

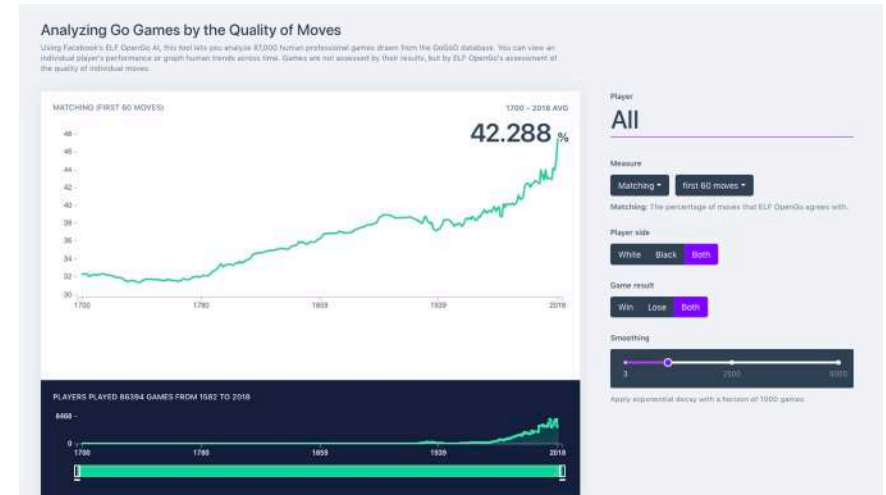
SAMUEL PIZELO PORTFOLIO

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writings

My ongoing research traces historical processes of **systemization**, that is, the conscious redesign of systems through experimentation with modeling technologies. By focusing on how games have functioned as **model systems** throughout their histories and around the globe, I describe the knowledges produced through play as central to broader epistemologies.



Games and the Rise of Systems Thinking: From Models to Machines

Forthcoming in *Representations* 164:1, Winter (February) 2024

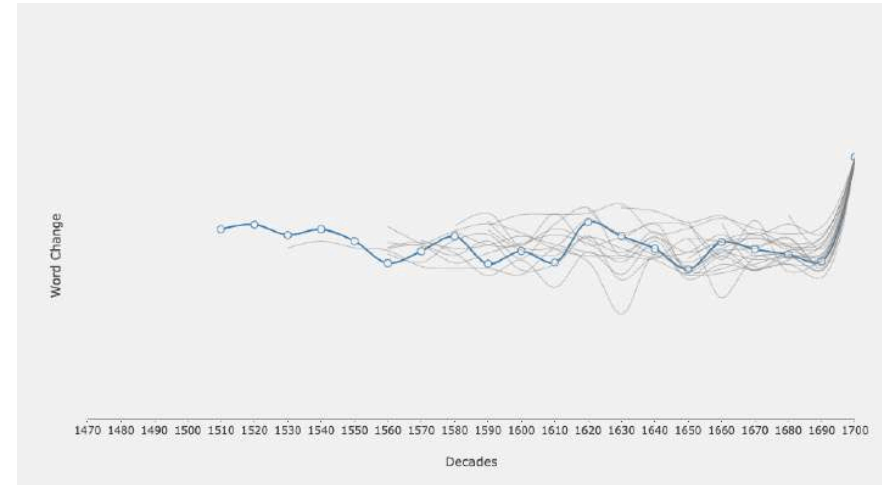
This article examines the historical development of systems thinking to demonstrate the manifold applications of games in modeling new understandings of systems. Chess and go were deliberately reconfigured by competitors, theorists, and tournament organizers over the course of the nineteenth and twentieth centuries into systematic totalities—a process which chess theorist Howard Staunton termed “systemization.” This transformation profoundly influenced subsequent concepts of formal and symbolic systems developed in twentieth century mathematics, AI research, cognitive science, and economics.



Philosophy is an Egyptian Game: How Ancient Games Change History Now

Forthcoming in *ROMchip* 5:2, (December) 2023

Using a mixture of media archaeology and discourse analysis, this article argues that the two most popular board games in ancient Greece, *Five Lines* and *City-State*, both had direct precursors in dynastic Egypt. I note that Plato's two speculative city-building dialogues--the *Republic* and the *Laws*--both engage in a "serious game" of imagining an ideal city, and each one mentions a different game as their referent. Through this comparison and references to other literature modeled on games, I describe the importance of games as models in early Greece and discuss how this impacts telling histories of games and the possibilities of algorithmic media in the present.



