Yearbook of Moving Image Studies 2024

Ludic Images: The Moving Image between Game, Play and Interaction

Lars C. Grabbe, Patrick Rupert-Kruse, Norbert M. Schmitz (eds.)

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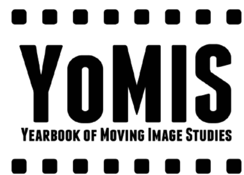
Ludic Images



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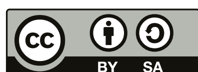

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The basic idea and the core concepts of the Y*earbook of Moving Image Studies* (YoMIS) were systematically developed by the editors Prof. Dr. Lars C. Grabbe, Prof. Dr. Patrick Rupert-Kruse and Prof. Dr. Norbert M. Schmitz.

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Lars C. Grabbe, Patrick Rupert-Kruse & Norbert M. Schmitz
December 2025

About the *Yearbook of Moving Image Studies* (*YoMIS*)

The significant work that led to the concept and idea of the *Yearbook* dates to 2011 and is closely connected with the initial establishment of the Research Group *Moving Image Science Kiel|Münster* in Kiel, Germany. Established as a doctoral seminar at the Christian-Albrechts-University in Kiel, the research group is now working in all areas of modern media and image theory, focusing on the essential role of visual media, technology and the structures of visual and pictorial media communication in the context of multimodality, intermediality or transmediality. The interdisciplinary research includes media and film studies, image science, philosophy of media and mind, phenomenological and semiotic approaches, art history, design theory, computer graphics, aesthetics, presence research, game studies, theories of perception and psychology and other research areas related to moving, technological, procedural, and dynamic images.

The academic engagement of the research group led to a series of conferences termed *Moving Images* (in 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2022, 2023, 2024 and 2025), which intended to discuss and reflect the concepts and structures of images used in traditional image sciences (in terms of static pictures or images) and in a modern perspective; according to new and immersive media and image technologies.

The necessary consideration for the establishment of *YoMIS* is the interdisciplinary connection of German, European and international media research to improve the academic exchange of ideas. Therefore, *YoMIS* is innovatively conducted as an electronic and print publication to enhance the range of impact.

The *Yearbook* is based on a prolific scientific cooperation of the Kiel University of Applied Sciences, the Muthesius Academy of Fine Arts and Design in Kiel, and the MSD—Münster School of Design (FH

Münster) in Münster; and is edited and published by Prof. Dr. Lars C. Grabbe, Prof. Dr. Patrick Rupert-Kruse and Prof. Dr. Norbert M. Schmitz.

YoMIS is conducted as a periodic forum for international scholarly and intellectual exchange and interdisciplinary discussion, not determined as a publication for a specific academic school or tradition. The editors are formulating the specific topic of each issue, but the members of the editorial board make the final decision for the publication of articles, in a double-blind peer review process. The content-related broadness of the different topics, and the variety of methodological approaches, forces a productive opposition of academic perspectives, which can certainly differ from the subjective perspectives of the editors.

Lars C. Grabbe, Patrick Rupert-Kruse & Norbert M. Schmitz
December 2025

Introduction

Lars C. Grabbe, Patrick Rupert-Kruse & Norbert M. Schmitz

In contemporary media culture, the image has become increasingly entangled with processes of play, interaction, and participation. What was once conceived primarily as a static visual representation has evolved into a dynamic, responsive, and performative field of experience. "Ludic images"—those that emerge between game, play, and interaction—constitute one of the most significant aesthetic and technological developments within the digital turn. They integrate visual communication, game mechanics, and user agency into a single interactive framework, thereby transforming not only how images are produced and perceived but also how they act as cultural and cognitive interfaces.

This *Yearbook of Moving Image Studies* approaches the ludic image as a key phenomenon at the intersection of media theory, image science, and game studies. It explores the aesthetic, phenomenological, and semiotic conditions under which images become playful and interactive, and examines the technological infrastructures that make such transformations possible. The ludic image manifests across a wide range of media environments—from cinematic cutscenes and augmented reality applications to the immersive worlds of virtual reality and mobile gaming. In each case, it reveals a complex negotiation between image, user, and system, situated within the broader cultural history of play and digital interaction.

By bringing together contributions from visual culture, design theory, film and game studies, phenomenology, and computer graphics, this volume aims to establish a theoretical framework for understanding the ludic image as a distinct form of visual and cultural knowledge. It invites reflection on how playful images shape perception, narrative, and embodiment in the age of digital interactivity—and how they redefine the epistemological boundaries of image science itself.

Annie Wan explores in *Humanizing Technologies: A Survival Toolkit Navigating the Artificial Intelligence Era in Migration Studies* how oral histories of migrants can be positioned at the center of technological processes to humanize artificial intelligence. Within the interdisciplinary research-creation project Humanizing Technologies: A Survival Toolkit for Navigating the Artificial Intelligence Era in Migration Studies, it examines how AI can be ethically and creatively engaged to address challenges faced by migrant communities—such as cultural differences, generational gaps, communication barriers, and mental well-being. The chapter proposes a survival toolkit that empowers communities to navigate the digital era, strengthens cultural resilience, and offers scholars a model for transforming contentious technologies into instruments of social good.

With *Configuring = Deciding! The Effort of the Strategy Game. Or: A Reconsideration of Pias's Genre Principles* Christopher Lukman reexamines Claus Pias's distinction between action, adventure, and strategy games as cultural techniques, proposing a media-phenomenological approach to refine this framework into a genre theory based on lived experience and interface design. It argues that the boundary between rational decision and optimal configuration is fluid, as strategy games also involve reflective, consequential decision-making. Through analyses of *Civilization V*, *SimCity*, and *StarCraft II*, the paper demonstrates how strategy subgenres combine cognitive and sensorimotor challenges. Ultimately, it redefines genre as a dynamic constellation of embodied and cognitive engagements rather than fixed categories.

Emanuele Curcio discusses in *From Play to Warfare. A Phenomenological Inquiry into Video Games* the relationship between video games, imagination, and warfare through phenomenological and hermeneutical analysis. Drawing on Eugène Fink and Plato, it argues that games function as interactive, simulative artworks that shape perception and behaviour. Using wargames as a case study, it examines their roles in military training, recruitment, and propaganda. The study concludes that video games operate as hybrid media—both imaginative and simulative—whose ethical and performative dimensions extend far beyond entertainment.

In *Between Perception and Action. On the Affective Experience of Ludic Action-Images*, Lars Dolkemeyer revisits Alexander Galloway's theory of digital games as actions within the framework of Gilles Deleuze's

concept of the action-image. It explores how the triadic relation of perception, affect, and action shapes the audiovisual logic of digital games. By emphasizing the sensory-motor link that connects perception and action through affect, the study develops a media-aesthetic theory of ludic experience. Using *RollerCoaster Tycoon* as a case study, it analyzes how algorithmic processes and player agency generate affective immediacy and presence in gameplay.

Michael Deckard and Charles Fox are addressing in *The Ass We Remember: The Transformative Function of Ludic Imagining* the meaning of ludic images through the interplay between mythical images and memory-images. Drawing on examples from Aristophanes' *Frogs* to *Silent Hill 2*, *Au Hasard Balthazar*, *The Banshees of Inisherin*, and contemporary media, it examines how mythic motifs are transformed through acts of playful remembrance. Arguing that learning occurs through ludic engagement—reading, gaming, or viewing—the study conceptualizes ludic imagining as a process of re-enacting and distorting mythic images into memory-images. These transformed, ghostly images reveal how myth continues to shape ethical behaviour and cultural identity in the present.

With *Appealing Avatars as 'Ludic Images' in Computer Games and the Metaverse: Seen through the Lens of Miyö Van Stenis's Virtual Reality Game Eroticissima*, Pamela C. Scorzin investigates the ludic image as a dynamic, interactive, and playful visual form within digital gaming and metaverse environments, focusing on the digital avatar as a central site of identity, intimacy, and social interaction. Through an analysis of Miyö Van Stenis's *Eroticissima*, the study examines how hybrid avatars challenge heteronormative aesthetics and foster inclusive, performative explorations of body, gender, and sexuality. By contrasting this artistic approach with the objectification and hypersexualization prevalent in commercial gaming, the paper highlights the avatar's role as a transformative medium that redefines digital embodiment, ethics, and cultural participation in virtual spaces.

Phylis West Johnson analyzes in *The Resurgence of Machinima Play. Remixing Cinema and Gaming for a New Generation* machinima as a hybrid of cinematic form and ludic play, tracing its evolution from fan-made game recordings to an artistic digital image practice. Analyzing works from *Roblox*, *GTA V*, *The Sims 4*, and *VRChat*, it examines machinima's aesthetic, cultural, and procedural dimensions through

the framework of the ludic image. Positioned within post-cinematic theory, the study emphasizes procedural authorship, avatar performance, and immersive storytelling, arguing that the concept of the ludic image more accurately accounts for machinima's convergence of play and cinema than earlier models of fan culture or remediation.

In *Before Bandersnatch. An Archaeology of Recorded Interactivity in Video Games* Wilson Oliveira Filho and Pedro Azevedo Raia de Siqueira examine full-motion video games as a hybrid medium merging cinema and gameplay, focusing on titles like *Night Trap* and *Dragon's Lair* within a historical and media-archaeological framework. Drawing on media ecology and theorists such as Elsaesser and Manovich, this chapter explores how full-motion video games integration of recorded video and interactivity reshaped narrative and audience engagement. By tracing continuities from early full-motion video games to contemporary works like Netflix's *Bandersnatch*, the study highlights full-motion video games role in the evolution of interactive storytelling and the cultural trajectory of recorded interactivity.

Finally, Tiago da Costa e Silva shows in *Ludic Interactions and Poetic Relations. On the Semiotic and Aesthetic Interfaces between Cinematography of Animation and Digital Games* how the aesthetic and semiotic intersections between animation and digital games are working. He argues that animation's expressive power enters new interactive and poetic dimensions in games, where interfaces and interactions generate imaginative, ludic-poetic experiences. Drawing on Peirce's semiotics and Jakobson's poetic function, the concept of a semiotic dispositive is introduced: a generative framework that reorganizes sign systems diagrammatically, integrating haptic, syncretic, and emergent interactions. The author traces the evolution from cinematic to interactive dispositives, showing how poetic animation informs rule-based play, and proposes a model for hybrid assemblages of narrative, interaction, and iconicity, situating both media within a unified paradigm that redefines mediation, storytelling, and the cultural phenomenology of play.

Humanizing Technologies. A Survival Toolkit Navigating the Artificial Intelligence Era in Migration Studies

Annie Wan

Abstract

Humanizing Technologies: A Survival Toolkit for Navigating the Artificial Intelligence Era[1] in Migration Studies is an interdisciplinary research-creation project that leverages these contested technologies to develop innovative solutions for the multifaceted challenges, such as cultural differences, generational gaps, communication barriers, and mental well-being, faced by migrant communities. My particular focus in this chapter is on how to position the oral histories of migrants, at the very central role of the technological process, technology itself, and even the 'most deviant Artificial Intelligence (AI)' can be humanized. A 'survival toolkit' can be built, which empowers communities to navigate the digital present, fosters cultural resilience, and provides academics with an ethical, practical model for turning the 'heated debate' technologies into engines of social good.

Keywords

Migration studies, oral histories, artificial intelligence, mixed reality technology, ludic and interactivity

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1 Research Team and Acknowledgements: Annie Wan (Principal Investigator, AI and MR Developer), Ronnie Cheng (Research Assistant), Bowen He (MR Developer), Marcus Hobkirk (MR Developer), Lauren Naidoo (Logo Design). This project is led by the University of British Columbia's Centre for Migration Studies, and funded by the Canada First Research Excellence Fund through Migrant Integration in the Mid-21st Century: Bridging Divides. Bridging Divides is a collaborative research project between University of British Columbia and Toronto Metropolitan University (PI), Concordia University, and the University of Alberta.

1. Introduction

The recent unveiling of advanced AI generative tools creates unprecedented, seismic waves through the worlds of film, art, creative industries, and academia. While these tools, especially those for text-to-video platforms, are capable of invoking hyper-realistic moving images from simple text prompts, they have been met with familiar, polarized views, one hailed as a democratizing revolution in content creation on one hand. At the same time, one condemns it as an engine of artistic and creative homogenization, and an ethical nightmare on the other. This tension lies at the core of our contemporary 'ludic' age. In this era, the moving image is no longer a fixed frame-per-second artifact but a dynamic, playable, and interactive object, standing between game, play, and interaction (Raessens 2006; Sicart 2014: 61–70). However, as we play with these powerful new toys, many critical questions emerge, for example, who controls the rules of the game? What kind of visual experience are these tools building? Whose narratives do these tools inherently silence? Nowhere is this question more pressing than in the recent, heated debate on immigration and the representation of migrant experiences.

For decades, mainstream media have often relegated migrants' stories to simplistic tropes, portraying them either as traumatized refugees, or assimilated model minorities, or nostalgic elders, or flattening vast, heterogeneous lived realities into monolithic clichés. The recent AI development, which started from Google's invention of the Transformer model in 2017, jeopardizes to reiterate these biases on an enormous scale, as large language models (LLMs) trained on vast, uncurated internet data learn to generate not only text but also moving images that reinforce these very stereotypes (Benjamin 2019: 53–65; Gebru 2020). The 'ludic image' thus risks becoming a new tool of cultural assimilation, a poor 'game' where the outcomes are pre-scripted by the hidden biases in its code. This chapter, and the project it documents, argues for a different path. It posits that the problem lies not in the technology itself, but in the methodology of its application. We propose that Artificial Intelligence (AI) and Mixed Reality (MR) must be more than tools for telling stories about migrants, and also as platforms for co-creating stories with them, a direct response to Sarah Pink's call for a closer look and greater attention to how data is created and how futures are connected (Pink 2022).

My response, detailed in *Humanizing Technologies: A Survival Toolkit for Navigating the Artificial Intelligence Era in Migration Studies*, is an innovative research that bridges the gaps among mixed reality (MR), artificial intelligence (AI), migrants' oral histories, and qualitative research to develop co-design solutions for the multifaceted challenges faced by first- and second-generation immigrants. The key research questions include: How can we build resilience using novel ideas and technologies, especially in mixed reality (MR), to support the storytelling of migrants' stories? How can we develop new LLMs that generate more diverse and inclusive text-to-video content and utilize AI technologies in a meaningful and ethical manner? Moreover, how can we develop a role model (or a 'survival toolkit') for fellow academics to utilize heated debate technologies in migration studies and for the social good with less or no bias? MR is interpreted as a range of technologies that blend the physical and virtual worlds, finding applications in various fields. These technologies offer new ways to visualize and interact with data and environments, including Augmented Reality (AR) and Virtual Reality (VR). Our MR research-creation methodology aims to present new storytelling methods that can enhance how we tell the stories of migrants, convey their emotions, and evoke their mental images. While AI text-to-video technologies used in film production received polarized responses from both the industry and the general public in the last two years, my timely and utmost concern is to research in a non-mainstream, diverse, non-discriminatory, and inclusive LLM and hence manipulate different existing open-source text-to-video AI tools to create video footages for the MR application.

Focusing on the under-documented narratives of Hong Kong migrants to Canada between 1970 and 1997, this project utilizes our collected oral histories, conducted through interviews with this niche group, as the foundational 'blueprint' and ethical dataset. There are no questions about the bias in AI text-to-video tools. I worked on more inclusive LLMs, which are trained and developed upon these diverse, community-sourced stories. The resulting narratives are then coded, visualized, and experienced through the MR application, creating an immersive, fluid space for open dialogue. This co-creation process, in which migrants are active collaborators rather than passive subjects, helps us ensure authenticity and democratize storytelling, enabling marginalized voices to shape their own representations.

This chapter will first establish our theoretical framework, moving from classic migration studies' concepts of assimilation and integration (Levy, Pisarevskaya and Scholten 2020) towards a new model of 'Ludic Integration' facilitated by game studies and interactive media. I will then detail our research-creation methodology, outlining the three phases of my research: collecting oral histories, building inclusive AI models, and developing MR experience. I particularly focus on a detailed case study in this chapter, which makes this process tangible, demonstrating how a single migrant's oral history is transformed through co-creative AI into an immersive, ludic imagery. Finally, our findings are condensed into a practical 'survival toolkit', which includes a set of ethical guidelines, technical checklists, and co-creation protocols designed to serve as a role model for fellow scholars working at the intersection of moving image, interaction, and social justice. Hence, this chapter aims not only to be analytical but also to actively participate in defining a new benchmark for the aesthetics, affect, and politics of interactive image-making, whether it is AI-generated or immersive.

2. Theoretical Background: From Assimilation to Ludic Integration

The evaluation of ludic technologies used in relation to migration studies requires an understanding of fundamental theories that explain cultural adaptation. Migration research has operated under two main theoretical frameworks since its inception, which include assimilation and integration models. The framework summarized by Levy Pisarevskaya and Scholten (2020) shows the intergenerational conflicts that my research investigates through its analytical yet disputed methodology. The assimilation model shows that immigrants surrender their cultural aspects, language skills, and traditional customs when they adopt to the culture of their new homeland. The Chicago School of sociology from the early 20th century established this model, though Alba and Nee (2003: 17–67) claim that "no single causal mechanism explains immigrants' adaptation to their host society; instead a variety of mechanisms operating at different levels are

involved" and demonstrated how cultural differences transform into a unified national identity.

