Action Paths: A Typology of Strategy Selection

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Keywords

INTRODUCTION

While the consumer games industry has long recognised games as "fundamentally comprised [...] of a series of interesting decisions" (Meier and Noonan 2020, ii), industry and academia share a poor understanding of how those decisions are made. Research into strategy selection and decision-making has traditionally been approached from the economic discipline of Game Theory, which describes a convergent but discrete field (Roungas et al. 2019). Where Game Theory treats players as rational actors, and their interactions as conflicts between mathematical models seeking to "maximise their utility" (Rasmusen 2001), game players tend to pursue subjective (irrational) goals driven by emotional motivations (Yee 2020). Even beyond the subjective experience of players, games are inherently dynamic (Hunicke et al. 2004; Schell 2008; Walk et al. 2017) and result not from the application of repeatable mathematical models, but from the technologies, narrative context, and personal emotional experience that players interpret in a linear (Hunicke et al. 2004), reticular (Schell 2008, 41-43), or parallel (Walk et al. 2017) flow. So, in considering players not as rational actors, but as subjective individuals, we come upon the unanswered question of strategy selection: How do *real* players decide between strategies when playing games? This is a significant knowledge gap, which highlights the distance between established academic research into player decision-making and the contemporary industry approaches for cultivating a player's decision-making *experience*. This paper describes an observational ethnographic exploration into how players select strategies and details a resulting typology of that decision-making process. This typology, called Action Paths, offers a shared lexical tool for academia and industry to discuss design and its potential effects on strategy selection.

To classify how players make decisions in play, I considered the historical approach of games designed to support and validate decision-making: Military wargames. Wargames use mixed-fidelity simulations of historical or realistic-future scenarios which "create a virtual world players can experience, learn from, and integrate into their tactical and strategic decision making" (Herman, et al. 2009. 261). The kinds of decision-making that take place within any specific wargame are traditionally measured over two axes: Whether the game is educational or analytical (McHugh 1966, 1.11-1.18), and whether the game utilises a free or strict resolution system (Perla 1990, 42-45). I resolved these into a biaxial typology that classifies a game by the following two assessments:

1. Whether a player is well- or poorly informed about the game state — a mix of McHugh's (1966, 1.17 & 2.8) approach to "realistically limited intelligence" and his educational vs analytical purpose binary, and

2. Whether the player's ability to interact with that game state is made up of a relatively large, or relatively small volume of options — an application of Perla's (1990, 44) distinction between "false realism" of free resolution and "false playability" of strict resolution.

As players will be more- or less oriented to the game state at any one time, and as a player's available strategy set can grow or shrink as they play, this classification refers to a moment of play surrounding a player's decision. For this typology, games were classified by their most consistent gameplay experience or loop.

With two axes creating four quadrants for classifying games, I selected 6 video games, 2 casino games, and 4 analogue games, ensuring an even distribution of these 12 games across the four quadrants of the biaxial typology. I observed YouTube recordings of play by searching for "Let's Play" or "Actual Play" and the title of the game, then selecting videos in which the player spoke through their decision-making processes while selecting a strategy to act within the game. In each case, I was able to observe similar words and similar play processes in this diverse set of players (which indicated a similar decision-making flow). This paper details the four decision-making processes that players were observed to follow and discusses them in the context of the quadrant in which the game was classified. These decision-making processes are defined as the players' Action Paths.

This paper recognises the limitations of game and data collection, including the retrospective selection of scattered play samples, but presents an invitation for further research. This paper presents this Action Path typology not as a prescriptive definition, but as a support structure for iterative design decisions and a lexical tool for further discussion and research of player decision-making.

BIBLIOGRAPHY

Herman, M., Frost, M. & Kurz, R. 2009. *Wargaming for Leaders: Strategic Decision Making from the Battlefield to the Boardroom.* 261. New York City, NY: McGraw-Hill

Hunicke, R. & Leblanc, M. & Zubek, R. 2004. MDA: A Formal Approach to Game Design and Game Research. AAAI Workshop - Technical Report. 1.

McHugh, F. J. 1966. *Fundamentals of War Gaming.* 1.11-1.18, 2.8-2.9. Newport, RI: Naval War College.

Meier, S. & Noonan, J. L. 2020. *Sid Meier's Memoir!: A Life in Computer Games.* New York City, NY: W.W. Norton & Company

Perla, P. 1990. *The Art of Wargaming: A Guide for Professionals and Hobbyists*. 42–45. Annapolis, MD: Naval Institute Press

Rasmusen, E. 2001. *Games and Information: An Introduction to Game Theory (Third Edition)*, 21. Oxford: Blackwell.

Roungas, B., Bekius, F., & Meijer, S. 2019. "The Game Between Game Theory and Gaming Simulations: Design Choices." *Simulation & Gaming*, 50(2), 180-201. https://doi.org/10.1177/1046878119827625

Schell, J. 2008. *The Art of Game Design: A Book of Lenses*. Burlington, MA: Morgan Kaufmann Publishers.

Walk, W., Görlich, D., & Barrett, M. 2017. Design, Dynamics, Experience (DDE): An Advancement of the MDA Framework for Game Design. doi:10.1007/978-3-319-53088-8_3.

Yee, N. 2020. "Gamer Segments Based on Player Motivations." Quantic Foundry. https://quanticfoundry.com/2020/08/17/player-segments/.

BIO

Sidney Icarus (they/them) is a consulting systems designer in digital, analogue, and applied games. Over the past 15 years, Sidney has specialised in Player Experience (PX), including designing and facilitating large-scale exercises for the Royal Australian Air Force, crisis simulations for pre-hospital and emergency healthcare, and experiences for community-focused climate change-making. Sidney received the 2023 Australian Role-Playing Industry Award (ARPIA) Game of the Year for "Decaying Orbit": An aphantasic game in which players share a fractured artificial intelligence. When Sidney is not designing or playing games, they enjoy coffee (Magic or V60) or lounging with their cat, Radar.