleri. Digital scan via <https://archive.org/details/utrusquecosmima01flud>
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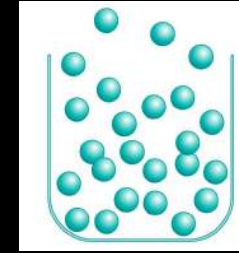
# Aristotle on the “Natural Place” of the Four Elements



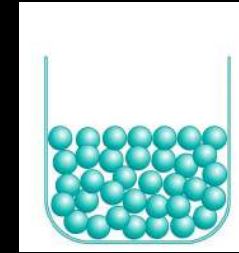
Plasma



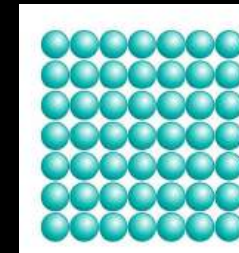
Gas



Liquid



Solid



Increasing Energy

- Photo via Fludd, R. (1617). *Utriusque Cosmi maioris scilicet et minoris metaphysica, physica atque Technica Historia: In duo Volumina Secundum cosmi Differentiam Diuisa.* (scanned page 110 of 1036). Aere Johan-Theodori de Bry, typis Hieronymi Galleri. Digital scan via <https://archive.org/details/utrisquecosmima01flud>
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# The Quadrivium

**Number in  
Space & Time**

**Number**

**Astronomy**

**Mathematics**



**Geometry**

**Music**

**Number in  
Space**

**Number in  
Time**

# The Quadrivium

**Objects Moving  
Through Space**

**Abstract Patterns  
& Forms**

**Physics & Dynamics**

**Rules & Mechanics**



**World & Body**

**Unfolding Process**

**Architecture &  
Embodiment  
in Space**

**Consonance  
Dissonance Cycles  
In Time**

**Aristotle: "What is its good?"**

Purpose, Intention, Teleological  
Impulse,  
*Whitehead: Novelty, Creativity*

**Final Cause**

**Aristotle: "What is it?"**

Blueprint, Math Structure, Design,  
Shape, Archetypes, Plan,  
*Whitehead: Eternal Objects*