Even though a theory developed in the early 20th century is described here, we can still see that the heated debate continues today, especially with the protests in Australia and London organized by the far-right movement and its leaders. The discussion is now, unfortunately and sadly, becoming my timely concern. The success of assimilation leads to three main indicators, which include social advancement, language transition, and cultural blending through marriage (Gordon 1964). The assimilation model faces extensive criticism because it presents a prescriptive framework that views the dominant culture as the natural end goal while treating migrant cultures as inferior elements to be eliminated (Glazer 1993; Kymlicka 2015). The integration theory presents a dual process of social adaptation that involves both cultural exchange between groups. The theory supports migrants in preserving their original cultural heritage, language, and identity while becoming engaged members of the host society's social, economic, and political systems (Berry 1997).

The integration model creates a diverse society which supports multiculturalism through institutional frameworks that promote diversity (Parekh 2000). The model emphasizes civic involvement and requires the host society to create accessible conditions for inclusion (Ager and Strang 2008). The two models create an academic conflict which directly affects migrant families through what researchers call a generational conflict. The first generation of migrants who relocated between cultural environments maintains a strong need to protect their cultural heritage because it defines their personal identity. The preservation of cultural heritage becomes their main strategy for survival through integration or separation. The second generation of migrants grows up in their new environment after their parents made the physical transition between cultures. The communication obstacles and value disagreements and identity conflicts between generations create the exact problems that my research seeks to resolve.

Theoretical concepts find their powerful expression through cultural storytelling. The cinematic works *The Joy Luck Club* (Wang 1993) and *Everything Everywhere All at Once* (Kwan and Scheinert 2022) and even the Canadian sitcom *Kim's Convenience* (Peter et al. 2016–2021) on Canadian Broadcasting Corporation (CBC) demon-

strate through their stories how migrant families experience complex intergenerational conflicts between their cultural heritage and their new environments. The cinematic works demonstrate how migration theories create family-level communication breakdowns and belonging issues through their visual storytelling of personal family experiences. The theoretical framework serves as the starting point for my research background.

The assimilation/ integration model fails to capture the dynamic nature of cultural interaction between groups because it presents a static framework. The emerging concept of ludic image and the broader theory of ludification of culture (Lange et al. 2015) provides a solution to the failed model. The Latin word *ludus*, which means 'play' or 'game' or 'sport', gives us a critical method to study interactive media and game-like content. The process of migration creates an ongoing interactive performance of identity which functions as an interactive and playful process of continuous negotiation. The media used to depict migrant identity needs to match its flexible and interactive nature.

The traditional moving image serves as a monologue for all the previously mentioned cinematic works. The cinematic storytelling method produces an appearance of impartial observation which might unintentionally support the stereotypes and monolithic stories my research investigates. In contrast, the ludic image is inherently dialogic. The interactive element of the image enables viewers to actively participate in the creative process by becoming co-creators with the artwork (Sicart 2014). This shift from passive consumption to active engagement is fundamental. The field includes interactive video game narratives (Bogost 2007) and immersive virtual environments as part of its technological range. The embodied interaction method seeks to accomplish multiple results while researchers focus on studying the fluid and dynamic space of possibilities which also, unfortunately, reveals the restrictions and available options and resulting effects of another person's life experience, 'the ultimate way to reproduce reality' (Murray 2017). Given that the limitations in the field is acknowledged, interactivity and immersive-ness, still, provide an excellent platform to depict migration complexities because they allow the representation of intricate non-linear and contradictory migration realities that involve challenging decisions spread across various dimensions.

The ludic image in game narratives and immersive environments aligns with the participatory culture framework, as described by Henry Jenkins (2013), which is a system where people can easily create and share content, and learn from experienced creators to become new participants. The model diverges from the conventional director-to-audience flow of traditional cinema authorship, enabling the development of a new model called Ludic Integration. The proposed model keeps the integration model structure while adding new capabilities to it. Through interactive media, the process of Ludic Integration enables people to explore and perform their cultural identity while negotiating its meaning through interactive play and dialogue. It is a collaborative, multi-voiced process, while the affordances of the ludic image create a middle ground where first-generation and second-generation migrants can now share their stories and actively 'play' with them.

The research reveals an essential conflict between the ongoing dual nature of migration theory, which creates real-life generational challenges, and the developing ludic image that provides fresh, interactive methods for storytelling. The argument supports the combination of these fields to establish Ludic Integration as a fresh theoretical framework that enables cultural adaptation through collaborative play with technology. The model surpasses traditional assimilation and integration models by presenting cultural identity as an ongoing, fluid, ever changing, collaborative process of dialogic performance. The concept of Ludic Integration relies on the idea that personal identity is a dynamic, multidirectional process that forms through storytelling and role-playing activities.

Migration creates an intensified performative effect because people must navigate through different cultural scripts, which often clash with each other in their everyday activities. The traditional linear storytelling method fails to effectively convey this intricate situation because it oversimplifies it into a straightforward decision between the loss of cultural heritage through assimilation and its protection through integration. The interactive and non-linear structure of ludic forms, which include game-like structures and immersive MR environments, creates an optimal system for showing and interacting with complex systems according to Bogost (2007) and Murray (2017). The system operates by establishing connections between elements and executing operations based on predefined processes.

Migrant families build their resilience by adapting their cultural traditions to their new environment while maintaining their original cultural background. The 'fluid and possibility space' of Ludic Integration functions as a structured yet open-ended system, enabling people to build resilience through its role as cultural resistance sites (Salen and Zimmerman 2004), which allow them to analyze and transform cultural values and conflicts within a controlled environment. The model demonstrates that technology functions as a transformative force that goes beyond its neutral or instrumental role. It aligns with what Pink (2022) describes as an 'ethnographic' approach to emerging technologies, where they are understood as part of the everyday worlds of the people who use them. The AI and MR systems operate as active participants within our framework, which functions as a collaborative process.

The AI produces generative content that serves as a starting point for discussion rather than a finished work, as it creates playful images that encourage community members to engage in dialogue, reflective processes, and additional collaborative work. The technology evolves into a system that enables 'co-liberation', as D'Ignazio and Klein (2020) describe, because it leverages data and computational power to combat systems of power. The Ludic Integration method is based on the core principles of participatory action research (PAR), as established by Kindon et al. in 2007. The model needs researchers to create empowerment through their work on research projects. Migrants should be recognized as active participants who design and create their own experiences and maintain authority over their personal stories. The collaborative process of action and reflection in this praxis creates images that represent the community in an authentic manner, which reduces the chances of false representation and oversimplified stereotypes in main stream media.

3. The Engine: Building Inclusive Large Language Models (LLMs) for Text-to-Video Generation and Mixed Reality (MR) as a Dialogic Space for Intergenerational Encounter

Our mixed-methodology first interviewed with the migrants asked them three different sets of questions, including their migration experience, their emotions, and Hong Kong's visual culture (it was outlined in great details in a separate under reviewed journal article). For example in one of the interviews, the migrant reflected on the dramatic transformation of Vancouver, particularly highlighting the contrast between the mid-1980s and the present day. They describe the city at the time of their arrival in 1984 as undeveloped, especially the False Creek area, which was largely flat and occupied by abandoned industrial sites such as factories and storage spaces. This stood in stark contrast to the current skyline, which is now filled with buildings mostly constructed within the past 30 years. They also remember a major cultural change that affected their daily routine because stores and supermarkets operated with early closing hours at 5 or 6 PM and restricted weekend business hours. The new schedule required people to do their grocery shopping during weekdays so they could reserve weekends for spending time with family and friends. The eventual extension of store hours to 9 PM on Thursdays or Fridays was seen as a major improvement at the time. The interviewee describes Vancouver as a peaceful place during the 1980s because it seemed more serene than the surrounding area of Tsawwassen. They acknowledge that despite attending an English-language school in Hong Kong, their English proficiency was limited, particularly in speaking. They found that their existing skills were adequate for basic communication and for handling the initial, less demanding writing assignments in high school classes in their new country. As long as they were not required to speak aloud, they managed well. However, they emphasize that oral communication was a significant challenge that required a considerable period of time for them to become comfortable with and improve.

For example, in the mentioned migrant's interview, we converted it to the plot: 'The left portion of the scene depicts active Hong Kong while the right section shows peaceful Vancouver to illustrate the two

distinct realities migrants experience. The city of Vancouver shows its active nature through time as people become more comfortable in their environment. Hong Kong achieves stability through military intervention (a symbolic sign of the city's Handover in 1997) which causes Hong Kong to lose its previous hazy appearance just like how immigrants merge their past with their present life.' The user can view fine-tuned video footages through MR experience. The migrants' memory of the city emerges from its blend of past and present elements, which connect historical events to their contemporary urban locations.

The framework also addresses a fundamental technical and moral issue that exists in all generative AI systems due to their inherent bias. The text-to-video tools that utilize LLMs, even for the open source one that we used in the research, obtain their training data from extensive, unorganized internet content scraped from various online sources. The datasets contain numerous stereotypical and incorrect representations; according to Bender (2024), AI involves dehumanization and the authors criticized that AI are mostly Western-centric. However, even for the open source ones, which are not 'so-called' Western-centric, the video output of text-based prompts about migrant experiences through these models generates standardized representations that follow established tropes. As mentioned by Bender, most AI and other digital systems often default to white male Western representations. Even though it is not happening in our case, it still does not mean that our generative content is desirable.

The project addresses this problem through the development of inclusive LLMs, which stem from purposeful data selection and ethical data acquisition methods and subsequent fine-tuning processes. The process illustrates how 'data feminism' operates in practice, as described by D'Ignazio and Klein (2020), by examining and challenging power systems that influence data collection and computational operations. Our fine-tuning process originates from the ground up through the combination of anonymized oral history transcripts, which we obtained during the interviews. Our fine-tuned dataset consists of 'more' genuine and detailed stories from the source community, thanks to this approach.

We utilized a pre-existing, open-source text-to-video language model, Wan2.2, developed in July 2025, which was subsequently fine-tuned on our curated dataset. Fine-tuning (technically known as Low-Rank

Adaptation (LoRA)) involves training a small set of images (in our case, 20 images shot in Hong Kong) and adding a small set of 'low-rank' matrices that are trained. These matrices act as lightweight adapters, tweaking the original Wan2.2 model's outputs for specific tasks, specialized datasets, causing it to adapt the new parameters to the particular style, content, and vocabulary of that new data (Devlin et al. 2019). In this case, the model learns specific objects in Hong Kong, Hong Kong urbanscape, and places that are mentioned in the Hong Kong migrant community's stories.

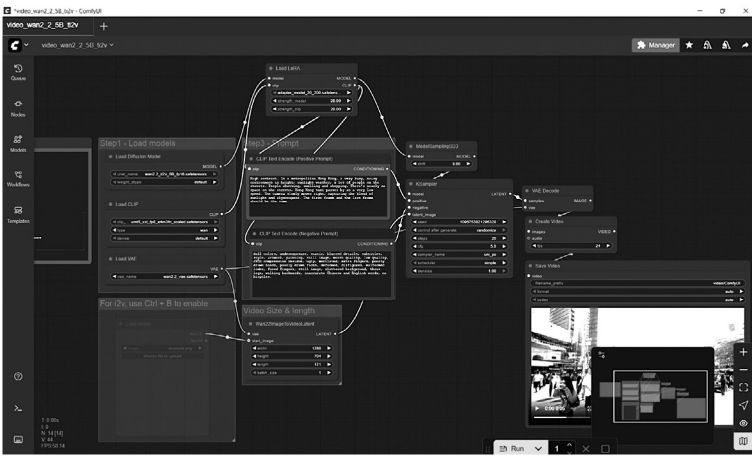

Figure 1: Loading LoRA in ComfyUI.

Our team established a comprehensive multi-level auditing system for bias detection during the entire development and deployment process of our AI pipeline. This process involved systematically testing both closed-source (e.g., OpenAI's Sora, RunwayML, Google's Veo 3) and open-source (e.g., Hunyuan Video, Wan2.1 and 2.2) large language and diffusion models for image and video generation. The system required continuous evaluation of its pre-trained model results to identify stereotypical tropes, historical inaccuracies, and overtly harmful content. The method adheres to current algorithmic accountability standards, which mandate that models undergo evaluations of their technical performance and social impact. Unfortunately, our audits consistently revealed significant and often profound misrepresentations that directly

contravened the nuanced oral histories we aimed to visualize. These were not minor inaccuracies but deep-seated failures indicative of the biased training data on which these models are built.

The most extreme and illustrative case involved the processing of a historical photograph of Hong Kong from the 1980s. The first image showed a crowded urban area with many buildings, yet no people were present. When this photograph was passed through a popular open-source image-to-image generative model without any text prompt intended to enhance its cinematic quality, the output was not a refined version of the cityscape. The model generated an image showing a completely naked White woman standing in a Roman ruin environment, which failed to maintain cultural accuracy. The failure shows how AI systems continue biased views through their process of stripping away, not only local cultural elements but also to create Westernized and eroticized depictions of non-Western locations. The tools maintain current biases in their systems while producing new forms of discrimination when left uncorrected.

Our methodology includes a vital human-in-the-loop feedback system to address this issue. The research team employs an iterative process to review, flag, and analyze biased outputs through systematic methods. The system tracks each failure to enhance prompt generation and model fine-tuning and to teach the AI system through error correction of its fundamental beliefs. The practice of ongoing auditing and correction has become essential for building ethical AI systems, according to Bender (2021).

We then purchased 20 royalty-free stock photos from Shutterstock (https://www.shutterstock.com/) and began training our dataset. Those photos were all shot in Hong Kong's busy neighborhoods, such as Mong Kok, Causeway Bay, and Kwun Tong, and they also show a lot of public transportation in Hong Kong. As we found, for example, in our chosen model Wan2.2 TI2V 5B Diffusers (https://huggingface.co/Wan-AI/). We put '*High contrast. In a metropolitan Hong Kong, a very busy, noisy environment in bright, sunlight weather, a lot of people on the streets. People chatting, smelling and shopping. There's nearly no space on the streets, Hong Kong taxi passes by at a very low speed. The camera slowly moves right, capturing the blend of sunlight and skyscrapers. The first frame and the last frame should be the same*' as the positive prompt. For the negative prompt we used '*dull colors, underexposure, static, blurred*

details, subtitles, style, artwork, painting, still image, worst quality, low quality, JPEG compression residue, ugly, mutilated, extra fingers, poorly drawn hands, poorly drawn faces, deformed, disfigured, malformed limbs, fused fingers, still image, cluttered background, three legs, walking backwards, inaccurate Chinese and English words, no bicycles.' The video output without fine-tuning the model is undesirable, especially since the cityscape and vehicles shown in the video are obviously not showing and belonging to Hong Kong.

Hence, we trained those 20 photos as the LoRA by using Diffusion Pipe, a pipeline parallel training script for diffusion models (https://github.com/tdrussell/diffusion-pipe) in Python 3.12 under Linux (Ubuntu) on Windows, and fine-tuned the dataset. We used the same positive and negative prompts in the open-source node-based application for generative AI, ComfyUI (https://www.comfy.org). While the only change to the above process is that the application loads the Wan2.2 TI2V 5B Diffusers model, then passes it through our LoRA (our trained model using 20 photos from Shutterstock), and then proceeds with the same text-to-video generation process. The resulting video generated from the fine-tuned model has made a huge difference, as we can now see. For example, some local content from Hong Kong, such as signs, is now visible, and most distinctively, Hong Kong taxis are now featured in the fine-tuned generative video content.

Figure 2: Collage of 20 royalty-free stock photos from Shutterstock.

Figure 3: The video generated without fine-tuned the dataset.

Figure 4: The video generated with fine-tuned dataset.

Our fine-tuned LLM operates as a story engine that operates within particular cultural limits. The system operates with AI capabilities while it shifts its function from producing generic content to using factual information for creative improvement. The engine serves as the core system, transforming oral history blueprints into visual content required for one of the MR experiences in this research.

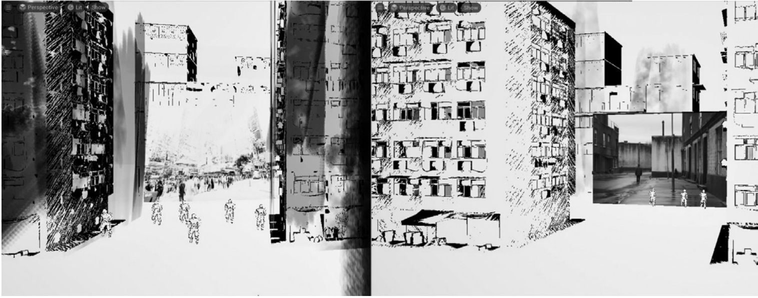

Figure 5: The MR experience.

The last technological phase enables the co-created narratives to transition from text-based into immersive experiential environments through MR. These spaces function as interactive platforms that serve as playgrounds for dialogue, rather than delivery channels for pre-established narratives, promoting family members from different generations to interact and understand each other better. Our MR application development is guided by theories of embodied cognition and situated learning, which posit that understanding is deeply tied to physical experience and context but rejecting the idea of racial empathy (Nakamura 2020).

4. Conclusion and Future Directions

The proposed framework of Ludic Integration combines direct bias detection in generative AI systems through auditing and model fine-tuning with MR technology to create interactive, dialogic experiences, which

migration studies requires. Researchers must sustain their commitment to developing methods alongside communities through collaborative co-design processes. The model expands upon established migration theory through its process-oriented analysis of cultural identity development, which occurs through interactive storytelling practices. The survival toolkit contains more than just technical instructions for improving biased AI models and datasets, as it introduces an entirely new philosophical and methodological approach. The toolkit enables migrants to develop their personal migration narratives, which replace the inaccurate traditional media portrayals of their experiences. The third section of this chapter shows how AI and MR technologies function as social advantages through community engagement which enables migrants to express themselves and maintain intergenerational dialogue through interviews and oral history and ethical AI development principles. The field benefits from technological advancements which allow researchers to establish observation spaces that let people witness human behavior in its authentic form.