Project Quintessence: Examining Textual Dimensionality with A Dynamic Corpus Explorer

Pizelo, et al., *Digital Humanities Quarterly*, Vol. 17, No. 3, 2023.

In this paper, we present a free and open-access web tool for exploring the EEBO-TCP early modern English corpus. Our tool combines several unsupervised computational techniques into a coherent exploratory framework that allows for textual analysis at a variety of scales. We articulate a design principle of *textual dimensionality*, or approximating through visualization the abstract relationships between words in any text. We argue that Project Quintessence represents a method for researchers to navigate archives at a variety of scales by helping to visualize the many latent dimensions present in texts.

ANALOG GAMES

A central concern of my research is the history of *heuristic knowledges* produced through modeling practices with games. Heuristic knowledge blends the theoretical with the empirical and refuses the boundary between the analytical and the playful. From my recovery of *The Astronomers' Game* (al-Falakiya) to my material rendering of the baduk match, *AlphaGo vs. Lee Sedol*, I have incorporated heuristic practices into every aspect of my research and my teaching.

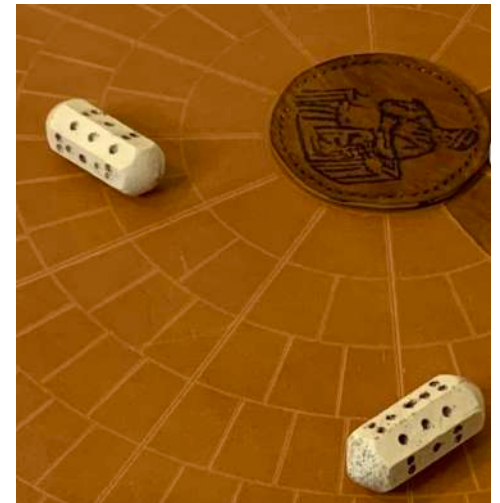
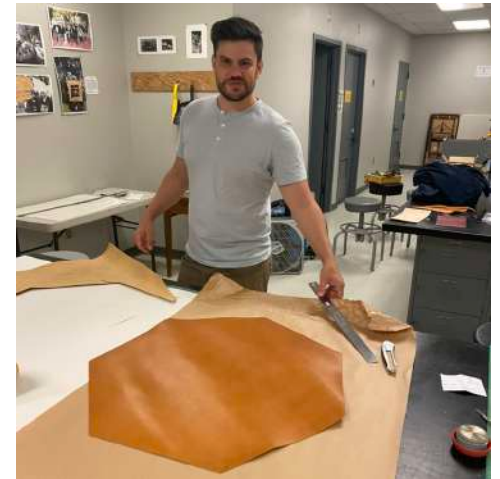




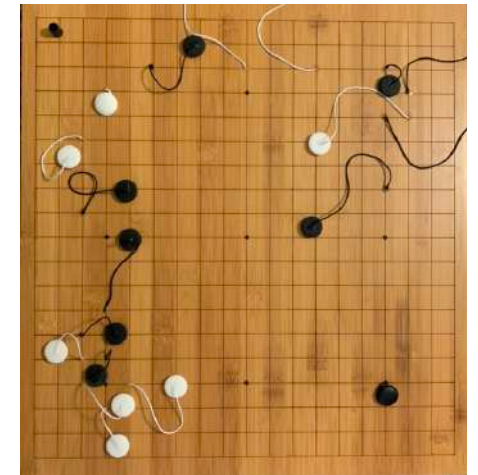
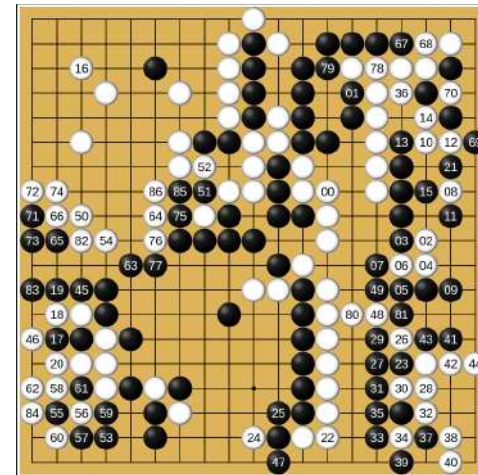
The Astronomers' Game

22 x 22 inch leather board
Tumbled stone counters
Resin replica 7-sided dice

The Astronomers' Game models proto-gravitational forces in a Ptolemaic cosmos through the constant exchange of tokens between players based on the proximity of their planet tokens. The game enjoyed popularity from the 10th-13th centuries among astronomers and astrologers across the Islamic world before finding its way into the 13th century game compendium of Alphonso X, "The Wise," *Libro de los juegos*. From there, it was further adapted and incorporated into graduate studies in astronomy at Oxford and throughout England until its abrupt fall from grace amidst the popularity of the Copernican system. To inform my research and teaching of the game, I crafted a replica with vegetable tan leather, inscribed with 14th century Zodiac signs using a GlowForge 3D laser printer.