**Formal Cause**

## **Aristotle's Four Causes**

**Efficient Cause**

**Aristotle: "Where does change  
(or motion) come from?"**  
Observable Cause & Effect

**Material Cause**

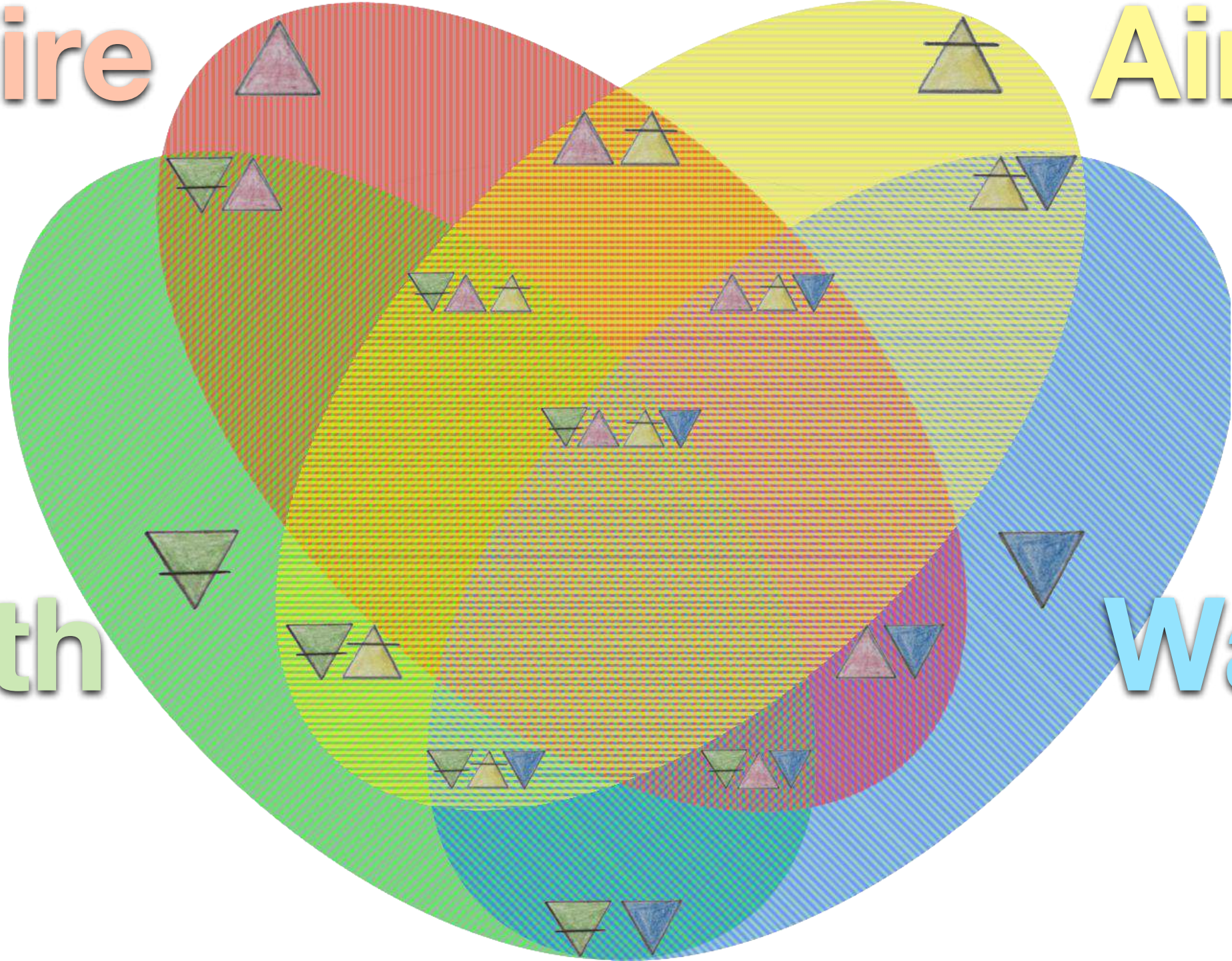
**Aristotle: "What is it made of?"**  
Events, Time, *Whitehead: Pulses  
of Emotion, Actual Occasions,  
Drops of Experience, Value*