The research results together with the framework developed in this study will guide upcoming studies and technological advancements and theoretical investigations. First, there is a clear and urgent need to expand the application of this co-design toolkit to a much broader and more diverse range of migrant and diasporic communities. The research team plans to develop sophisticated real-time systems which will identify and fix discrimination problems in current open-source AI platforms throughout their upcoming research work. Human-in-the-loop auditing through iterative methods remains essential, but it requires substantial resources to operate as a system that only responds to issues. Engineers need to make ethical principles fundamental design elements of AI systems because these systems will become vital for upcoming operational needs. The system needs two essential parts to remove stereotypical tropes from AI-generated content and it requires lightweight pre-processing algorithms to detect biased prompts and outputs while content is being generated. It also requires advanced fine-tuning methods that use a selected dataset to teach itself which stereotypes to avoid in its production. The model requires an update from its current post-hoc correction system to a preemptive mitigation system through the integration of ethical reasoning functions into its computational framework as per the last goal.

The research team also plans to conduct detailed investigations into the effects of MR hardware and software systems on human emotional responses and mental operations during their development process. Research into future developments in this field requires an examination of how different sensory feedback systems, combined with haptic technology, influence emotional connection and physical engagement during touch-based storytelling. Virtual objects and simulated environments create an immersive experience that strengthens emotional bonds to stories, providing complete narrative immersion for participants. Future research will also create complex, branching interactive MR narratives, which will move beyond basic binary choices to build open-ended, non-dichotomous story worlds that showcase diverse perspectives, aligning with the complex nature of migrant experiences. In this critical time, due to the anti-immigrant wave around the world, research in migration studies is vital. It works to develop a future society that utilizes technology to achieve social equality while protecting migrant oral traditions and human dignity through continuous studies in politics, computational ethics, and interactive poetics.

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Configuring = Deciding!
The Effort of the Strategy Game. Or: A Reconsideration of Pias's Genre Principles

Christopher Lukman

Abstract

In this contribution, I revisit Claus Pias's influential distinction between action, adventure, and strategy as cultural techniques of gameplay along with their underlying epistemic functions: time-critical reaction, rational decision, and optimal configuration. I argue that a media-phenomenological approach can refine Pias's tripartite distinction into a robust genre theory by investigating the lived experience of these three ludic efforts and its interface modalities. In particular, I challenge the strict separation between 'rational decision' and 'optimal configuration,' showing that strategy games enact a similar reflective, consequential decision-making, which Pias attributes to adventure titles. After reconsidering the media phenomenology of adventure and strategy, I show how strategy subgenres present distinct constellations of rational and sensorimotor challenges, mediated by game interfaces. Ultimately, I suggest reframing videogame genre as intertwined cognitive and embodied challenges rather than static taxonomies, allowing us to describe the play-oriented aesthetic of games more precisely.

Keywords

Genre theory, phenomenology, ludic challenges, strategy, tactics

1. Introduction

It is one of game studies' more curious circumstances that one of the most widely used genre distinction does not claim to be one at all. When Claus Pias (2000) defined action, adventure, and strategy as three domains of the video game, each rooted in a distinct historical formation, he prepared the field for his seminal genealogy of the video game:

> "*Time-critical* is the interaction in the present of action games: they demand attention in the creation of time-optimized selection chains from a repertoire of standardized actions. *Decision-critical* is the navigation through a given situation in adventure games: they demand optimal judgments when passing through the decision nodes of a diagram. *Configuration-critical* is the organization of possibilities in strategy games: they require patience in the optimal regulation of interdependent values." (Pias 2000, 4)

While these three definitions serve as points of departure in Pias's discourse analysis, many game scholars have rightly pointed out their value for video game genre theory (e.g., Beil 2015: 37; Gerdes et al. 2021; Karhulahti 2013). Setting aside the dimension of visual representation or narrative theme, Pias understands video games as enactments of three cultural techniques. In doing so, he shifts attention to the operative structure of play—the *doing* of the player in relation to the machine. Whereas numerous game scholars define video games along the lines of 'interactivity' or 'non-trivial effort,' Pias offers a more precise typology of player action: time-critical reaction applies to action games, rational decision-making characterizes adventure games, and optimal configuration is the act of strategy games. I believe that Pias's categories remain fruitful starting points for considering video game genres—particularly in their relation to their aesthetic, phenomenological, and performative dimensions. Yet two key recalibrations are needed to unlock their full analytical potential and account for contemporary games, where these principles often appear in creative recombination.

Firstly, Pias's project brought with it a wholly cybernetic conception of the player. In the tonality of Friedrich Kittler, who served as second supervisor and inspiration for the project, Pias turns away from anthropological theories of play to, instead, localize gaming as an infor-

mation-driven process within digital interfaces and electronic circuits. For the purposes of an aesthetic genre theory, however, the neglect of the human-embodied perspective is a shortcoming. It causes us to overlook the deeper alliance between configuration and rational decision, to which I will devote myself in this contribution. To reconcile the perspective of media technology and with the anthropological dimension of play, I suggest a *media phenomenology* dedicated to the necessary structures of lived experience in video games. From this perspective, rational decision is not exclusive to adventure games; the very act of *strategizing* involves a comparable structure of mental consideration.

Secondly, Pias's framework opens the door to an important notion of the *ludic image*. With the ludic image, I mean the very instances through which we enact cultural techniques in gaming—the screen image along with its extensions in input controllers and the hidden program infrastructure. Since the player's relation toward the game world is structured by this interface ecology, the ludic image becomes the technical ground of digital play. Whatever act we perform within a game stems from a co-constitution of the player's relation toward the ludic image.

After discussing existing approaches to video game genres, I will reconsider Pias's notion of rational decision and put it to the test in analytical sketches of three strategy subgenres: the turn-based strategy game (*Civilization V*), the resource manager (*SimCity*), and the real-time strategy game (*StarCraft II*). In the closing reflection, I sketch the potentials of a phenomenological genre theory for purposes of game design aesthetics and game design history.

2. Principles of Genre

My proposal to reconsider Pias's principles of genre goes hand-in-hand with a disinterest in taxonomical approaches. If I can overview game studies literature correctly, a convincing genre taxonomy of video games does not yet exist. What does exist are tentative taxonomic endeavors, like the very early ones from Mark P. Wolf (2005) or Chris Crawford (1982), which suggest a whole range of categories with no clear ordering principle. I admire the humility in Crawford's attempt

to bring some clarity into the immense heterogeneity of the video game. Refuting that "any correct taxonomy can be formulated," Crawford instead tasks himself with simply "organizing a large number of objects" (Crawford 1982: 23). But what purpose should taxonomies have—other than demonstrating that the video game is a difficult domain to overview, wider than the media of music, film, and literature? Furthermore, since taxonomies usually assume the unity and stability of their research objects, is it really desirable to grasp the process character of games into single categories?

As Marc Ouelette and Steve Conway (2020: 150) find, there has been a turn to the lived experience of play within game studies, which I correlate with the insight that games cannot be typified into rigid categories, like the classifying principle of taxonomy would imply. My suggestion is to speak less about genre classifications and more about *genre principles*. In doing so, I want to say that video games concretize the cultural techniques of time-critical reaction and the rational decision, often in one and the same game.

But to draw my argument out more clearly, let me sketch the structure of rational decision in the adventure game. Referring to early text-adventures, Pias (2000: 92) argues that the central challenge lies in reaching the end of a topology that is also the end of a narrative. Uncoincidentally, many early adventures, most prominently *Colossal Cave Adventures* (1976) and *Zork* (1980), ushered their players into an underground labyrinth with many branching paths. They confronted the player with a series of decisions, represented as critical intersections within the topography. To navigate the confusing branching structures of these environments, players had to track their search process by drawing maps. Finding a locked door somewhere could mean that a key exists somewhere deeper in the labyrinth. A map could help the player backtrack to the door and allow for a more systematic approach to discovering the various secrets of the labyrinth.

By comparison, in an action game like *Doom* (1993), navigation does not pose much of a challenge. Finding an exit from an environment was usually a matter of trial-and-error. While the player might encounter dead ends in a level of *Doom*, the simple act of trying out all different paths will eventually lead them to the right path. Therefore, navigation in action games cannot qualify as a decisional challenge. Such a gameplay ingredient would even be counterproductive to

Doom's rush of excitement, produced by the intense focus of always having to react to new enemies flooding into the screen. In an archetypical adventure game, however, the trial-and-error method of exploration could cause more confusion than clarity. If early adventure game players simply tried out all options without tracking their progress through a self-drawn map, they would get lost in the branches of the labyrinth's inner pathways. The early adventure game, therefore, calls for a player's spatial imagination, usually enacted through mental modelling and the act of drawing a map. Spatial imagination represents one of the more rational capacities of the human mind, which adventure games so often combine with other rational efforts like riddles and puzzles.

Quite importantly, adventure game maps chart a way through the game environment as a decisional architecture. For Pias (2000) and Rolf Nohr (2021) following him, the implicit flowchart-structure of game environments represents the *episteme* of the adventure game. It is the image, which presents the internal logic of the adventure game, and by extension, the logic of the computer programming. As Pias points out, computer science pioneers John von Neumann and Herman Goldstine (1947) originally developed flowcharts as diagrams capable of sketching out the execution path of a program in its non-linear, recursive properties. In this way, Pias could correlate the player's path through the environment with the execution path of a program and argue that the flowchart embodies the game as a structure of decisions.

But that is not all. There is an adventure game principle going beyond the logic of the traditional flowchart, namely, the closure and disclosure of paths through 'locks,' and 'keys,' making paths available which were previously hidden or inaccessible. Locks and keys could be represented in different ways, and especially the more traditional *Legend of Zelda* games introduced a whole array of weapons, items, and abilities designed to unlock new areas. They featured grappling hooks to skip over gaps, slingshots to activate hidden mechanisms, iron boots to walk the ground of a lake, or most interestingly, switches which would open some pathways and simultaneously close others. The switch points us to the most complex dungeons in the *Legend of Zelda* series, which also happen to be among the most sophisticated adventure game settings.

In what game critic Mark Brown (Game Maker's Toolkit 2020) calls 'puzzle box dungeons,' labyrinthine environments integrate 'switches'

into their navigational challenges to have the player figure out the right path sequences and reach different secrets of a dungeon. In *Ocarina of Time's* (1998) infamous water temple, the player had to switch between three water levels in a four-story edifice with numerous branching paths in order to access the right areas and ultimately find a way out. Each water level opens some paths, but closes others. Choosing the wrong setting forces players to backtrack and reconfigure the dungeon environment. In this way, players would have to intentionally *think* about the right setting and form mental hypotheses ('If I set the water level X, I can access Y'). While *Ocarina of Time's* water temple could yield long episodes of confused frustration, it could also evoke the player's adventurous spirit when solving the mystery of a complex architecture. Finding the way through the dungeon is, in this sense, the player's heroic journey.

To clarify the structure of rational decision, let me propose three aspects:

a. Rational decisions are consequential.
A decision assumes meaning in the further course of gameplay. Whether aimed at a predefined or self-imposed goal, each decision derives significance from the player's ability to grasp the game's internal logic, like the branching topology of an adventure game. Every choice carries weight—to choose one path is simultaneously to reject another. As players move forward, their decisions sediment into a unique play sequence.

b. Rational decisions presuppose mental hypotheses.
As the *Cambridge Dictionary* (2024) defines, a decision is "a choice that you make after thinking about several possibilities." Not every choice, then, qualifies as a rational decision. When a dungeon throws us into an entrance hall with no contextual clues, our decision is so ill-informed that it cannot pass as one; trial-and-error replaces decision. If, however, the game teaches the player to hypothesize that "Switch X will open the pathway to room Y, while closing the path to room Z," then the design of the game allows the player to decide rationally by structuring meaningful options for mental consideration.

c. Rational decisions wrestle with contingency.
What would have happened if I had decided differently? The adventure game player encounters this question frequently. As Markus Rautzenberg (2020) suggests, games are "framed uncertainties." It is highly significant when the adventure game confronts us with nail-biting moments, where we come to hesitate and start doubting all our previous decisions. Hesitation, as Paul Ricoeur (1966 [1950]: 138) has shown, is a phenomenological state in which ambiguity prevails, and the multiplicity of possible futures gathers in a torn subject.

3. Configuring = Deciding

With these three aspects of the rational decision in mind, we turn to the effort of optimal configuration in the strategy game. Pias's description of optimal configuration most clearly articulates his cybernetic notion of the player. Derived from John von Neumann and Oskar Morgenstern's mathematical game theory, this model imagines the player as a being capable of calculating all future contingencies and selecting the most efficient course of action.

> "Imagine now that each player k = 1, …, n, instead of making each decision as the necessity for it arises, *makes up his mind in advance for all possible contingencies*; i.e. that the player k begins to play with a complete plan: a plan which specifies what choices he will make in every possible situation, for every possible actual information which he may possess at that moment in conformity with the pattern of information which the rules of the game provide for him for that case. We call such a plan a strategy." (Neumann/Morgenstern 1944: 80; emphasis added)

Here, strategizing presumes a capacity to foresee every possible future variation of the game. If we take the game of chess as an example, the capacity is superhuman because the human mind cannot possibly compute the whole range of possibilities. Claude Shannon (1950) estimated that chess encompasses around 10^{120} variations, a number far beyond the reach of a human or even a contemporary computer. Three pages and numerous mathematical transformations later, however, von Neumann and Morgenstern discard the first conception of strategy-as-

game-plan in favor of a more immediate one: strategy as the selection of a move in a single, present state of the game.

> "Observe that in this scheme no space is left for any kind of further 'strategy.' Each player has one move, and one move only; and he must make it in absolute ignorance of everything else. This complete crystallization of the problem in this rigid and final form was achieved by our manipulations of the sections from 11.1.1. on, in which the transition from the original moves to strategies was effected. Since we now treat these strategies themselves as moves, there is no need for a strategy of a higher order." (Neumann and Morgenstern 1944: 84)

In this second understanding, strategy is the analysis of the current game state. Interestingly, it aligns with what ordinary players call 'tactics,' the evaluation of options based on a current position. For von Neumann and Morgenstern's mathematical conception, however, the second understanding of strategy takes in the game state as a *conglomeration of informational data* in order to assess the move with the highest return value.

It becomes clear what Pias's principle of strategy amounts to. As strategy games "consist in the creation, modulation, and observation of configurations, strategy games are not time-critical (action), nor decision-critical (adventure), but *configuration-critical*" (2004: 158). Pias turns games into wholly numerical entities and strategy into the principle of calculating future states based on a present state. But it is highly doubtful whether such a mathematical understanding holds relevance for human play. Human strategic play, I argue, unfolds through feeling the state of the game, and consequently, exploring tactical and strategical principles. To make my counterproposal of human-centered notions of strategy and tactics, I want to bring attention to the lived experience of chess play, through two luminaries in chess culture.

First, early 20th century world chess champion, Emmanuel Lasker, defines strategical and tactical play as two ways of relating one's perception and thought toward to the game. In chess, the strategical player is someone who gradually improves their position, whereas the tactical player seeks to accelerate the game through threatening move combinations. Accordingly, Lasker writes that the strategical player "thinks backwards: he conceives a position to be arrived at and works towards that position of which he is more conscious than the one on the board" (2010 [1925]: 140). The tactical player, by contrast, "thinks forward:

he starts from the given position and tries the forceful moves in his mind" (Lasker 2010 [1925]: 140). Characterizing two ways of being conscious of the game, strategy and tactics relate to long-term planning and the improvement of the position and to short-term awareness and intuitive combinational play. Lasker's notions speak to the everyday meaning of the terms.

Second, international chess master Jeremy Silman (2010) offers a complementary, more fundamental description of how chess players arrive at a decision for a move. He conceptualizes the board as a field of forces co-created by each chess piece. At the start of the game, the board rests in a state of total balance as the placement of both armies is perfectly symmetrical. As the game unfolds, however, each turn introduces a certain imbalance into the field of forces. "An imbalance" writes Silman "is any significant difference in the two respective positions." (2010: 3) A part of a chess player's skill consists in assessing these imbalances rightly. Silman suggests analyzing ten different categories to guide beginner players into 'imbalance consciousness'—"a state where the use of imbalances becomes a natural and often unconscious process" (2010: 4). Systematizing general chess concepts, Silman provides a veritable *chess hermeneutic*, teaching players how to read the game and form tactical and strategical ideas.

As we can observe, human chess perception is not a mathematical calculation; rather, it means sensing the state of the game according to its inner logics, tensions, and potentialities. Although calculating move variations in chess can become a highly rational affair, it is presupposed by the perception of chess imbalances. But how do these two chess-informed notions of strategy and tactics relate to the principle of rational decision? The question is a matter of phenomenological investigation.

Much of everyday life—looking out the window, brushing one's teeth, tying shoe-laces—unfolds through routinized habits of perception and movement. These acts are not decisions in any meaningful sense. Decisions, as considerations between options, go beyond perception and movement, but are presupposed by them. Following Merleau-Ponty, I take perception to be the primary mode of our engagement with the world—prior to and grounding every intentional act of will. Whereas reflection, imagination, or decision are intentional acts, perception is "not even an act or the deliberate taking of a stand; it is the background against which all acts stand out" (Merleau-Pon-

ty 2011 [1945]: lxxiv). Silman's account confirms this view: a player's decision always emerges against the backdrop of perceiving the board's imbalances.