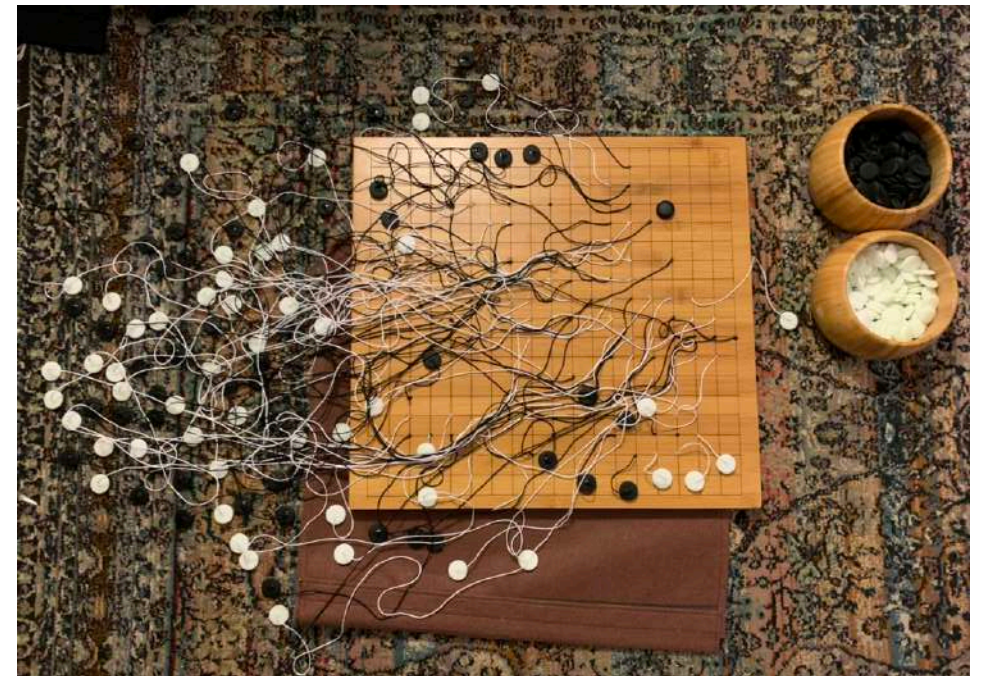




AlphaGo vs. Lee Sedol

46 x 43 x 2 cm bamboo board
 105 Yunzi stones
 Black and white 1mm yarn

AlphaGo vs. Lee Sedol is a material representation of a game of baduk (go) as artificial intelligence “sees” it: a 3D data structure. This project reproduces game four between AlphaGo and World Champion Lee Sedol in 2016 – the only game of five that Sedol defeated AlphaGo. Each of the 105 successive moves before Lee was declared victorious by commentators are denoted as one centimeter of yarn. But this rendering strips the data of its idealized form – the temporal dimension is increasingly dilated as the match progresses due to the tugging of stones on yarn. Thus, this project also represents the accumulated strain of a human struggle against AI as Lee adapts his lifetime of strategic knowledge to an entirely new adversary.