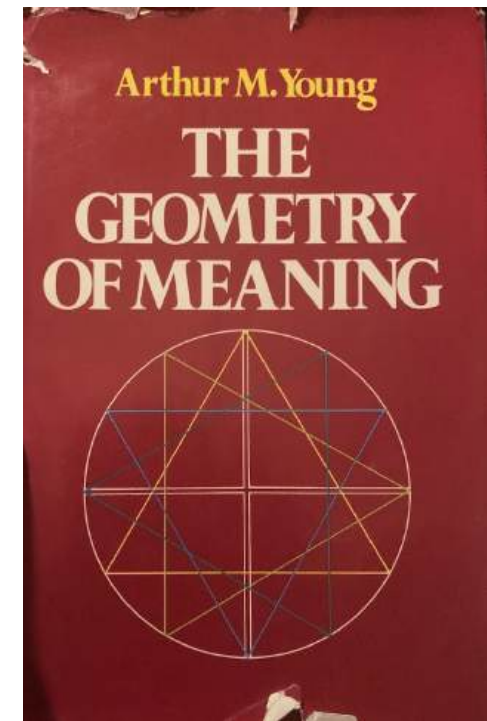
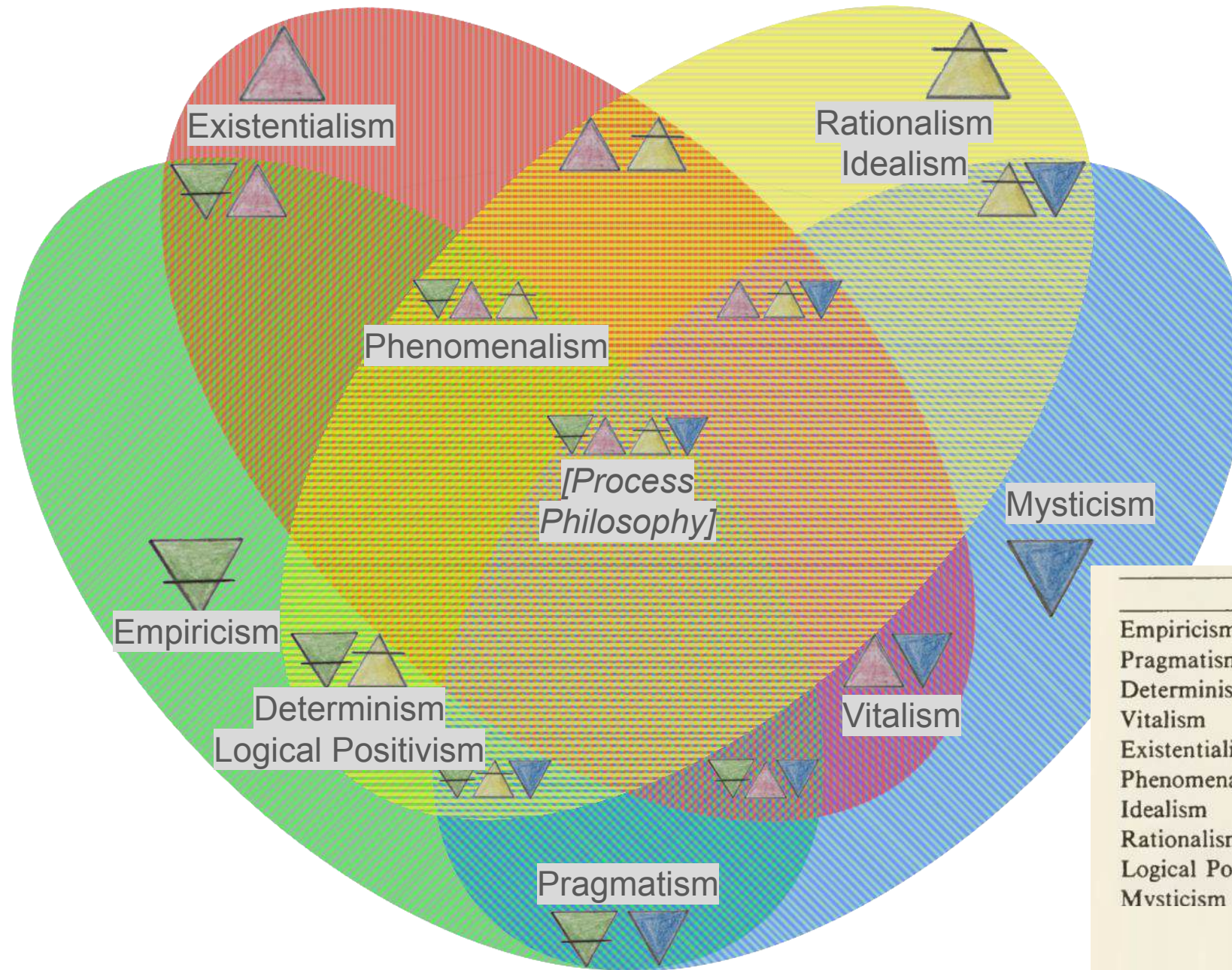
Fire

Air


Earth


Water







	<i>Object</i>	<i>Form</i>	<i>Value</i>	<i>Purpose</i>
Empiricism	X			
Pragmatism	X		x	
Determinism	x	X		
Vitalism			x	X
Existentialism				X
Phenomenalism	X	X		x
Idealism		X		
Rationalism		X		
Logical Positionism	X	X		
Mysticism			X	x