Tactics and strategies become rational decisions only when they require deliberation and confront the player with contingency. Action-based gameplay typically bypasses form of deliberation—shooting enemies in *Doom* is the refinement of a sensorimotor skill asking the player not to think but to move along with the flow of the game. That rational decisions presuppose perception is no trivial insight because it highlights the centrality of the ludic image. Situated within the interface ecology, a decision materializes through the image and must be confirmed within it, as a particular controller input to seal the deal. To show how the ludic image and game decisions relate to one another, I provide analytical sketches to three popular sub-genres of the digital strategy game: the turn-based strategy game, the resource manager, and the real-time strategy game.

4. The Turn-Based Strategy Game: Deciding for the Win

The exclusion of real-time makes games like *Civilization* a relaxed affair. Turn-based games allow players to act without time pressure, taking sequential turns rather than continuously managing units in real-time. The self-commanded pacing supports the game's rational dimension as players can carefully assess uncertain situations and plan their actions accordingly. Perhaps the most popular proponent of this sub-genre, the *Civilization* series builds on the strategy game's traditional '4X' principles (exploration, expansion, exploitation, extermination) by offering multiple distinct victory conditions. To be precise, *Civilization V: Brave New World* (2013) presents five paths to victory:

– Domination Victory: Conquer all the opposing players' capitals while being in control of your own.
– Scientific Victory: Build and launch a spaceship. This requires the player to progress through the entire technology tree.

- Cultural Victory: Fill out all five social policies, which are smaller and separate technology trees. Then complete the Utopia project.
- Diplomatic Victory: The first civilization to reach the information era founds the world congress. The world congress will hold a vote every 20 turns to elect a world leader. If the vote succeeds, the player elected World Leader achieves Diplomatic Victory.
- Time Victory: If no one has achieved any of the victory conditions and the game time reaches 2050 AD, the player with the highest score wins.

Civilization V would be awfully dull if its win conditions allowed for linear, unopposed progression. In higher difficulty settings, and especially when playing against human opponents, play styles collide, hindering each other's progression toward particular goals. A player going for the cultural victory, for example, might be threatened by a war-mongering player and delay their progression to mount a stable defence. Conversely, the war-mongering player senses danger from the cultural player, prompting them to accelerate their plans of conquest when the latter draws nearer to the Utopia project. To borrow Silman's concept, the imbalance of power manifests not only in military force, but also across scientific, cultural, and diplomatic vectors of victory.

While the Scientific Victory represents a play style in itself, gathering science points and progressing within a technology tree is of utmost importance for every play style. Science points allow players to unlock more potent buildings, technologies, and units. But to gain Science Points, the population count must rise, and a population, in turn, needs a working economy to survive and flourish. The battle for the territory is thus a battle for resources needed to progress toward one's victory condition. Because the opponents' technology trees are hidden, players must scout their infrastructure and units to assess the state of imbalances in the game.

These gameplay elements are paramount for a *Civilization* player's strategical and tactical relation toward the game. In the beginning of each game, each player chooses a civilization with different unique abilities and unique units. Suppose we play a war-mongering style that plans to strike early. The Zulu civilization supports this plan the best by decreasing the maintenance of melee units by 50 % and the required experience for their promotion by 25 %. Additionally, their unique

unit is the Impi, simultaneously a ranged and melee combat unit, unlocked by reaching the medieval era in the technology tree. Experienced players can already hypothesize possible game plans from this information. Zulu's peak of power is the medieval era where swarms of Impi rush across the map, beating out players who settle for longer games.

So much for Zulu's strategic approach. When it comes to their tactics, it is necessary that they use time and space efficiently in order to overrun their opponents. Through good scouting, they can try to invade the opponent's territory when their combat units are not ready for defense. Similarly, efficient army placement benefits the military conquest. When placed in adjacent tiles, units gain army bonuses, so keeping them within clusters maximizes their potential. Furthermore, terrain properties like forest or hill tiles give additional bonuses, which means that certain geographic layouts call for certain army formations.

This shows how the realization of these tactical and strategical principles is mediated by the various interfaces of the game. In each turn, the player spends their different resources to progress in the technology tree and expand and manage their territory. The primary interface is the terrain view, designed in boardgame fashion in hexagonal tiles, showing each tile's properties. Related to the flowchart of the adventure game, the technology tree concretizes the game as a series of choices. Then come the numerous menus, diagrams, and tabs which give the player further information and ways of interaction. Just like in chess where the chess board is the field of play on which positional imbalances express the state of the game, *Civilization V's* various interfaces are the media through which the player comes to feel, think, and decide according to the state of the game.

The preceding passages have demonstrated how an ordinary Zulu strategy plays out, but what would happen when prepared plans collapse and the Zulu player fails to win or gain a sizable lead? In such moments, when even the most experienced players must improvise by thinking of new strategies and tactics on the spot, the game reasserts its strategic character. Routines are interrupted and reflection replaces habit. The game calls upon the player's rational and creative capacities to invent intermediary goals, which could discover Zulu's hidden mid- or late-game potential. In *Civilization V*, where the maximum player count is 12, good matches unfold pleasurable chaos onto the map and

demand the player to act strategically and tactically, while building alliances, stories of betrayal, and dramatic revenge arcs.

5. The Resource Management Game: Strategy and Tactic in Open-Endedness

What happens to the effort of rational decision when a game presents itself as open-ended? *SimCity* (1989) marks a landmark in the resource management genre and allows us to study how tactics and strategy figure in open-ended games. Game scholars usually grasp goal-absence through the notion of *paidia*, inherited from Roger Caillois (2001 [1958]). *Paidia* refers to the sphere of childlike play which stands at the beginning of culture; it represents an "elementary need for disturbance and tumult" (2001 [1958]: 28), and a joy for intuitive movement and spontaneous destruction. In Caillois's schema, *paidia* transitions into *ludus*, the regulated domain of goals, mastery, and rule systems. As the child seeks refinement in their play, *ludus* absorbs *paidia* by putting cultural convention and thoughtful skill into the unboundedness of play.

I regard the dichotomy between *paidia* and *ludus* as less helpful as many other game scholars suggest. It is a speculative theory of how games appeared in human culture, a question better bracketed out here. The description of rational decision in *SimCity* undermines the distinction between *paidia* and *ludus* insofar as it shows us that 'goals' are essentially nothing more than preferable future states of the game. A phenomenological lens reveals how players become attuned to possible futures, once they internalize the game's operational logic. Or, in other words, because the relation between player and game brings forth a certain kind of 'imbalance consciousness,' the game embeds the player into its operations, making it possible for the player to anticipate its possible futures.

SimCity adopts a top-down view onto a terrain made of squares, allowing the player to manipulate each square to their liking. Forest squares can be bulldozed, turned into sand tiles, then used for construction. Constructing elements of a city costs money but subsequently affects a set of interdependent variables. Residential zones drive popula-

tion growth, commercial zones increase the inhabitants' happiness, and industrial zones provide employment. At first, *SimCity* is a sandbox for learning how to meet basic infrastructural needs, to which electricity through the construction of power plants and a good infrastructure for transportation can be counted. As the players master these dynamics, their settlements evolve—from village to town (2,000), city (population 10,000), capital (population 50,000), to metropolis (population 100,000) and, ultimately, megalopolis (500,000)

As we can see, open-ended games have progressions as well. New challenges arise, the game difficulty increases, and new situations emerge. Alongside these population-based progressions come progressions to unlock new buildings. After building 50 km of roads and 10 schools and hospitals, more sophisticated structures open up. Players can now build casinos, which bring a hundred dollars of yearly income to the city but also raise crime rates by one point. Those hundred yearly dollars could fund a police headquarters, which decreases crime, but is only unlocked after building 18 police departments. So, while progression in *SimCity* means that population numbers rise and buildings become more potent, it also means that the game becomes increasingly turbulent. The traffic gets jammed, the people refuse to pay high taxes, and buildings catch fire. Earthquakes destroy whole areas, high unemployment rates cause homelessness, and industrial zones may drive pollution to the point that it kills the natural environment, causing inhabitants to leave the city. Solving these turbulences is also the challenge of *SimCity's* scenario mode, which reintroduces pre-defined goals into the game, serving as tutorials into intermediate *SimCity* play.

It turns out that imbalance consciousness is critical for the *SimCity* player as well. The best possible *SimCity* player knows the implicit laws of *SimCity* so well that their preventive measures keep potential problems from doing harm. The best placement and optimal number of each building yields a perfectly harmonical city and allows the economy and population to flourish. As the game keeps many variables hidden, good *SimCity* play may resemble a hermeneutic act, demonstrated through a well-functioning city. The exploration of these variables is necessarily based on rational decision, as the player hypothesizes possible interconnections and discovers tactical and strategic ideas in the process.

Interestingly, tactical and strategical *SimCity* play applies not only to the population-minded player, but also to the achievement of any

self-set goals. How about we build a metropolis only to then let evil roam the city and achieve the highest crime rate possible while other parameters are still intact? Or how about we undertake the ecologist attempt, as the game manual suggests, to build a city without bulldozing any forest tiles? Perhaps we can also let functionality be secondary and draw interesting visual shapes into our city's design? The *paidia-ludus*-dichotomy would fail to describe how a game can be open-ended in the mode of *paidia* and, simultaneously, include strategizing in the manner of *ludus*. *SimCity* shows how players need to think within the tactical and strategical logic of the game to realize their unique ideas. Idiosyncratic play styles define new preferable future states and challenge the player to find ways to attain them, therefore reintroducing *rational decision* even to seasoned players who have a firm grip on *SimCity's* dynamics.

6. The Real-Time Strategy Game: The Body is Ready

If *Civilization V* and *SimCity* seem like good choices for quieter days of rest and relaxation, real-time strategy games (RTS) belong to the high-performance world of e-sports spectacle. Where the turn-based game sections off player action into turns, the real-time strategy game allows players to move and decide in a temporal continuum. The time-regime of action games, real-time, refers to the thrill of moving an avatar through virtual space as an extension of one's own physical body. The fluid control cultivated in first person-shooters or fighting games applies to an RTS like *StarCraft II* as well, where units require nifty movement maneuvers to exhibit their biggest potential. From this perspective, real-time and strategy may seem like an uneven match as both terms seem to contradict each other. Why would it make sense to integrate sensorimotor skills and rational decision-making into a single game, when good strategizing usually benefits from care, patience, and thoughtful planning?

Superficially, a *StarCraft II* match resembles the settings described earlier in *Civilization V.* Two players start out at different points on the map, a fog of war obstructs their view of the enemy, and the collection

of resources is the first task of the game. While early game rushes exist, the standard way to play is to build up an army, gain new base expansions for more access to minerals, and research new technologies to strengthen the army. Beyond this, *Civilization V* and *StarCraft II* lack further points of comparison. Where *Civilization V* allows the player to carefully plan out their moves every turn, *StarCraft II* induces the stress in the player of always chasing the next timing in their production while simultaneously fighting out battles on the map. *StarCraft II* is a game of multitasking, typically framed in terms of macro-management and micro-management. Macro-management can usually be learned in the training mode without an opponent because it refers to a player's capacity to build and manage an economy. Micro-management, by contrast, is the control of particular units for scouting, combat, and map control.

StarCraft players decide between three intergalactic races (Terran, Zerg, Protoss), each having specific strengths, weaknesses, strategies, playing styles, and army compositions. To demonstrate the meaning of multitasking in *StarCraft II*, let me suppose we play Terran in a somewhat competitive match. Without taking highly complex battle tactics into account, the default mode of *StarCraft II* play is to scout the map while simultaneously building workers, army units, and expanding one's economy. In macro-management, everything revolves around production times. Building a worker, for example, takes 15 seconds, while a marine takes 20 seconds, and an important weapon upgrade needs around two minutes. As the economy grows, so too must infrastructure; new production facilities are required to keep pace with escalating resource flows. Macro-management is therefore a drive to maximum efficiency with increasing levels of difficulty. A particularly dedicated pedagogue of the game, Sean "Day[9]" Combs taught his students to always keep five tasks in a mental checklist until they become unconscious operations, which players no longer have to think about:

– *Always scout the map!*
  Knowing the opponent's unit and building composition will help the player to assess their opponent's game plan and understand if their own strategies can go through as planned. Additionally, all races have rush strategies in the super early game, so spotting opponent movement early could be vital in avoiding quick losses.

– *Always build workers!*
  Since workers mean more income, more capacities to build structures, and research technology, workers are detrimental to the progress within the game.
– *Always build units!*
  Whenever a production facility finishes, players should immediately produce units and keep the flow of production steady. In the production tab, idle time is lost time.
– *Keep resource low!*
  Having too many unused resources usually refers to inefficient play. As the worker count increases so will the resource count, which makes spending resources a challenge in itself. Building more buildings will usually allow the production of more units and upgrades but also requires the player to handle a larger economy, thus making macro-management more difficult.
– *Always have sufficient supply!*
  In order to build a big army, it is detrimental to keep track of the supply count. Starting with 15 supply, Terrans need to observe their supply count as workers and marines each take up one supply. Terran players must continuously build Supply Depots to increase their maximum supply count by 15 and eventually reach the supply cap at 200. When forgetting to increase their maximum supply count, a blockade intervenes and forces the flow of production into idle time.

If the player masters the basics of macro-management, they will be skilled enough to execute most game plans, usually revolving around offensive timings and defensive stability. But the real difficulty of *StarCraft II* lies in executing macro- and micro-management at the same time. It happens frequently that Terran players portion their armies into three different groups to strike three places at the same time. Torn between these different spots, inexperienced opponents may only defend one location and let the other two fall. In this case, the Terran multitasker could even sacrifice a third of the army without much loss as their macro-management skills allow them to instantly rebuild the fallen comrades and destroy key structures in the two remaining battles. Quite often, battles of intense micromanagement become the

highlight of the game. When two incredible multitaskers battle their armies at multiple locations of the map, *StarCraft II* becomes a deeply fascinating game, showing how players distribute their cognition across numerous entities at once, pointing to the 'extended' nature of mind (Clark and Chalmers 1998).

When it comes to interfaces, macro-management relies predominantly on unit tabs in the graphical user interface, while micro-management operates on the mini map and the terrain view of the game. As media theorist Serjoscha Wiemer (2012: 85) maintains, "the ability to switch fluently" between interfaces and their spatial concepts marks the "ergodic requirements of this genre." There is a deeper truth in this quote. In many games, players can play simply by mouse-clicking their different units. After selecting them, the graphical user interface shows the unit tab, signaling to the player that they are now in control to move them across the map. *StarCraft II* discourages mouse-heavy play like this because it is simply too slow for its multitasking requirements. Better players assign different units and building types to hotkeys on the keyboard to significantly accelerate their play.

In comparison to *Civilization V*, the handling of interfaces in *StarCraft II* assumes an important difference. When multitasking becomes habit and the interfaces become 'ready-to-hand,' the player's body responds directly to the game's skillful demands. Acting in real-time becomes something the skillful player just does—intuitively and spontaneously, without feeling restrained by keyboard, mouse, or graphical user interfaces. Embodying the workflows of a wartime economy as well as the movement of a dozen different combat units, skilled *StarCraft II* players become part of the interface ecology, allowing them to play with more than 300 actions per minute, while their fingers vanish in a blur.

This analytic sketch of *StarCraft II* underscores a key point. The ready-to-hand quality of interfaces is a precondition for the execution of both tactics and strategy. *StarCraft II* renders skillful, action-based play the foundation for strategy. *StarCraft II*, then, is more action than strategy game insofar as the execution of tactical and strategic ideas depends on highly demanding sensorimotor skills.

7. Conclusive Reflection: Quo Vadis, Game Genre Studies?

In this paper, I turned Pias's threefold distinction into a twofold one by arguing that strategizing falls into the category of rational decision. Consequently, rational decision and time-critical stand as the two foundational principles of game genre. I propose reframing these two principles as the cognitive and sensorimotor modes of play, aligning them to a phenomenological theory of intentionality. Imagination, calculation, and decision belong into the category of more representational intentional acts, whereas perception, sensing, and movement relate to the more basic capacities of mind, which Merleau-Ponty (2011 [1945]) called 'body intentionality.'

This proposal resonates with game scholar Velli-Mati Karhulahti (2013), who suggested conceptualizing the aesthetic form of the video game through two kinds of challenges—the sensorimotor and the cognitive challenge. I fully support this view as it productively suggests that play finds in *challenge* its form-generating moment. A more flexible notion than 'goal,' a challenge suggests that a certain player performance is necessary to overcome it. Without being tied to *paidia* or *ludus*, challenges may arise from victory conditions or the idiosyncratic preference of a player. Thinking games as challenges points to the principles of genre, often appearing in intertwinement, like in the case of *StarCraft II.*

While adventure and strategy games may share a common phenomenological core, it remains important to foreground their differences. While adventure games usually task us with spatial navigation, puzzles, and riddles, strategy games often have us conquer, expand, and economize. Innovative games often remix genre motifs to create interesting gameplay experiences. As standard models of rational and sensorimotor challenge are transformed, subverted, or recombined, particularly strong games distinguish themselves by weaving gameplay constraints into broader aesthetic efforts—world-building, narrative structure, interface design. In this sense, a phenomenologically grounded theory of genre could not only bridge theory and practice but also offer a toolkit for critically evaluating game design.