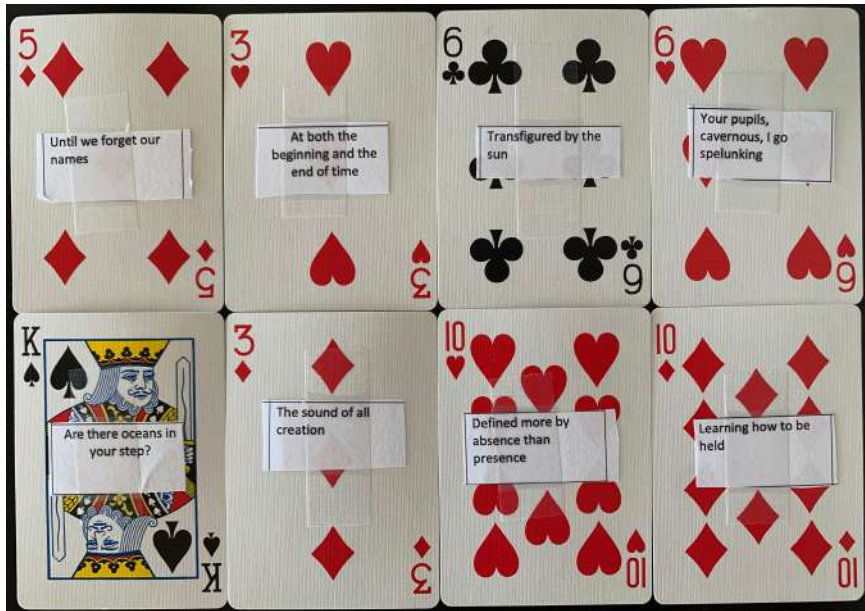




PERFORMANCE

I use performance to interrogate the boundaries between analog and digital games, bodies and machines, research and practice, and art and criticism. My techniques for this interrogation vary: From the layered remediation of game to poem to game in *Entanglement*; the haptic mode of orientation in *To Bodily Go...*; or the heuristic critical investigation of AlphaZero's ahistorical assumptions in *The Knife and the Beautiful*. In each case, the performance enacts a boundary-crossing that enables new playful possibilities.