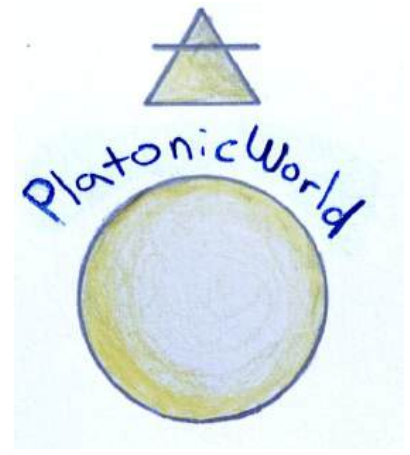
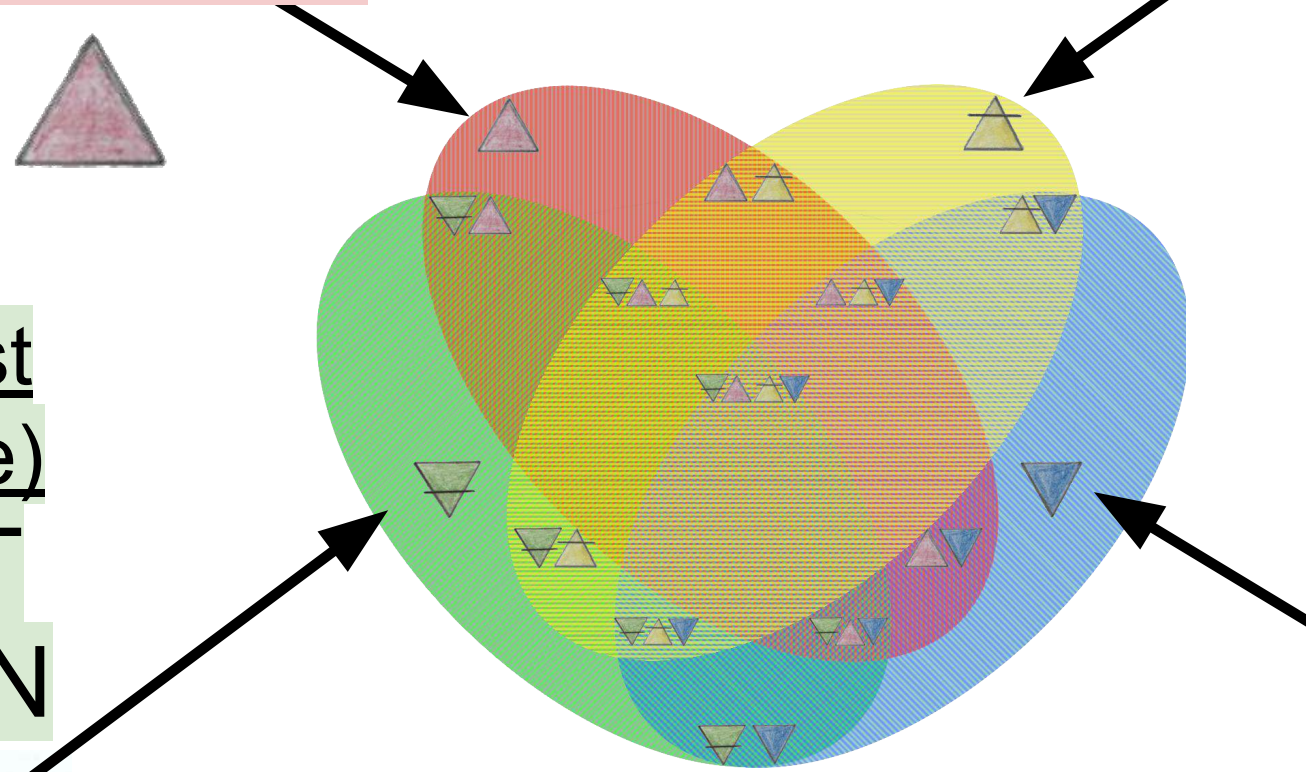
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- Table from Young, A.M., (1976). *The Geometry of Meaning*. (p. 154). Delacorte Press.