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From Play to Warfare. A Phenomenological Inquiry into Video Games

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Abstract

This chapter examines the link between video games, imagination and warfare through a phenomenological and hermeneutical lens. Video games are defined as interactive artworks and simulative media that shape players' perceptions and predispose them to specific roles. Building on Eugène Fink and Plato, this study highlights how imaginary horizons and ludic enactments guide symbolic and performative actions. Focusing on wargames, it analyzes their use in military training and recruitment, from *VR* environments to e-sports. The conclusion reflects that, while the ethical implications of gamification as propaganda remain pressing, video games emerge not as simple pastimes but as hybrid media—at once imaginative and simulative—whose performative and technical dimensions extend beyond into broader contexts.

Keywords

Video game, wargames, imaginary, simulation, warfare, training, recruitment, gamification

1. Introduction. A Philosophical Definition of Video Game

In today's world, technological and digital developments have radically transformed the way we define, think about, and wage war. In the past, war had clearly defined and precise characteristics: it involved armies clashing on a physical battlefield, it entailed men fighting for the specific control of certain territories, it was waged through direct domination and often involved the destruction of cities, the genocide against entire populations, and it often expressed itself in the form of cultural or racial hegemony. In today's world, these characteristics of war have not completely disappeared. However, in the information age and with the advent of digital technologies, war has become a far more subtle and harder-to-perceive phenomenon. As Luciano Floridi observes, "Conflicts in the infosphere [...] are increasingly neither real nor virtual, but latent to most of their victims" (Floridi 2004: 319). In the information age, material and physical domination is accompanied by strategies that do not always leave traces: polarizing propaganda activities, digital disinformation practices, sabotage and cracking of computer systems, or attempts at cognitive colonization. These strategies can also intersect with the use of video games. Indeed, video games, which seem to be imbued with intrinsic power and magnetic allure, have captured the attention of numerous military forces. Historically, and purely by way of example, consider one of the first interactive games, *Tennis for Two* (1958). This gaming system was designed by William Higinbotham, an American physicist who collaborated on the Manhattan Project from 1941 to 1943, focusing on the electronic aspects of building the atomic bomb. Although Higinbotham later joined the nuclear non-proliferation movement, it is interesting to note that one of the first game designers was already involved in warfare research.

Before explaining how we can think about the relationship between video games and war, and before demonstrating the extent to which game system can be used in the context of warfare, we must ask: how can we define video games? The definition we provide here, which we will explore further in this chapter, seems broad enough to be applicable to all theories that attempt to conceptualize video games in

ludological as well as in narratological terms.[1] We define video games as a simulative medium and an interactive artwork, conceived by a game designer, which teleologically orients the user, allowing them to prefigure, configure, and refigure their actions. By performing, the user undergoes change: by encountering an imaginary world, the user constructs a certain vision of reality, shapes their beliefs, and, through simulation, predisposes them to a certain type of gaming role.

To say that a video game is an artistic product means associating it with a work of art; more specifically, it means to recognize the video game's connection to an imaginary world within which the player is entangled and engaged. Likewise, to say that a video game is a medium means to associate it with a tool, which possesses properties and simulative features that enable the player to act. However, a further point must be clarified right away. A video game is more than a simple artistic product or a medium. This surplus can be better understood if we focus on the theme of interaction. Unlike other artistic products such as a novel, a painting, a song, or a film, a video game offers a higher level of interaction. Those who listen to music, observe a work of art, or watch a film are not always called upon to actively respond to what they observe or perceive. In enjoying a work of art, the observer can remain passive, with a merely external gaze; when looking at a painting, the viewer is not required to react instantly; when listening to a song, the listener does not intervene by modifying the music; when watching a film, the spectator does not influence the story they are following. On the contrary, something is always required of the player: the video game "requires" the user to enter an imaginary world, to spend time within the content being enjoyed, to engage and dedicate themselves to a cause or ideal implicit in the content; the video game "demands"

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1 Since the 2000s, video games have been the subject of intense critical scrutiny, dividing scholars into two opposing camps: ludologists and narratologists. According to ludologists, video games are primarily media that must be studied in terms of their game mechanics, technical aspects and interfaces, such as graphics and gameplay. On the contrary, according to narratologists, video games are first and foremost artistic and representational products, which, like literature or cinema, can be studied through the semiotic keys offered by narratology, drawing on the narratological framework of authors such as Propp, Genette, and Greimas. Although this debate has largely subsided, numerous issues have also been taken up in the debate between computationalists and representationalists (Jagoda and Malkowski, 2022: 5–6).

that the player immerse themselves in an invented world and make decisions within a story; and finally, it invites the player to perform actions.[2]

The very quality of interaction is central to understanding the difference between video games and other technological media. Today, especially in media studies, video games are thought of as simulative media, not simply representative ones. Simulative media, which contain richer informational structures than representational media like television or cinema, do not merely depict external events, do not reproduce tangible or factual phenomena occurring in the world, and do not simply tell stories. On the contrary, the strength of simulation media lies in placing interaction at the core, positioning the user in a complex and direct relationship between received inputs and externalized outputs. Media like television or radio do not possess this power, and in fact, what characterizes them seems to be their ability to be enjoyed passively: the individual who listens or watches the news, or tunes into a radio station is unable to influence the content they encounter. In video games, as simulation media, the player completes a mission, develops creative strategies, pursues objectives, and is driven to make choices that can lead to different outcomes based on previous decisions. Furthermore, video games always require the player to interact with characters, such as NPCs, or to collaborate and interact with real people. This last point, for example, is especially true in online multiplayer video games, where interactions with other users multiply, communications become dense, and performed actions produce complex and intricate itineraries and plots.

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2 Certainly, one could say that from an aesthetic perspective, there is a form of interaction between the user and the artwork. As Gadamer argued in *Truth and Method* it is necessary to envision a fusion of horizons to reveal the truth of the artwork itself. While interaction can indeed be discussed in art as well, the intensity of the interaction in classical artistic forms remains less intense than that in video games. This is not only because a work of art, a novel, or a piece of music shapes human action more slowly and more indirectly, but also because the response or output that the viewer provides upon contact with the work of art almost never occurs simultaneously, but rather unfolds in a mediated and gradual manner, or almost always a posteriori, for example through the elaboration of an aesthetic judgment. Among the various art forms, the one that most evokes an imaginary-performative plane common to video games is undoubtedly theater, particularly postmodern theater (Curcio and Di Bernardo, 2025).

2. Game, Video Game and Imaginary. Phenomenology and Hermeneutics

In this section, we will attempt to explore, from a philosophical perspective, how games and video games are linked to the imaginary. In what ways can the imaginary be associated with games and, more specifically with video games? To answer this question, we can take Eugène Fink's phenomenology as a starting point. For Fink, play is one of the primary ways in which human beings, understood as intentional consciousness, relate to external reality and their surrounding environment. When we play, we suspend our judgments about reality; we no longer question whether what we are doing is real or not, or whether it is useful or not. When we play, we are implicitly pursuing the two cardinal principles of phenomenology: performing an *epoché* of the world and, according to Husserl's motto, returning to things themselves (*zu den Sachen selbst*).

However, according to Fink, it is difficult to determine with certainty what game itself is and what its true essence consists in, since it always involves an imaginary world; in this regard, the imaginary renders the relationship humans maintain with the world ambiguous: "The relation of the human being to the enigmatic appearance of the playworld, to the dimension of the imaginary, is ambiguous. Play is a phenomenon for which the appropriate categories do not easily and unambiguously present themselves" (Fink. 2016: 15). The imaginary distorts a rational gaze on reality, breaks a linear reading of reality, and fragments a univocal representation of the world and its phenomena. The imaginary presents itself as a horizon that envelops us, engulfs us and alienates us from reality. As Bachelard observes, the imaginary achieves an ontological consistency, a force that unfolds in the intentional axis and is realized as an activity of *rêverie*. And indeed, when we play, it is as if we are projected outside the world, as if we are catapulted into the fluid, oscillating realm of the imaginary, a realm where time appears to stand still and negative emotions are suspended.

> "The playworld is an imaginary dimension, whose ontological sense poses an obscure and difficult problem. We play in the so-called actual world, but we thereby attain (*erspielen*) a realm, an enigmatic field, that is not

> nothing and yet is nothing actual. In the playworld we move about according to our roles, but in the playworld there are imaginary figures" (Fink 2012: 25).

Although the realm of the imaginary is characterized by limited intelligibility and transparency—similar to the notion of the sacred as developed by Mircea Eliade and Rudolf Otto, or the notion of the unconscious in Freud—Fink also suggests that this realm of the imaginary is not merely an unreal force, a power alien to the world, a fictitious and chimerical horizon that emerges from the outside and alters our conscious perception. The imaginary is not merely a phantasmagorical dimension that obscures the real world, relegated to the simple, absurd or delusional form of imagination. However powerful the empire of the imaginary into which we are projected while playing may be, our physical and material relationship with reality is not suspended. The imagination, with its rich polysemy and the heterogeneity of its images, can impact our connection with the world: it forces us to broaden our experience, to re-semanticize the world, and pushes us to look at ourselves and the reality with ever new and different eyes. The same happens in the ludic imagination. The imaginary *in* and *through* play indicates the way in which human beings relate to the world. As Fink writes: "Imaginary does not measure its status from its distance to things, neither to the ideas nor to the gods; it obtains its status and its significance from the human world-relation" (Fink 2012: 209). In short, Fink observes that to understand play, we need to reflect on the phenomenological importance of the imaginary, which should not be considered simply as extraneous or parallel to reality, but as something that blends with perceived reality and impacts our experiences, our desires, and our happiness.

To this phenomenological argument, we could add a further hermeneutic reflection. If, as we have said, the imaginary acquires its meaning based on its impact on the relationship between humans and the world, it is also possible to acknowledge that, by changing the content of the imaginary, the ways in which intentionality accesses the world also change. At this point a hermeneutic level comes into play: the hermeneutic level, by placing the symbolic interpretation of images at the core, enriches descriptions of the world itself. In this sense, phenomenological descriptions of the imaginary, thanks to a hermeneutic

level—understood as a condition for the interpretation of all possible processes of signification—open new ways of accessing the world.[3] This hermeneutic level serves to demonstrate that not all universes conveyed by the imagination are identical, and since universes can differ, the relationship a player has with an imaginary realm also changes: a poetic-imaginary realm in which colors like blue predominate (water, sea, streams) is not the same imaginary realm in which colors like green predominate (vegetation, plants, trees); furthermore, for example, as Bachelard observes, images of different elements—such as water, air, earth, or fire—can refer to heterogeneous psychic functions and philosophical concepts. This argument can also be extended to video games. Video games, too, center an imaginary horizon that is never the same. For example, a science fiction world is not the same as a fantasy world: riding through medieval villages on horseback as in *Dragon Age* or *Skyrim* isn't the same as exploring planets aboard a spaceship like in *Mass Effect* or *Starfield*. Even a fictional world at war like that of *Insurgency: Sandstorm* is not the same as a fictional amusement park world with rides as in *RollerCoaster Tycoon*.

The same argument can be extended to war representations in video games which, as is well known, are never identical. There are numerous titles that are inspired by science fiction war iconographies, such as *Space Invaders* (1978), but there are just as many games that instead hark back to historical motifs, such as *Missile Command* (1981), an arcade "shoot 'em up" set during the Cold War that evokes the great spectre of nuclear war. Furthermore, not only do not all interactive game iconographies impact users or the social perception of a title in the same way, nor do all symbolic frameworks influence experience and action in the same way. Consider, for example, a video game like *Wolfenstein 3D* (1992). In this game, the protagonist William Joseph Blazkowicz is an American soldier of Polish origins. His mission is to destroy the laboratory where biological experiments are being conducted by a Nazi scientist named Otto Giftmacher. Throughout the story, the player must kill numerous Nazi soldiers and officers armed with machine guns and other weapons, until reaching the final boss, Hitler's cyborg. Although the game re-

3 This argument can be further justified by referring to Paul Ricoeur's philosophy regarding the importance of poetic symbols, such as Bachelard's, in the work of hermeneutics (Ricoeur, 1959: 6).

ceived considerable criticism, especially in Germany for its use of overtly Nazi music and symbols, it was a huge hit with the public, primarily because it offered a substantial degree of gameplay innovation at the time, allowing the player to experience the adrenaline rush of combat and movement. This example shows that, beyond the innovative gameplay components, the use of certain symbols (obscure, ambiguous, and contentious) in video games can hermeneutically transform their social perception and, consequently, influence political responses ranging from censoring to popularization. From the player's internal perspective, the evocation of a certain type of imaginary can be strengthened, for example, through the implementation of specific characters—NPCs or actants—who, with their costumes, skins, and physical or psychological makeup, invite players to perform in particular ways than others. Consider, for example, the *Civilization* saga, in which players can forge alliances and pacts with historical political leaders who may not always be considered worthy of respect or admiration.

Continuing within the context of a combat imaginary related to WWII, consider the *Medal of Honor* series. The first *Medal of Honor*, dating back to 1999, features a plot written by Steven Spielberg. It is a first-person FPS in which players take the role of Allied soldiers, lieutenants, and sergeants during World War II. Players must complete various missions, such as sabotaging military factories, rescuing their comrades or superiors, or destroying military vehicles. What is interesting in the *Medal of Honor* saga, as in many other FPS, is that the player is not only led to relive a certain a certain type of war experience, but military values of a certain type are also suggested (Robinson 2016), which can directly affect the type of action performed in the game world and indirectly affect actions performed outside the game.

In short, following Fink's phenomenological lesson, it is necessary to recognize an imaginary horizon within play. Such a horizon is not alien to the world; on the contrary, it shapes the player's experience. Continuing this discussion within a hermeneutic framework, the imaginary can not only impact our relationship with the world, but also inform it, offering reference points, and outlining possible trajectories: this dimension prompts the player to perform symbolically mediated actions that, regardless of the video game genre they refer to (managerial, adventure, war, etc.), present different semantic values. From this perspective, as the lesson of Bachelard and Ricoeur teaches, images are

not copies of reality; as revealers of meaning, they also serve as shaper of experiences and as indicators for possible action. If this is true, then the imaginary can potentially produce effects that vary in directness and explicitness not only on communities and societies, but also on the user who engages in performance.

3. Ludic Simulation as Predisposition to Role-Playing. Plato's Lesson

We have examined the relationship between imaginary and play. But what is the relationship between simulation and the performative horizon of play, and then, more generally, video games? To delve deeper into this topic, we can turn to Plato. In Plato's general view, play is chiefly characterized by performative qualities of a pedagogical nature. In the *Republic*, Plato explains how game is a crucial tool for developing young people's intellectual and cognitive capacities. These capacities concern the sciences, and more specifically mathematics and geometry.

> "So arithmetic, geometry, and all the education our future rulers need as a preliminary to dialectic—these are things we should offer them while they are still children. But we shouldn't present these subjects as a compulsory syllabus they have got to learn. [...]. Because for a free man learning should never be associated with slavery. Physical exertion, imposed by force, does the body no harm, but for the soul no forced learning can be lasting. In which case, my friend, when you're bringing children up, don't use compulsion in teaching them. Use children's games instead. That will give you a better idea what each of them has a natural aptitude for." (Plato, The Republic, 536D-537A)

Learning mathematics, geometry, and all the higher sciences should not be imposed; on the contrary, it should occur freely. If teachers want to educate their students in virtue, they must adopt a more flexible and dynamic approach. Through natural learning based on play and not punishment, children can exercise their cognitive predisposition, that is, the ability to navigate complex dialectical discourses such as those of the sciences. Ultimately, what characterizes every ludic activity and every play practice is spontaneity, authenticity, immediacy, and effortlessness—all characteristics typically associated with children's natural play.

Plato also further emphasizes the same performative and pedagogical characteristics of play in the *Laws*. Through play, children prepare for adult life and for the role they will assume in tomorrow's society. And in this sense, the game appears to assume more explicitly simulative qualities, in a very specific sense.

> "I insist that a man who intends to be good at a particular occupation must practise it from childhood: both at work and at play he must be surrounded by the special 'tools of the trade'. For instance, the man who intends to be a good farmer must play at farming, and the man who is to be a good builder must spend his playtime building toy houses; and in each case the teacher must provide miniature tools that copy the real thing. In particular, in this elementary stage they must learn the essential elementary skills. For example, the carpenter must learn in his play how to handle a rule and plumb-line, and the soldier must learn to ride a horse (either by actually doing it, in play, or by some similar activity). We should try to use the children's games to channel their pleasures and desires towards the activities in which they will have to engage when they are adult. To sum up, we say that the correct way to bring up and educate a child is to use his playtime to imbue his soul with the greatest possible liking for the occupation in which he will have to be absolutely perfect when he grows up." (Plato, Laws I, 643B)

The child who plays with building blocks is not simply reproducing the structure of a building through his actions, nor is he merely stylizing a royal palace or a temple he has already seen in the past. On the contrary, he is engaging in simulation; through this act, he anticipates his predisposition to be an architect. Likewise, the child who plays at being a soldier or warrior, who imagines himself in conflicts such as the Peloponnesian War, the War of Thermopylae, or even invented clashes, is not merely representing martial activity, but rather engaging in enactment; through this, he reveals his inclination toward becoming a warrior. This means that playful simulation should not be as mere imitation, where the object or activity is reduced to a faded copy of reality or to something previously observed. Rather it is a practical and performative activity that involves the young person firsthand, and through it, they reveal to themselves and to others their predispositions and abilities. In this sense, in line with the more political intent that characterizes the *Laws*, simulation becomes an exercise with political purposes, enabling each individual to understand and align with their social nature. This discourse seems to coincide with Plato's more

comprehensive metaphysical-political vision, according to which each individual must pursue within this world the virtue that is most congenial to their nature and also to their soul: consider, in this regard, the three distinct functions corresponding to the concupiscible, irascible, and rational parts of the soul, which inhabit, albeit in different ways, all human beings.