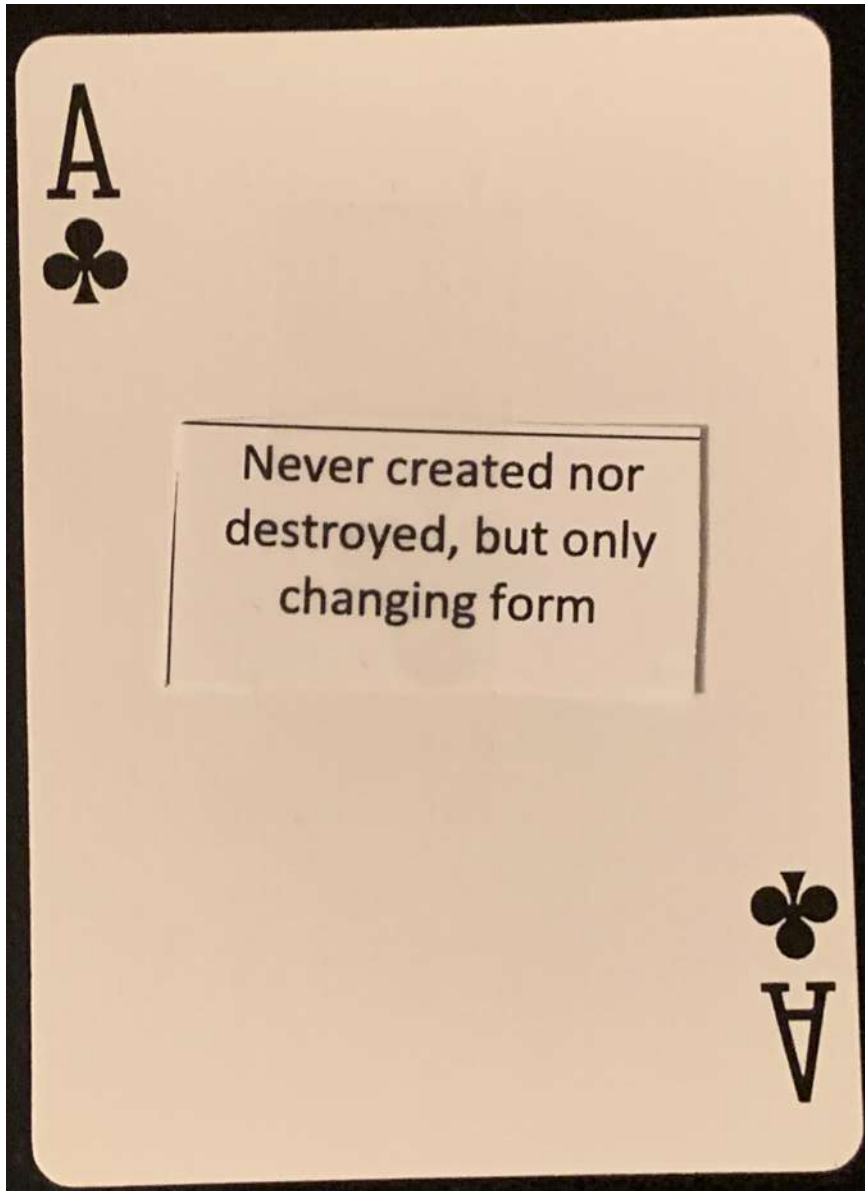


Entanglement

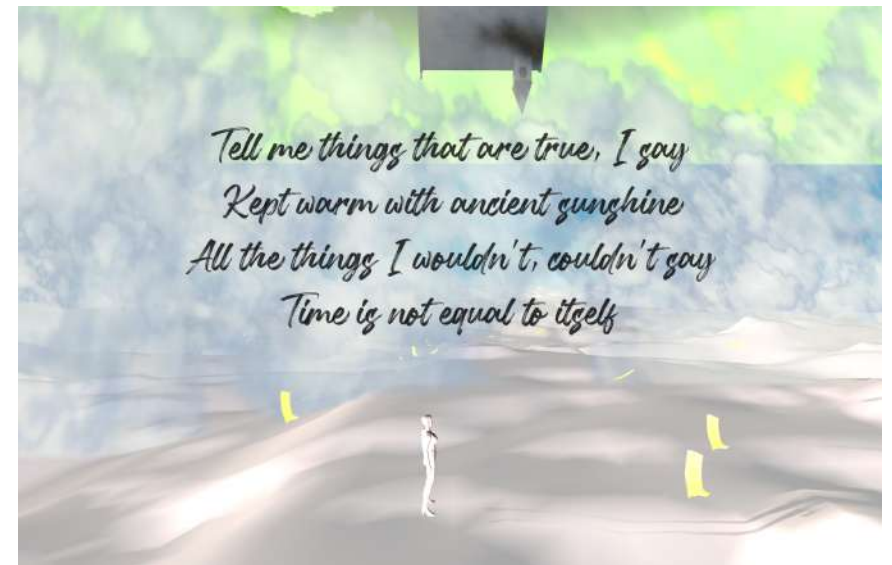
52-card Deck of Playing Cards
Unity3D

Entanglement was a multimodal experiment in recombinant poetry that explored the sensuous linkages between bodies both cosmic and carnal. I played with idiosyncrasies of English grammar to produce a 52-line poem that could be shuffled to explore new semantic possibilities – through a strategic use of temporal sequence words (until, while, as), demonstratives (this, these, those), and an interplay of question-and-answer (Are there?, Can we?). Because the recombinant possibilities of a single deck of cards (8×10^{67}) are greater than the number of atoms in the universe, I thematized the cosmic-quantum-fleshly entanglement of bodies in the content of the poem. After performing this card-reading, I remediated the poem back into a game environment in Unity3D. Now spatialized, the shuffling relationship between lines of the poem could be assembled as a meditative practice.





*Learning how to be held
As we're permeated by light, perpendicular
Disarticulated, unspooled
Kept warm with ancient sunshine
Each possible future laying in repose*



*Tell me things that are true, I say
Kept warm with ancient sunshine
All the things I wouldn't, couldn't say
Time is not equal to itself*