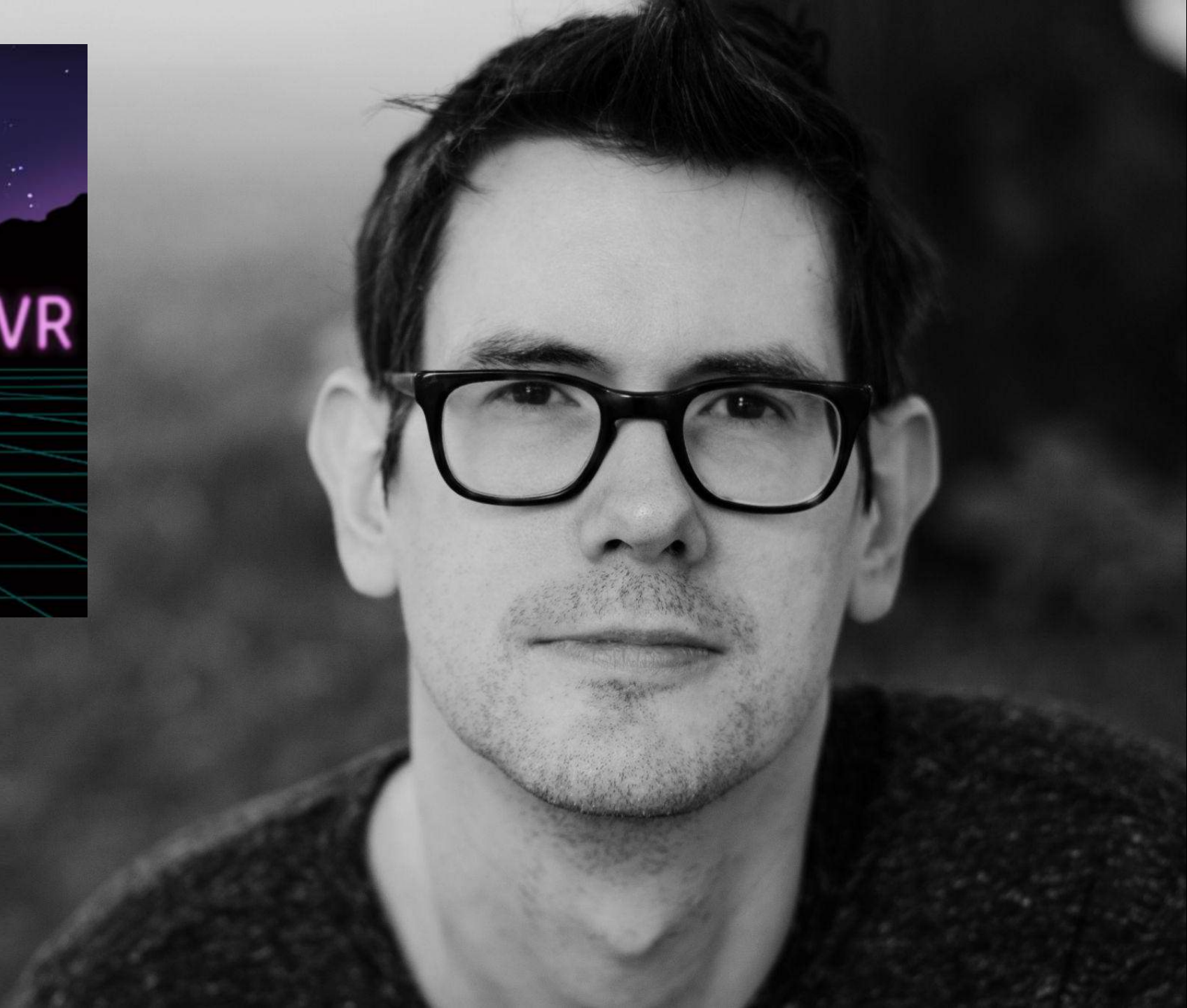
Creative Lure & Subjective Aim  
**FINAL CAUSATION**

Anticipating Future  
(Mental Pole)  
**FORMAL CAUSATION**

Inheriting Past  
(Physical Pole)  
**EFFICIENT CAUSATION**

Feeling the Present,  
Prehension of Subjective Forms  
**MATERIAL CAUSATION**





# Patterns of Meaning, Transformation, and Impact in XR