Considering what we have explained, Plato's lesson can be useful for thinking about play in two respects. First, because, following the lesson of the Republic, Plato seems to provide—albeit more implicitly and indirectly—a ludic-pedagogical quality to simulation that can serve to introduce young people to science. By enabling the development of complex cognitive structures, playful enactment, understood as a practical and performative activity, allows young people to produce mental representations that help them to familiarize themselves with scientific concepts. This argument could also be extended to our contemporary world: consider, for example, an educational title like *Foldit* (2008), in which players must solve puzzles that reproduce the structures of HIV proteins; by solving puzzles, users not only learn basic principles of biology or medicine, but may also, within certain limits, contribute to advancing scientific research itself (Miller et al. 2020). Second, with regard to Plato's lesson in the *Laws*, regardless of the specific activity reproduced by the child (carpenter, architect, or warrior), playful simulation, by allowing direct experimentation and firsthand learning, reveals specific roles; and in this regard, such enactment can also be thought of as an activity that works towards social and political cognitive development.

But how can the prefiguration of a social role present a connection with video games as simulations? We can answer this by providing an analogy, starting with Plato's example. Just as a child who, by riding a horse (or other similar activities), demonstrates his predisposition to be a warrior, similarly and even more specifically, an individual performing actions within a combat-based simulation may be able to better identify which role is best suited to them with respect to a certain type of scenario, environment, or battlefield. This predisposition, however, does not depend exclusively on internal psychological or social qualities already perfectly deployed and fully formed in the player. Rather, it depends on the intensity, on the type of ludic interaction and, on the genre of the game involved. And here too, just as

with imaginary worlds, interactions and simulated contents are not identical; therefore, they do not all produce the same effects in terms of action performed internally or externally. In this context, there are numerous combat games that try and highlight the emulative nature of a specific action within more plausible military contexts. Here we list a few examples that represents the three main scenarios—land, sea and air—each associated with different military role models. For a land-based modelling game, consider *Battlezone* (1980), the first FPS wargame with vector graphics set on a highly stylised war battlefield: the player controlling a tank identifies enemy tanks that must be destroyed through radar. As regards a war reenactment scenario set at sea, consider *Submarine Commander* (1982). In this title game the player controls a submarine equipped with sonar and a periscope. The objective is to sink enemy ships that appear on the surface of the sea. Some of these ships are armed and can attack the submarine, which cannot remain underwater for too long. For an aerial warfare virtualization scenario, consider flight simulation games like *Interceptor* (1975), *Knights of the Sky* (1991), or the *Ace Combat* saga. These titles feature aerial combat simulation, where the player pilots an aircraft and manages the flight phases: from takeoff to landing, complete with altimeter, speed, and the pilot's view. The goal is to shoot down aircraft or hit ground targets.

These examples serve to illustrate that, while all video game simulations vary, and war-themed ones in particular exhibit distinct forms, simulated actions may reveal inclinations and specific abilities that could be useful in warfare: quick reflexes, tactical skills, strategic thinking, camouflage skills, patience, etc. Likewise, an individual uninterested in combat-themed games may not be predisposed to becoming a soldier. In short, what is important to consider is that simulated actions can help the user have a preliminary understanding of the specific role to assume within the most plausible combat context, also based on the physical, mental, or strategic capabilities of the player themselves. In this regard, these aspects can also be examined through quantitative analyses: by studying a person's age, social background, or occupation in real life, we can understand a lot about their predisposition to certain types of roles, such as socializer, killer, achiever or explorer (Jurczyk-Romanowska and Zakowicz 2019). The video game simulation examples we have listed are largely indicative. However, as we will

explain in the next section, some titles, by rendering the simulated experience even more realistic and immersive—for example, through the implementation of Virtual Reality (VR) headsets—would allow for a more precise differentiation of the roles a player (future soldier) might assume directly in a combat scenario.

Finally, when we speak of simulation as a predisposition to a role, we are not referring here to what Roger Caillois called *mimicry*, which consists of the activity of pretending to be someone or something else, assuming their appearance or imitating their behavior for a limited time, as occurs in animals and insects that employ mimetic techniques. The category of *mimicry*, where the subject projects or creates an identity beyond themselves—a notion especially applied in RPGs—may prove too narrow and lacking in dynamics. This framework is insufficient for conceiving playful performativity as a revelation of one's abilities aimed at discovering a distinct role; and indeed, this discourse ultimately corresponds to the way in which video games achieve epistemological and applicative legitimacy in gamification.

4. Wargames Between Training and Recruitment

In this section, we will not focus on the nature of video games as artistic and simulation-based systems, or more generally on games as potential objects endowed with specific ontological structures; rather, we will attempt to think about video games in terms of their usability and applicability. In this regard, discussing the use of interactive games necessarily prompts us to reflect on the notion of gamification. Gamification refers to the implementation, use or deployment of game imaginary, mechanisms, practices and techniques within spheres, contexts, and fields that are external to simulation itself. Although gamification does not have a defined theoretical and epistemological framework, its applications primarily relate to performative action: these strategies are typically employed in business contexts, marketing, and microeconomics, but they can also be applied in other disciplinary fields, such as education, sport, art, medicine, and indeed the military. Therefore, gamification is not the video game as such, but the performative transposition of play outside its ludic context. Gamification works toward

breaking the *Magic Circle* (Consalvo 2009), the realm that normatively confines action solely within the game world; in other words, gamification thus renders playful action no longer para-intentional, but fully intentional. In this section, we will attempt to understand to what extent the imaginary horizon and the simulative predisposition to role-playing that characterize wargames can be used for military purposes and socio-political objectives, thus demonstrating how a certain pragmatic orientation is inscribed in video games. To explain how this occurs, we refer to two deeply intertwined dimensions: training and recruitment. As we will demonstrate, each of these intersects with the themes of both the imaginary and the simulation.

1. Training. From a historical point of view, simulation has long been used for training, including in the military domain. Although rudimentary, simulation played a central role in pilot training as early as the 1960s (Page 2000). Subsequently, starting in the 1980s, thanks to the construction of the first virtual reality (VR) devices, simulation training advanced to a new stage and was also used by government organizations interested in space missions such as NASA. In this framework, to improve and better understand how VR emulation can aid training, researchers can study pilots' cognitive processes by examining structural aspects of human-machine interaction (Wang 2023).[4] It could also be added that the use of VR devices not only offers economic advantages (e.g., reducing costs during the initial flight drills phase for novice pilots) but could also help determine whether an individual is fit to a certain mission; that is, whether they are physically and cognitively prepared to fulfil a specific military role. This discussion of immersive modelling would also allow for better management and focus on the issue of role suitability. For example, an individual interested in a certain type of combat dynamics, but suffering from vertigo during an immersive training environment, is unlikely to qualify as a pilot; likewise, someone who fears water in the practice environment is unlikely to be placed in a maritime aircraft.

4 In this regard, the main feature of VR-based simulation is no longer simply interaction, since interaction always involves interfaces that function as membranes or interludes, such as the screen, mouse, or keyboard. VR devices are immersive to the extent that they dissolve and break the interface membrane, fully projecting the user into the simulated world (Curcio and Di Bernardo, 2025: 12–14).

More recently within the reinforcement learning studies, fan-made projects on platforms like *SoulsGym* or on *Github*—focused on titles like *Dark Souls*—have shown how simulating experiences and combat styles can be used to train artificial intelligence systems (Csereoka et al. 2022). In this regard, it can be assumed that the use of artificial intelligence for military purposes may benefit from training based on data generated by expert wargame players.

More generally, training can be a key element in enhancing performances through team building. Consider, for example, when in 1996, US General Charles C. Krulak commissioned the creation of a digital game inspired by *Doom*, later titled *Marine Doom*. Modelled on *Doom*'s gameplay, *Marine Doom* project involved four soldiers connected to a LAN who had to complete a mission by destroying an enemy bunker. The goal of this video game was to improve soldiers' tactical problem-solving skills and assess their reaction in firefight. This example is particularly useful for understanding how team building in preparation not only fosters a sense of belonging to a group, team, or nation, but also enhances overall performance. In this regard, quantitative analysis research confirms that thanks to team building, players demonstrate a marked improvement in individual outcomes (Kovalčík et al. 2023).

2. Recruitment. Video games are also used in recruitment, particularly among younger people, for many of whom digital games, and especially wargames, are an integral part of their daily lives. To address the widespread disengagement of Western armies from warfare, gaming systems have been used for military intake since the 1990s. Consider not only the large-scale recruitment campaign "Be All You Can Be," which exploited technology and simulation for conscription-related purposes, but also the massive promotional campaign conducted through the multiplayer FPS *America's Army*, where the most technically skilled participants were directed to an online platform, encouraged to enlist, and eventually selected (Bjelajac and Filipović 2019: 138). More recently, personnel outreach has increasingly focused on the rise of e-sports. E-sports are global championships where top gamers compete individually or in team, providing spectators with both entertainment and spectacle. In 2017, the International Olympic Committee recognized e-sports as a full-fledged sporting activity. In

2019, the US Army created an official *Call of Duty* team composed entirely of military personnel known as *Goats of Glory*. During the same period, numerous live streams were launched on Twitch and YouTube with the aim of recruiting young people into e-sports.[5] It is important to emphasize that e-sports games are almost never single player, but always real-time multiplayer games, and most of these titles are wargames, which require a deep level of challenge and competition. Examples include *Counterstrike*, *Overwatch*, or *Call of Duty*. This is because, if the simulation seeks to be more realistic, consistent, and functional to a certain type of real combat, gamers must understand, know, and anticipate their opponents' moves, making operational choices that disrupt behavioural patterns, typical of NPCs. Finally, as Bjelajac and Filipović report, citing an article by Edward Snowden, online video games are often frequented by individuals affiliated with intelligence services who may conduct covert talent-scouting operations or even espionage (Bjelajac and Filipović 2019: 139).

Finally, it should be noted that, although in the recent history of the Western gaming industry, wargames have increasingly shifted their focus towards science fiction or representations simulating future or past wars, with the more specific aim of depoliticizing war (Robinson 2019), there are examples of wargames that also exploit the evocation of real-life imaginaries from the 20th century—politically charged with meaning—again, for enlistment purposes. Consider, for example, *Glorious Mission* (2011), a first-person shooter (FPS) video game developed in collaboration with the Chinese People's Liberation Army, designed for recruitment purposes, in which the protagonist moves and carries out missions within islands disputed between China and Japan, such as the Senkaku Islands. Outside of the Western context, it should be noted that the Russian Wagner group conducted a recruitment drive on social media to recruit young gamers for the remote control of combat drones in Ukraine.

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5 In response to this episode, numerous officials and political figures have expressed concerns. For instance, Alexandria Ocasio-Cortez stated in a 2020 Twitter post: "War is not a game. Twitch is a popular platform for children FAR under the age of military recruitment rules. We should not conflate military service with 'shoot-em-up' style games and contests".

In light of these two aspects we have explored, we can conclude that the common goal of training and recruitment is to cultivate a sense of competition spirit of rivalry that, if properly stimulated, sought, and nurtured, can impact performance. This competitive spirit emerges as a collective experience of an adrenaline among many multiplayer FPS gamers, can be better understood, for example, by focusing on intrinsic motivation—a crucial notion in gamification studies. In video games, as in wargames, the user always has a goal. This objective must carry value and meaning for the individual who is playing and performing: regardless of the type of moral content, the value-based form of intrinsic motivation can relate to existential concerns, moral ideals, faith, aspirations for justice, or deeply held convictions. Enhancing these values within the confines and rules imposed by the game designer would not only enable rewarding and fulfilling experiences for the player but also activate the deepest layers of intrinsic motivation: when players are internally motivated, they achieve goals more effectively, rapidly, and naturally, leading to improved performance. And in general, stimulating individual and collective competition can serve as a means to train or capture attention: by making physical or mental effort less pressing and less intense, training can become more enjoyable and even quicker; having the best gamers compete, even through the use of specific imaginary, can be an effective strategy for facilitating recruitment even in contexts only indirectly related to war (social media or e-sports events).

5. Conclusion. Warfare Gamification and its Ethical Issues

As outlined in the first two paragraphs, video games encompass both an imaginative and a simulative dimension. This dual nature also appears to be a specific characteristic of wargames, that is, those video games that, by simulating conflict or a competition, and by evoking a martial imaginary, enable players to discover the role best suited to them and to make choices. This definition is useful not only for more precisely establishing the nature of wargaming, but also for understanding how video games are employed in military context. It should be noted that the definition we provided at the outset—as an imaginary domain that

can influence action both within and beyond the game, and as a simulation of action that prepares individuals for specific roles in social life—emphasizes the practical, performative structures that each playful action produces even beyond the gaming sphere. The performative structures of the imaginary and simulation are also evident, in diverse and ancillary ways, in the gamified practices of military training and recruitment.

With regard to the use of video games in training and recruitment, we have not explored the numerous ethical and political implications arising from the widespread militarization of video games, which certainly deserve much more adequate treatment. Many scholars have criticized gamification, and more specifically the military application of video games, attributing to these practices an ideological and propagandistic significance. Gamification can also be defined as an "interactive domination" (Gorin 2022: 212) that, through a "manipulative design" (Parmer 2022), engineers human desire and carries out a form of cognitive colonization enacted through "edutainment" (Webley 2014). In this regard, politically, as Mathias Fuchs observes, gamification can be regarded of as the ideology of the 21st century (Fuchs 2014: 143–157).

According to some scholars, the use of video games beyond the ludic context can often be transformed into a direct or indirect exercise of violence. This exercise seems to work through spectacularization and the construction of the enemy; the former linked to the theme of simulated performance and the latter imaginary dimension. Regarding spectacularization, take the 2019 Christchurch terrorist attack in New Zealand as an example (Wiedlitzka and Lakhani 2022). In this episode, the terrorist had installed a camera on his helmet that live-streamed the killing of 51 people in real time online. Reproducing the classic FPS effect, this episode illustrates how performance through simulation can turn into the staging of violence. Spectacularization thus breaks the magic circle of video games that separates fiction from reality, implicitly encouraging individuals to engage in destructive behaviours and fostering the spread of violent acts. Another way propaganda strategy works is to construct the enemy as a monstrous figure that invades the imagination. Webley believes that the zombie symbolism works precisely in this direction (Webley 2015). Dehumanizing one's adversary means eliminating any form of empathy or recognition of otherness.

If the human being is portrayed as a being devoid of intentional and moral conscience, it becomes easier for a player—or a soldier—to kill anyone perceived to be outside the category of humanity. Indeed, the use of computer devices intensifies and amplifies this dehumanization to the extent that the soldier, just like an operator controlling a drone or using real-time remote technology, is not present when facing his enemy and must therefore rely on imagination. In doing so, the soldier may fail to recognize the opponent as human, instead perceiving them as a monster or a zombie.

Setting aside here the more explicitly ethical-political issues of gamification as propaganda, and thus the diverse use of video games as a cognitive-warfare tools, we limit our remarks to noting that studies on gamification often highlight the structural and performative characteristics of video games related to the imaginary and simulation.

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Between Perception and Action. On the Affective Experience of Ludic *Action-Images*

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Abstract

Digital games are actions. This is the premise of Alexander Galloway's media theory of digital games. He situates digital games in the tradition of the *action-image*, as conceptualized by Gilles Deleuze. The action-image, however, is not merely grounded in the execution of actions, but always situated in relation to perception and affect. What consequences arise from this triadic relation—between perception, affect, and action—for the audiovisual action-images of digital games? Thinking with Deleuze, action only emerges from the movement of perception transformed through affection. What does it mean, then, to situate digital games not only in the tradition of the action-image, but to take seriously the sensory-motor link which materially relates perception to action through affect? The first part of this chapter traces the significance of this coupling of perception, affect, and action regarding the specific mediality of digital games. The second part presents a concrete analytical study to explore the implications of these theoretical lines. Amusement park construction simulations like *RollerCoaster Tycoon* (1999) serve as paradigmatic sites for a media aesthetic theory of ludic perception, affect, and action. This paper interweaves an experience of executing actions in digital games, closely tied to algorithmic processes, with an affective experience of immediacy and presence.

Keywords

Action, affect, perception, experience, theme park, construction simulation, *wimmelbooks*, digital games

1. Introduction

With an influential premise, Alexander Galloway (2006: 2) situates digital games in the tradition of the action-image: "If photographs are images, and films are moving images, then *video games are actions*." This is the foundation for his media theory of digital games. For Deleuze (1986), the action-image is a variation of the cinematographic movement-image. Galloway, however, recognizes the action-image as an image type of video games which not only presents a different historical constellation of the movement-image but which rather results from a more fundamental relation to action. The execution of actions is no longer just part of a specific historical image type. Action itself becomes a fundamental condition of ludic images. Video games themselves are, in the strictest sense, actions. But the action-image, as Deleuze conceptualizes it, is never simply grounded in the execution of actions. Action itself is always situated in relation to perception and affect. The action-image, then, can only be fully understood within a continuous "flow from perception to action" (Mukherjee 2008: 232) that runs via embodied affection. This forms the point of departure for a media aesthetic theory of ludic images: What are the consequences of the triadic relation between perception, affect, and action in the case of the audiovisual action-images of digital games? What does it mean to situate digital games not only in the tradition of the action-image, but to take seriously the sensory-motor link which, in Deleuze's terms, materially relates perception to action through the bodily interval of affect?