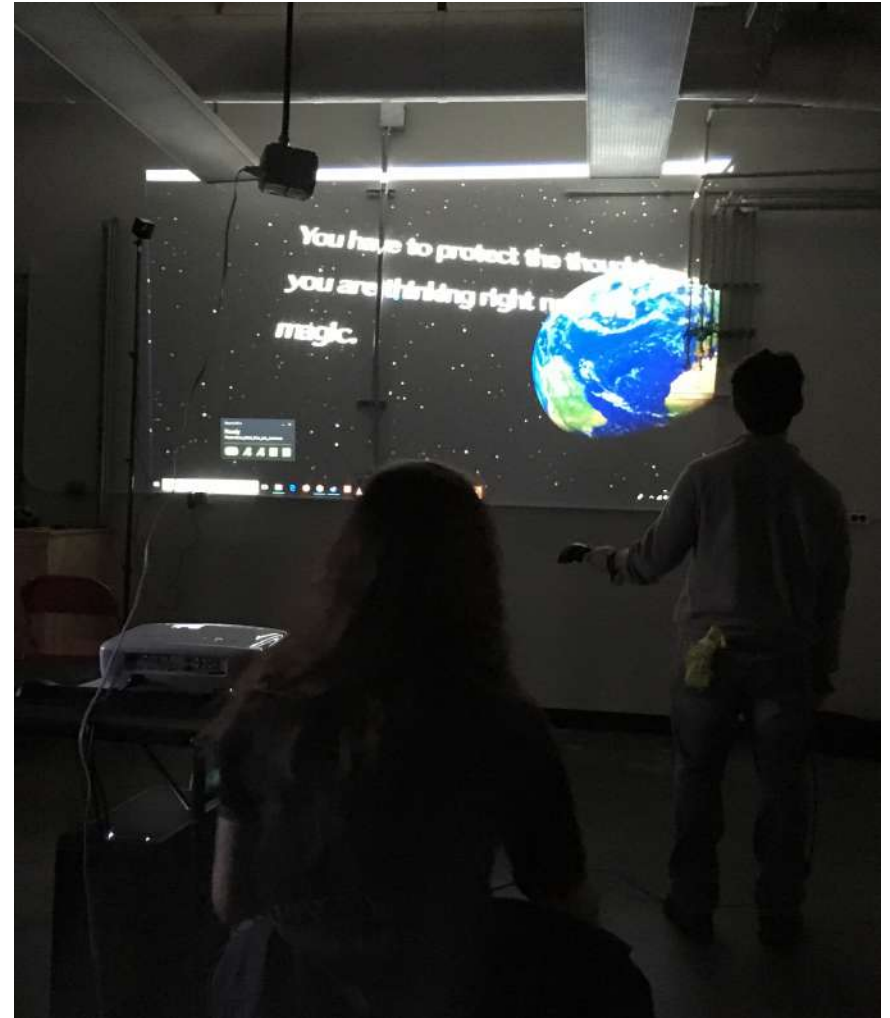


To Bodily Go...

Unity3D (Virtual Reality)

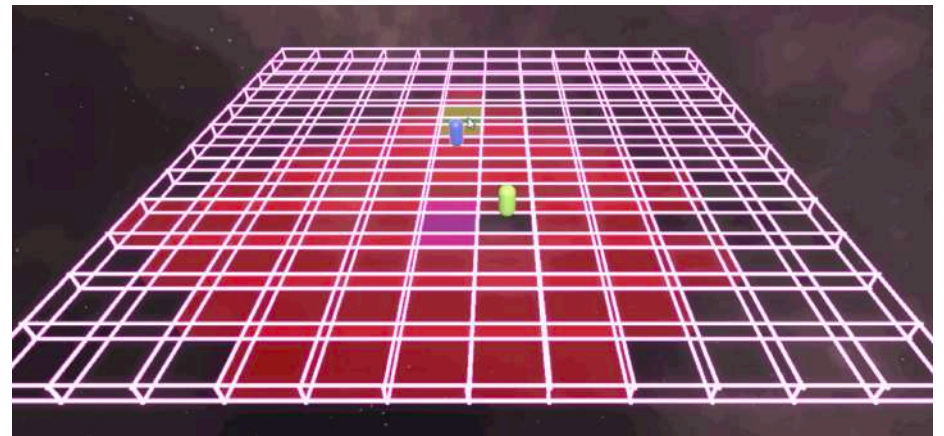
HTC Vive Headset and Controllers

To Bodily Go was an experiment with spatial orientation in Virtual Reality games. By depicting the player character adrift in space with no traditional place markers apart from the orbiting earth and moon, this performance put pressure on narratives of immersion and embodiment in VR. A small NPC floats toward the player and asks them to hold her hand - which triggers a persistent haptic impulse in the player's controller. With this haptic tether established, the NPC further breaks immersion by describing the play setting and audience, asking the player to keep their play secret. Through a mixture of haptic and narrative orientation, **To Bodily Go** seeks to imagine new possibilities of player interaction and audience response in virtual reality.



DIGITAL GAMES

My digital design portfolio showcases some of my conceptual and technical work through Unity3D prototypes. I combine mechanics from analog games (such as randomizers modeled on shuffling playing cards or grids and algorithms from strategy games) with narrative techniques to reflect on the role of technicity in mediating our experience of basic concepts like chance and agency.