Thinking with Deleuze, action only emerges from the movement of perception transformed through affection. The first part of this paper traces the significance of this coupling of perception, affect, and action for the mediality of digital games. The execution of ludic action is inextricably entwined with its simultaneous perception and affective experience. In gameplay, none of these can be understood as isolated elements (Rautzenberg 2020). Ludic action is always embedded in the temporal dynamics between the perception and embodied experience of that very action (Wiemer 2014; Bakels 2020).

The second part of this paper explores the implications of these theoretical lines with a concrete case study. A particularly interesting example for reflecting on the relationship between action and affect are amusement park construction simulations. Games like *RollerCoaster*

Tycoon (Chris Sawyer 1999) create subject positions through the interplay of two distinct modes of the ludic image: workstation-like interfaces and the bustling, colorful views of a theme park's landscape and rides. These two layers converge in the aesthetic experience of actual gameplay. Its temporal unfolding is structured by an oscillation between a mode of configurative construction and a mode of boundless spectacle that resembles the spatial dynamics seen in *wimmelbooks* with their elaborate worlds of almost infinite detail (see Rémi 2011). Amusement park simulations—from *RollerCoaster Tycoon* to its spiritual successor *Parkitect* (Texel Raptor 2018) or the *Planet Coaster* series (Frontier Developments, since 2016)—may serve as paradigmatic sites for a media aesthetic theory of ludic perception, affect, and action. In these games, an experience of acting that is closely tied to the abstract notion of algorithmic processes gets interwoven with an affective experience of movement.

2. Between Perception and Action

Following Alexander Galloway, digital games are based on the actual execution of actions. Or, as Britta Neitzel pointedly puts it: "A game has to be played in order to be a game. And it is only a game for as long as it is being played, otherwise it remains a set of rules or an instruction for action" (my translation, Neitzel 2008: 99).[1] Only the temporal interplay of human-machinic action gives rise to the actual appearance of a game in the unfolding of gameplay, shifting from mere instruction to actually executed action.

This temporal unfolding constitutes what Markus Rautzenberg (2020: 107), referring to Roman Ingarden, calls the "aesthetic object or aesthetic object-ness (*ästhetische Gegenständlichkeit*)" of digital games:

> "[I]t is not to be found at the level of images, not in narration, not in the degree of the violence depicted, but rather at the level of the *game*; *i. e. the game events*. Computer games, like all games, are not read or received like

1 Original passage: "Ein Spiel muss gespielt werden, um ein Spiel zu sein. Und es ist nur so lange Spiel, wie es gespielt wird, ansonsten verbleibt es ein Regelwerk oder eine Handlungsanweisung."

> a film, but are actively explored; they are handled plastically, and indeed they do not exist without this practical handling on the part of the player." (Rautzenberg 2020: 114)

The audiovisual action-image of digital games does not simply exist and then becomes a playful object for players. Rather, actual gameplay is always necessary for the production of these images. They are, in the strict sense outlined above, action-images. As Galloway emphasizes, the execution of actions is itself constitutive of the image; the image simply cannot be conceived without action. Outside of continuously performed gameplay, the game—i. e., what can meaningfully be called "the game"—has no existence. This is why Rautzenberg specifically speaks about the *object-ness* of digital games as originating from the active unfolding of gameplay.

Serjoscha Wiemer further develops these media aesthetic conditions with regard to the processes of bodily synchronization in the interplay between humans and machines that lie at the heart of actual gameplay. Wiemer views video games as technical processes producing genuinely ludic ways of perception and affection: "The video game should be conceptualized as a temporal process which is constituted by the entanglement of perceptions and actions, alongside specific relations of movements and (audiovisual) image-events, specific forms of rhythms, affectivity, and self-affectivity" (my translation, Wiemer 2014: 159).[2] Video games are aesthetic arrangements of a qualitative duration of perception, embodied affectivity, and executed action. In the process of creating and unfolding this duration, humans and machines are always intertwined. Their respective ways of acting are united in the temporality of actual gameplay; they do not only interface along preexisting audiovisual images. If that were the case, these audiovisual images would be strangely external to the processes that produce and shape them in the first place. Any game that is played and experienced does not first exist as an image. The image is rather already the product of a shared, indivisible process of creating it in gameplay.

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2 Original passage: "Das Videospiel wäre als ein zeitlicher Prozess zu konzipieren, für den die Verschränkung von Wahrnehmungen und Handlungen und damit einhergehend bestimmte Relationen von Bewegungen und (audiovisuellen) Bildereignissen, spezifische Formen von Rhythmen, Affizierungen und Selbst-Affizierungen konstitutiv sind."

It is precisely this media condition of genuine action-images—i. e., images which not only generate aesthetic arrangements of different actions but are themselves based on the execution of actions—which Alexander Galloway addresses in his theory of digital games. He grounds his observations in the indivisibility of human-machinic action: "The two types of action are ontologically the same. In fact, in much of gameplay, the two actions exist as a *unified, single phenomenon* [...]" (Galloway 2006: 5). Any given game only comes to appear as the unfolding of a course of action; it is the expression of precisely such a unified, single phenomenon of human-machinic action. But how are players and machines interwoven within this intimate coupling? What does it mean to execute and experience actions within a "flow from perception to action" which Souvik Mukherjee (2008: 232) raised as the necessary precondition for understanding the action-image?

This precondition of the aesthetic experience of perceiving and acting in digital games can be further elaborated with a short summary of Gilles Deleuze's conception of the movement-image. My aim here is not to provide a complete reconstruction of Deleuze's film theory—which would go far beyond the scope of this contribution—but rather to summarize and revisit some of the key points concerning the inner structure of the movement-image, insofar as they are relevant for the exploration of genuinely ludic action-images.

Following Henri Bergson (see 1991), Deleuze understands the relationship between perception and action as linked through affection. In *Cinema 1* (see Deleuze 1986: 61–66), he defines affect as situated in a necessary temporal interval between perception and action. Deleuze assumes an initial virtual state of the universe, in which pure movement of matter runs uninterrupted. It is a state of "flowing-matter" with "no point of anchorage nor centre of reference" (Deleuze 1986: 57). Within this flow of pure movement, "this acentred universe where everything reacts on everything else" (Deleuze 1986: 61), specific concentrations of matter appear that form an interval between pure reception and pure execution of movement. These material centers do not simply pass received movements on by executing involuntary, immediate reactions. They represent bodies that can be called "living images or matters," or simply, "[l]iving beings" (Deleuze 1986: 61), which possess the crucial capacity to introduce unforeseen, new and voluntary actions into the flow of material movement. Living beings

embody a subjective position from which they do not simply react but execute actions based on concrete perceptions. They are "centres of indetermination" (Deleuze 1986: 62) within the flow of a continuous, immediate translation of movements. This indetermination is central for Deleuze's material conception of subjectivity. Here lies the unique capacity to introduce something not preconditioned by the mere material flow of movement.

On the one hand, the material center frames the pure reception of movement according to the interests and necessities of a subjective position. It becomes "perception strictly speaking" (Deleuze 1986: 64).[3] On the other hand, mere material reaction is replaced by a "delayed reaction" and the living material center gains the ability for "organising an unexpected response"—it becomes "capable of acting" (Deleuze 1986: 64). Living beings frame movements as concrete perceptions according to the interests of a subjective position and transform these movements into executed actions. Not by directly forwarding a received, embodied movement into an executed reaction, but by delaying the movement and generating a new, unpredictable movement (in contrast to, say, purely material reactions which could theoretically be deduced from physical forces). Between perception and action, the center of indetermination is structured by a temporal interval that interrupts, or delays, the immediacy of pure reaction: "In fact, perception is only one side of the gap, and action is the other side. [...] All this amounts to recalling that all perception is primarily sensory-motor" (Deleuze 1986: 64).

But what happens in the interval? What is the link between perception and action? Perceived movement does not simply pass through living matter, and it is not temporally detached from executed action. Instead, movement attains the qualitative duration of a "lived state" (Deleuze 1986: 65) in which it is embodied as affect. This embodied, qualitative duration of affection presents a "way in which the subject perceives itself, or rather experiences itself or feels itself 'from the inside'" (Deleuze 1986: 65). Affection describes the virtuality of a movement not translated into an immediate motor actualization. Instead,

3 Deleuze (1986: 64) calls this act of framing, which is always a subtraction of the perceived, the "first avatar of the movement-image: [...] *perception-image*." Consequently, the sensory-motor link to action constitutes the action-image and the qualitative duration of expressive movement constitutes the affection-image, as detailed in the following.

the virtual expressivity of movement is retained in the movement of embodied affect:

> "[T]he movement of translation is not merely interrupted in its direct propagation by an interval which allocates on the one hand the received movement, and on the other the executed movement, and which might make them in a sense incommensurable. Between the two there is affection which re-establishes the relation. But, it is precisely in affection that the movement ceases to be that of translation in order to become movement of expression, that is to say quality, simple tendency stirring up an immobile element." (Deleuze 1986: 66)

It is precisely in this affective duration that the essential indetermination of subjectivity arises. After perception and action, this constitutes the crucial "third material aspect of subjectivity" (Deleuze 1986: 65). The triadic relation between perception, affect, and action marks the situatedness of a body which is not merely a receptive and reactive surface but also a living body that inhabits a specifically subjectivized position of perceiving, feeling, and acting in the world.

Two central points should be emphasized here: firstly, the material relation between perceived movement, executed action, and affective experience can only be conceptualized as a temporal dynamic. And secondly, the basis for the formation of subjectivity lies precisely in this temporal interrelation of perception, affect, and action. Mukherjee's (2008: 232) remark that action must always be situated within the "flow from perception to action" already hints at this temporality of the aesthetic experience of playing. And at the same time, the triadic relationship reveals a specific form of aesthetic subjectivity that arises through this experience. The perception of the temporally unfolding images of digital games and the actions that continuously produce these images are part of the same material continuity of movement. My perceptions, my embodied experience and my actions are always materially intertwined with the movements of a technical apparatus. The position I experience as my subjective position of perceiving, feeling, and acting in digital games is always also materially resulting from the movements of an algorithmic machine that become part of these subjectivized perceptions, affects, and actions. This forms the basis of the "*unified, single phenomenon*" of human-machinic action in digital games (Galloway 2006: 5). The two sides are always already materially interwoven once actual gameplay is taking place.

Just as aesthetic subjectivity in cinema is related to the expressive dynamics of audiovisual images, in digital games, it is the forms of an algorithmic activity that materially affect my own perception and action in playing. In this vein, Jan-Hendrik Bakels (2020: 91) proposes "auto-affectivity" as a specific mode of experience in digital games to emphasize the fact that players themselves are always involved in shaping the modes of their own aesthetic experience towards "a playful exploration of subjectivity itself." Analytically, the unfolding of a given gameplay experience cannot be reconstructed merely through represented image elements or overarching narrative sequences, to paraphrase Rautzenberg's plea for situating the aesthetic *object-ness* of digital games in practical game events here. Instead, the aesthetic experience of actually playing a game must be derived from experiences of executing actions and consequently from the modes of perception and affection that are always part of this aesthetic experience of playing.

The ludic action-image can be conceptualized as the site where these relations take form as a given aesthetic object. It forms the nexus where the execution of ludic action and the experience of this very execution come together as the continuous temporal unfolding of the action-image. Consequently, any reflection on ludic action-images will be productive only when it accounts for actual gameplay, that is, when it deals with the actual aesthetic *object-ness* of a given game as it comes to appear in the unfolding of actions.[4] Which experiences of subjectivity are found, then, in a video game like *RollerCoaster Tycoon* that positions players in the seemingly abstract role of building and managing an amusement park? Which forms of experience that structure this subjective position arise from the specific composition of the game's audiovisual action-images?

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4 For a methodological framework that further elaborates on this analytical perspective, see Bakels et al. (2024). A more extensive theoretical engagement with these arguments will be published in my forthcoming book on the media aesthetics of digital games (Dolkemeyer forthcoming).

3. *RollerCoaster Tycoon:* Constructing an Amusement Park

In 1994, *Theme Park* (Bullfrog Productions) established a general model for the layout of amusement park construction simulations.[5] But it was *RollerCoaster Tycoon* in 1999 that refined the parameters of this layout into an arrangement that had a lasting influence on the history of amusement park simulations. It will therefore serve here as a detailed example of the general aesthetic principles of amusement park construction simulations.[6]

The image spaces of *Theme Park*, *RollerCoaster Tycoon* and their successors—games like the direct homage *Parkitect* (Texel Raptor 2018) or the widely successful *Planet Coaster* series (Frontier Developments, since 2016)—are generally structured by two interrelated modes of the ludic action-image. In *RollerCoaster Tycoon*, configurative interface elements frame the top and bottom of the image, either offering information about the current state of the park or options to open different windows that enable the main gameplay actions of management and construction. In the image center, between these interface elements, a territorial high-angle view of the park landscape dominates the screen. It shows the park in a colorful isometric perspective, presenting the movements of rides and guests in the low resolution of an image that is, as such, independent of the interfaces framing it and the various configurative windows opening in front of it during gameplay.

In his seminal work on the "scopic regime" of strategy games, Serjoscha Wiemer (2012) similarly analyzes two distinct modes of the ludic image. Within a broad definition that encompasses military strategy games as well as resource management games and tactical shooters, Wiemer (2012: 87) identifies an "oscillation between the logic of the map and the territory, between smooth and striated space, between the disembodied gaze and subjected agency." What Wiemer describes

5 Strictly speaking, I prefer the term "amusement park simulation" over "theme park simulation", because the theming of rides and park sections is not mandatory in most of these construction simulation games. It is perfectly possible to build a park without themed environments in *RollerCoaster Tycoon*, for example. On the definition and differentiation of these terms within the field of theme park studies, see introductions in Lukas (2008) or Freitag et al. (2023).

6 Péter Kristóf Makai (2020) examines other ways of mediating amusement parks throughout the broader history of amusement park video games.

here as an opposition of gaze and agency, disembodied abstraction and a situated subject position, points to the underlying constellation of perception and action in strategy gameplay. He recognizes the interface as the site for analyzing the oscillation of these aspects of gameplay. The disembodied gaze of a freely moving virtual camera and the subjected agency of configurative interfaces, abstracted maps, or informational overlays are constantly linked in the unfolding of gameplay. Together, they constitute different aspects or facets of perceiving and acting in strategy games. While Wiemer's interest lies primarily in analyzing military strategy games, his insights into the aesthetic analysis of respective games via aesthetic interface arrangements hold true for construction simulations as well. Which specific oscillation, then, between the configurative interface on the one hand and a territorial view on the other structures the gameplay of *RollerCoaster Tycoon*?

As mentioned above, the image of *RollerCoaster Tycoon* is divided into three main areas throughout the entirety of the game: slim interface bars at the top and bottom of the screen framing an isometric view of the park in the center (see Figure 1). The interface elements at the bottom of the screen provide information about the amusement park's current state, e.g., the number of guests, the park rating value, or important messages concerning recent events. The bar at the top of the screen offers the different essential actions for building and managing the park. Here, a row of light-grey square icons grouped into four categories is set against a red background. The four groups of icons provide, from left to right: the general gameplay settings, options to adjust the camera and the view of the park, tools for shaping the terrain as well as building paths and attractions, and, furthest to the right, several management overviews over the park's finances, the research department, the current guests, or the park's staff (see Figure 1).

The gameplay consists of different scenarios with various starting conditions. While the first scenario, *Forest Frontiers*, simply presents a flat, tree-lined meadow, other scenarios feature challenging landscapes or parks already in operation but in dire need of improvement. The fundamental composition of the interface and gameplay actions, however, remains the same throughout all scenarios.[7] Players build a park

7 Even the direct successor, *RollerCoaster Tycoon 2* (Chris Sawyer, 2002), only makes small changes to this layout. And while it proved to be even more influential than

Figure 1: The general layout of the image in RollerCoaster Tycoon*, first scenario* Forest Frontiers.

by constructing rollercoasters and other rides, planning paths, placing food stalls and decorative objects, all while keeping track of finances and the park rating.

Although this rating, like other indicators in the game, is essentially a numerical value and can be assessed as such, the state of the park is also always directly visible as a quality of the moving image. Are rides filled with guests? Are people queuing or do they wander around aimlessly? Are there clusters of intense audiovisual micro-movements in the most important areas of the park? Is the soundtrack filled with the excited screams of happy guests and the noise of a crowded park? All of these aspects combine to form the composition of an audiovisual image, the perception of which is, in turn, directly linked to the actions of evaluating, improving, and expanding the park. The player's gaze constantly shifts between the opening and closing of interface

the first game—being played in different updated versions like the open-source re-implementation *OpenRCT2* (OpenRCT2 Team, 2014) until today—it was initially panned by reviewers for a seeming lack of innovation.

windows displaying tables and numbers representing the park's operations on the one hand, and the audiovisual movement within the park view as an expression of the park's current state in changing qualities of aesthetic experience on the other. Perceiving an amusement park as a dynamic constellation of audiovisual expressivity is related to the active modification of the numerical parameters, the processes, and the layout of elements within this park through an experience of varying audiovisual intensities. Configuring the layouts of rides and paths, the pricing of food stalls, or the coverage of parts of the park with mechanics and caretakers is inseparable from the varying qualities of movement that are a direct result of these acts of construction and configuration.