Nothing

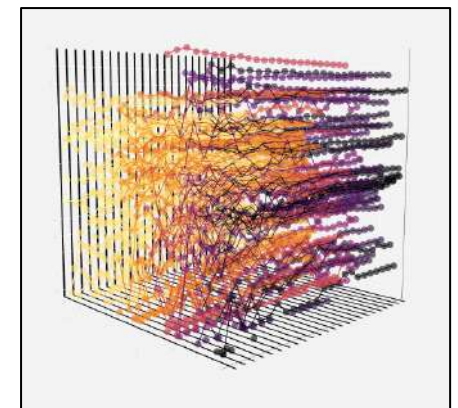
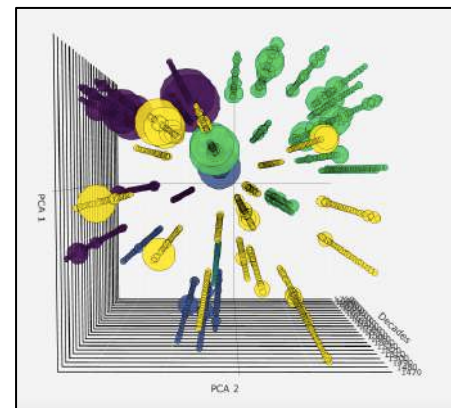
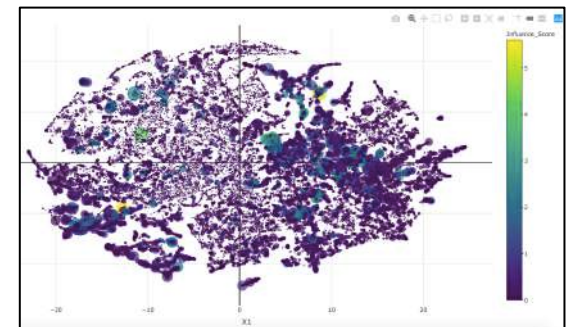
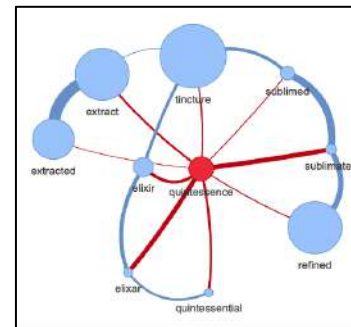
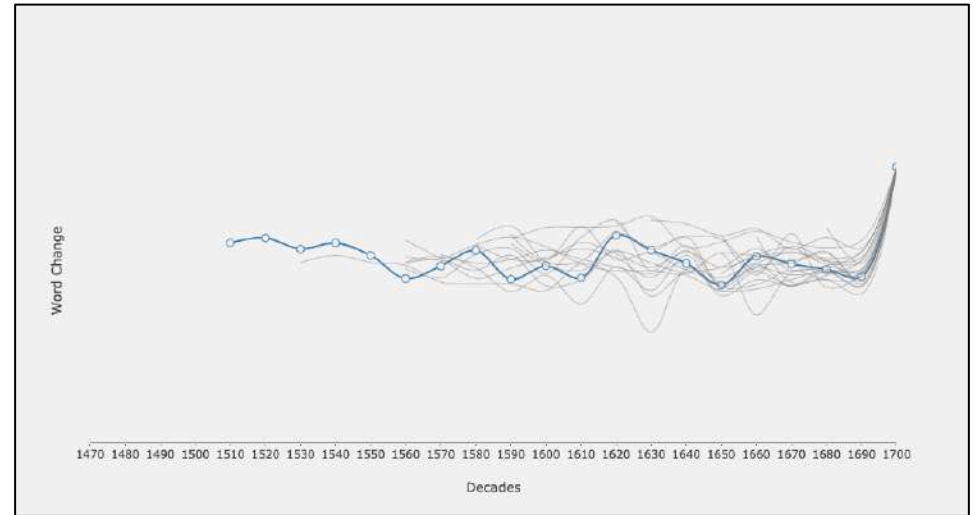
Unity3D

Nothing combines mouse movement mechanics with flocking algorithms to play with control and agency in digital games. Because the mouse only indirectly and partially controls the movement of the black and white flocks, the game mechanics prompt reflection and renegotiation of direct control, as the player must learn to join with the rhythm of the flocks.



DATA WORK

As the project lead and co-creator of **Project Quintessence** and as a graduate researcher at the UC Davis Datalab, I have used dynamic data visualizations to create experimental spaces for playful research and open-ended inquiry.



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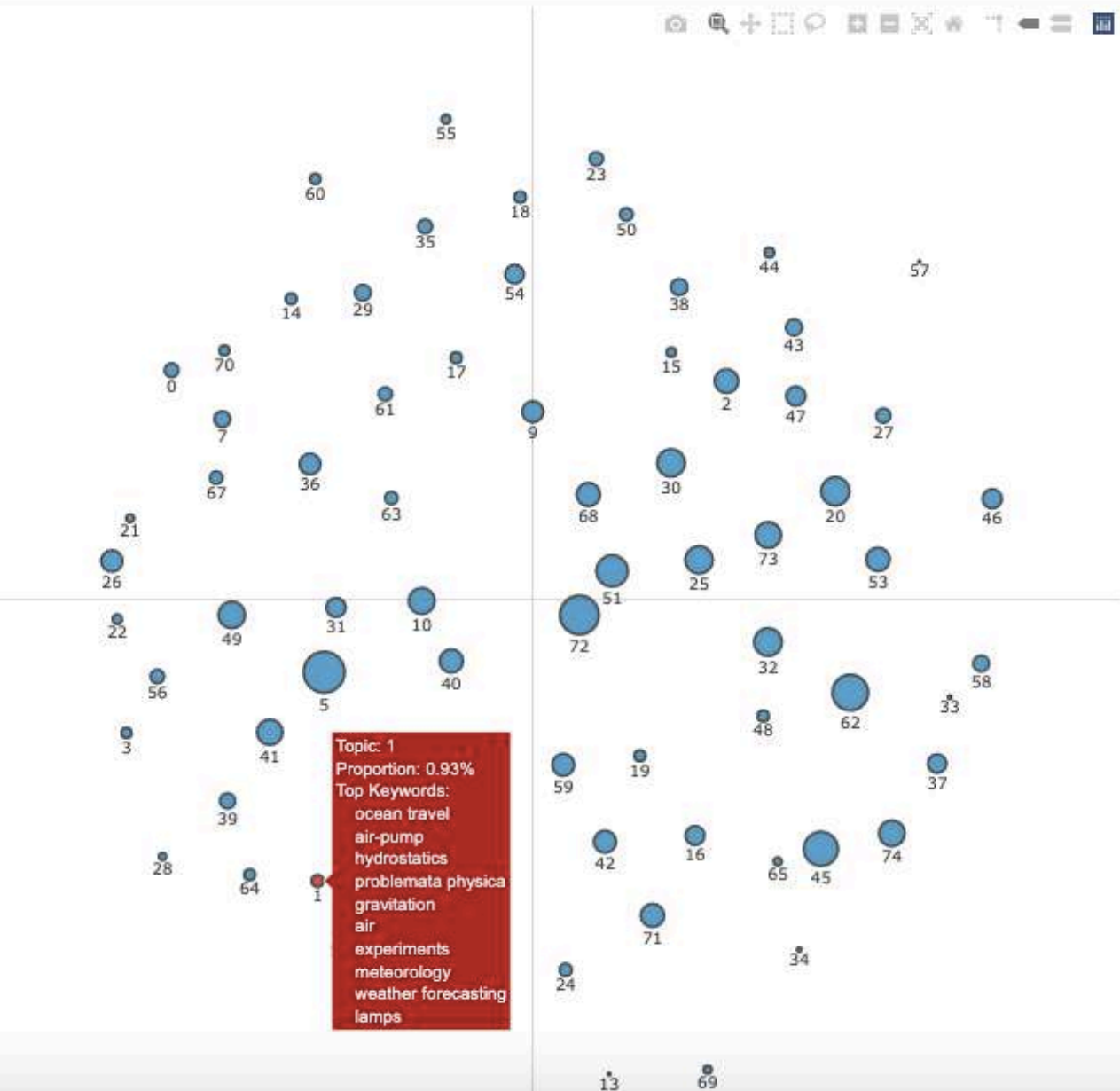
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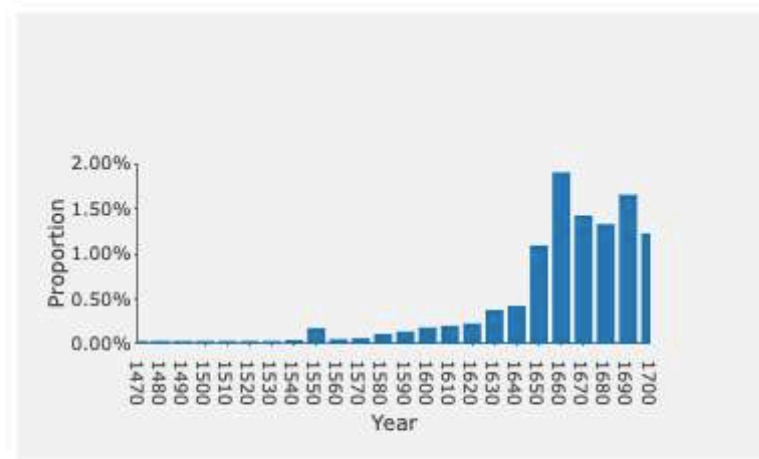
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