The interplay between a mode of configurative action and the qualities of a continuously moving image are already present in the aesthetic composition of the interface elements. The layout of the icons presented in the top interface bar is strikingly reminiscent of the headings in most everyday work software. The groups of icons mentioned above could well be categorized, from left to right, under titles like *File*, *View*, *Edit*, and *Options*. Without having to spell this out directly, the game references the use and appearance of configurative interface elements in work contexts. *RollerCoaster Tycoon* creates an image here whose basic constellation points to a work environment of performing configurative operations in software. Similarly, the windows that can be opened to manage individual rides, adjust the basic parameters of the park, or keep track of finances and research, appear as windows familiar from desktop applications. Their headers each contain a small "x" in the right corner to close a respective window and the position and size of each window on screen can be adjusted by clicking and dragging its borders.

However, these icons and windows do not simply present a direct translation of work application aesthetics into the game environment. On the one hand, the icons in the top interface bar are not simply literal reappearances of dropdown menus under headings like *File* or *Edit*. On the other hand, they present highly stylized icons without any text labels. Their bright color palette and low-resolution graphics—displaying, e.g., large coins to represent the financial overview or the shape of a human eye to represent the view options—refer much more to the visual style of the isometric landscape in the image center than to a plane of abstract software operations. Here, on this basic level of the interface, an oscillation between the two modes of the image described

by Wiemer is already at play. The isometric landscape and its visual appearance are inscribed into the interface's general appearance; the experiences of a disembodied gaze and a subjected position of configuration, construction, and management already blend into one another in the most basic composition of the game's interfaces.

The same applies to the appearance of the overlaying windows. While their formal structure may be reminiscent of many common desktop applications, their differently colored backgrounds and their tendency to be opened and closed by players in quick succession and be moved around the screen rapidly in order to see important areas of the landscape in the background likewise integrates the visual mode of busy movements and colorful variation associated with the amusement park landscape into the sphere of the interface windows.

Wiemer's notion of a continuous oscillation between different modes of the strategy image already indicates the temporality at play in the specific relation between perception, affection, and action in *RollerCoaster Tycoon*. Executing actions of management and construction always already entails modes of perception that belong to a different sphere or a different facet of the ludic image. Conversely, an experience of getting lost in the myriad details of the independent movements of guests and rides always relates back to the actions that enable these movements in the first place, by adjusting and expanding a park in which the numerical values of guest happiness and ride intensity, among others, are constantly fine-tuned. In the aesthetic experience of gameplay, these two modes cannot be separated. They form the end points of a constant oscillation. On one level, the workstation-like interface of multiple overlapping, interlinked windows and abstracted symbols organizes a space of configurative action. The amusement park is presented as a business through numbers, tables, and construction tools, all of which can be interpreted, calculated or manipulated to operate the park. On another level, this configurative and mathematical—or, strictly speaking, algorithmic—mode of action is always directed towards a layer beyond the interface: the bustling, colorful view of the park's landscape and rides. Configurative action directed at changing numerical values continuously translates into increased movements of guests and rollercoasters, more laughter and excited screams on the soundtrack, in short: an intensified field of audiovisual dynamics unfolding in time.

This oscillation between configurative construction and boundless play resembles a distinctly ludic form of the spatial dynamics seen in *wimmelbooks*. Their aesthetic mode is instructive for the specific gameplay experience in amusement park construction simulations like *RollerCoaster Tycoon*.

4. The *Wimmel-Image* as a Mode of the Ludic Action-Image

The partially German term *wimmelbook* is difficult to translate and widely used in English to describe a certain type of densely detailed picture book, sometimes also referred to as hidden object books, such as the popular series starting with *Where's Wally?* (Handford 1987). The German verb *wimmeln* could be roughly translated as *teeming*, *swarming*, or *crawling/bustling with*. It describes a quality of movement that is, at first, difficult to reconcile with the still images of a picture book. In German, the term *Wimmelbild* (*wimmel*-image) in this sense is also used independently of picture books to describe a kind of pictorial quality that combines an impression of movement arising from overflowing details with a carefully arranged still image composition. Cornelia Rémi (2018) traces its tradition as far back as to the famous paintings of Hieronymus Bosch.

In contrast to the hidden object book or search book, the *wimmelbook*, strictly speaking, is characterized by a "visual overabundance on the one hand and a lack of explicit reading instructions on the other," creating a decentered and nonlinear view of parallel scenes that "appear to be equally important" (Rémi 2018: 159). The images of the *wimmelbook* consist of "'pluriscenic' landscapes composed of various scenes" (Rémi 2011: 118) that do not present a clear objective like in a hidden object book.[8] They rather create an experience of "spontaneous, unstructured playfulness" (Rémi 2011: 133). The pure *wimmelbook*—i. e., without hidden figures and a search quest—does not challenge view-

8 Rémi is quoting Jens Thiele (2000: 59) here, who speaks of "the pluriscenic image" with regard to the *wimmelbooks* of German artist Ali Mitgutsch (my translation, original: "Das pluriszenische Bild").

ers to achieve a desired outcome. Instead, the playfulness of the *wimmel*-image in these books becomes an end in itself: "[…] the challenge is to prolongate the book experience and create a potentially endless, joyful reading activity" (Rémi 2011: 134). The *wimmel*-image presents a configuration of omnidirectional movement in pluriscenic compositions without center, without a linear development of single, ordered narratives or overarching goals. Instead, the image itself assumes the quality of a boundlessness that translates to a reading/viewing experience of being decentered, of losing the orientation provided by determined spatiotemporal positions and trajectories.

Wiemer's (2012: 87) notion of an oscillation "between disembodied gaze and subjected agency" hints at exactly this experience. And while Wiemer is referring to strategy games more broadly, this experience comes to the fore in construction simulation games that are focused on creating and enjoying a plane of colorful movement in the form of an amusement park. *RollerCoaster Tycoon* and its various direct and indirect successors create an experience in which I feel myself losing the feeling for an embodied position in relation to a world structured by a pluriscenic multitude of scenes, movements, figures. At the same time, I am executing precisely planned actions of management and construction that generate the very audiovisual images in which I am engulfed. The gameplay of *RollerCoaster Tycoon* is structured by the experience of this interplay: exploring the audiovisuality of a detailed landscape with its innumerable scenes of micro-movement for the sake of exploration itself—and executing ludic actions that are never only performed in order to improve numerical values but rather always directed at a playful engagement with the movements of an amusement park as well in order to create and enjoy breathtakingly thrilling rollercoasters filled with screaming guests. The gameplay actions in *RollerCoaster Tycoon* are related to the playfulness inherent in expanding the plane of audiovisual movements for the sheer pleasure of perceiving and experiencing these movements.

While the configurative actions in *RollerCoaster Tycoon* are performed in overlaying interface windows, even these windows ultimately become part of an overarching figuration of boundless audiovisuality, as indicated above. They, too, multiply and their different colors and sizes form an ever-changing composition on screen the elements of which are in constant movement. Windows are opened and closed and

rapidly dragged across the screen to make the park's landscape visible in the background—just to then open another window, perform another configurative action, switch back and forth between the territorial view and configuration, and so on and so on. The ludic action-image in *RollerCoaster Tycoon* is a never-ending composition of opening, closing, moving configurative windows and turning, zooming, shifting, and—simply and most importantly—enjoying the territorial view of an amusement park behind and between these interface elements.

The image composition in *RollerCoaster Tycoon*, in other words, produces action-images as *wimmel*-images. When the park is actually built and operated in gameplay, the game presents—within the boundaries of its highly structured, tiled interface—an image that is increasingly filled with guests and rides, with balloons and entertainers in animal costumes, with paths and stalls and decorations. Function—i.e., the smooth operation of rides, paths, workers, finances—is directly translated into increasing or decreasing forms of audiovisual movement. More guests, more rides, more income and less downtime due to repairs means more movement of rollercoasters under full operation, more movement of guests in the park. Or simply, more movement *within* an image which is, as an *action-image*, at the same time directed at the operations of management and construction that generate this image. The action-image as *wimmel*-image in amusement park construction simulations highlights the irreducible interweaving of perception, affective experience, and action. Neither of these facets of a continuously unfolding image could be isolated without losing sight of the actual experience of playing.

5. Experiencing a Video Game Theme Park

Which experience of acting does *RollerCoaster Tycoon* ultimately generate in these two oscillating image modes? What do we perceive, feel and do when we play the game? The specifically ludic mode of the *wimmel*-image generates a quality of experiencing the ludic action-image which is not solely directed at successfully completing economic goals by manipulating algorithmic processes. Much like in *wimmel-books*, the pleasure of playing *RollerCoaster Tycoon* cannot simply be

traced back to performing well in terms of numerical values. Otherwise, most scenarios in the game could be completed without much effort after internalizing some of the basic calculations running in the background.

However, the pleasure of the *wimmel*-image, as noted above (see Rémi 2011: 134), lies precisely in the prolongation of a playful aesthetic experience itself. Finishing a scenario in *RollerCoaster Tycoon* as fast as possible by completing the given scenario's—usually rather simple—abstract goals only leads to the end of gameplay. Winning the game, strictly speaking, runs counter to enjoying the aesthetic experience of the amusement park's carefully constructed and continuously expanded *wimmel*-images. Practices of speedrunning may, in their own right, present an interesting experience, of course. But a specific aesthetic pleasure of *RollerCoaster Tycoon* lies in its appropriation of the *wimmel*-image as a mode of experiencing an overwhelming feeling of joy associated with getting lost in an amusement park, watching rollercoasters rush past along their tracks, being engulfed in the myriad pluriscenic configurations of movement.

This experience of being engulfed in a field of independent scenes and micro-movements is enabled, of all things, by continuously modifying the movement of data and numbers. The game's sphere of ludic action is directed at constructing and improving an amusement park, but it cannot be separated from the audiovisual intensities of the park's expressivity in the center of the screen. Interpreting the financial tables or calculating the exact course of a rollercoaster under construction is meaningful only in its relation to a feeling of being joyfully absorbed in the uncentered movement-image which results from these actions as well as it continuously informs them in turn. The ludic action-image itself as the site of specific arrangements of perception, embodied affection, and action presents the foundation as well as the focal point for this joyful experience, perceived and executed at once in the temporal unfolding of gameplay.

The forms of perception and executed action in *RollerCoaster Tycoon* are only meaningful when seen through the embodied affectivity that arises between them as facets of the continuous relation Mukherjee (2008) identifies as the flow at the heart of the action-image. Constructing the amusement park means experiencing a state of subjective decentering that is closely linked to an experience of riding a roller-

coaster or of getting lost in the attractions and bustle of an amusement park—while at the same time, the coordinates of this experience are configured through actions executed in interfaces whose integrity as surfaces of algorithmic control already tends to blur through their multiplication and colorfully changing arrangements on screen.

Through this lens, *RollerCoaster Tycoon* can be interpreted as the expression of a historical moment shortly before the turn of the millennium, before the burst of the dot-com-bubble and before a spirit of optimism regarding algorithmic technologies had turned into a growing skepticism towards its promises of freedom. *RollerCoaster Tycoon*, for its part, presents a deeply algorithmic world that is at once still holding this promise of freedom, of creating an experience of unbounded movement through the parameters and configurations of an algorithmic machine. Playing the game means appropriating algorithmic action and creating something with it that remains one step away from mere usefulness and economic efficiency and is rather directed at the affective experience of pure playfulness.

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The Ass We Remember: The Transformative Function of Ludic Imagining

Michael Deckard and Charles Fox

lumen requirunt lumine
—Sedulius, *A solis ortus cardine*

Abstract

The challenge of (ludic) images concerns their meaning. Two forms of images emerge: the mythical image and the memory-image. If we value mythic images because their ethical underpinnings shape our present actions, then we must ask: how do we transform that which we can only imagine into applicable human behavior? In this paper, we look at the ass and the underworld from Aristophanes' *Frogs* to *Silent Hill 2*, *Au Hasard Balthazar* and *The Banshees of Inisherin* to a 2025 Superbowl ad—and we ask how to respond, knowing what has come before? Our contention is that we learn by playing, whether in reading, playing games, or watching films/commercials, etc. *Ludic imagining* is the process by which we take the mythical image and we *play with it* by remembering it. It is not a process of polemics or agonistics. In the act of playing with the past, we can only remember the image, not as it existed before us, but as a memory-image—an image contorted and thus ridiculous. When mythic images become memory-images, their ghostly presence haunt who we become.

Keywords

Aristophanes, *Au Hasard Balthazar*, memory-image, mythic image, *The Banshees of Inisherin, Silent Hill 2*, videoludic

1. Into the Underworld

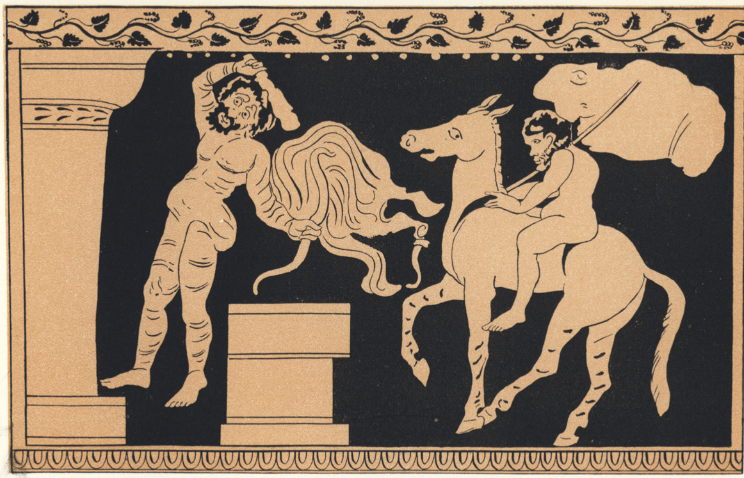

Figure 1: Bacchus and Xanthias. Illustration for Stories from the Greek Comedians by Alfred J Church (Seeley, 1893). Illustrations "after the antique". Credit: Look and Learn

Imagine a simple ancient scene: Dionysus (dressed as Heracles) and his slave, Xanthius, are on the edge of the underworld (see Figure 1). The slave, weighed down by belongings, is riding a donkey. Why is the slave riding the donkey and not the other way around? "Well then," Dionysus says to Xanthius, "this load you're carrying, the *donkey's* carrying that?" (Aristophanes 1997: line 27) Is this a way to begin a comedy? Why not Apuleius' *Golden Ass*, Shakespeare's *Midsummer Night's Dream*, *Shrek*, where the donkey is voiced by Eddie Murphy, or *EO* (2022), the Cannes 2022 Jury prize winner? Why not focus on a cockroach instead of a donkey, if one wants to be serious? Does the donkey *carry* meaning or is it just a metaphor? Does imagining this scene of Dionysus and Xanthius bring about metaphorical meaning in a way that we have not seen before? (Ricœur 1977)[1] The question of carrying a weight comedically through an image in which Dionysus asks Xanthias, "How can

1 See Ricœur (1977: 22): "should we not say that metaphor destroys an order only to invent a new one?"

you be carrying it [the weight] when something else is carrying *you*?" (Aristophanes 1997: line 29) is part and parcel of how the memory-image and mythical image connect. After this very brief scene, Xanthius gets off the donkey and we do not see the donkey again.

Donkeys and asses are funny. They are also tragic. The reason this scene initiates us into a form of ludic images is rather because Dionysus brings in *the mythical image*, the ass, for which viewers may hold preconceived symbolic understanding, which they then re-conceive conceptually, transforming it from a *mythical image* into something new—*the memory-image*. Current filmmakers and game designers do this all the time, usually unwittingly. One of the first ludic images of an ass, of which we have just spoken, occurs in Aristophanes' play, *Frogs*, performed in 405 BC. Two main issues were represented in this ancient play: how to save Athens (from tyranny) and how to save tragedy as an art form. (Aristophanes 1997: 1) Thus, we can already call this image political and aesthetic. In Sommerstein's words, "It is impossible to understand *Frogs* without appreciating that this was the shadow that hung over spectators, performers, and author alike" (Aristophanes 1997: 5). Since tragedy, particularly in the plays of Sophocles and Euripides, was seen as keeping the city alive, there was need for a new vision or author—a new image.[2] Dionysus, the divine patron of tragedy, needed to be conjured for there to be hope that the city continue. The story of *Frogs* then "had ample mythical precedents": a "*descent to Hades*" and the "*resurrection* of great men of the past." (Aristophanes 1997: 9) In order to ascend, whether in a city or in art, one must first descend. This enigmatic imaging is rather preposterous except through narrative means where the descent becomes a transformation. The spectators, performers, and author recreate that which is lost to refigure the image of a *just city* and a *beautiful art*. No comedy had ever before been set in Hades.[3]

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2 See Sommerstein's comment: "The art [tragedy] which had risen as Athenian power and glory rose appeared to be falling as Athens languished." (Aristophanes, 1997: 9).

3 Aristophanes (1997: 10). See also Sallis (2008: 4), who plays with the image of the cave in Plato's *Republic*. Sommerstein describes the burlesque qualities of Dionysus, who Xanthias describes as only good for "boozing and bonking." (Aristophanes; 1997: line 740).

2. Ludic Images

The challenge of (ludic) images concerns their meaning. As Ricœur points out, we often perceive metaphors as holding dual functions: "Metaphor will therefore have a unique *structure* but two *functions*: a rhetorical function and a poetic function" (Ricœur 1977: 12, emphases in the original). But this seems to elide other possible functions, such as *comedy* or *play*. Because Ricœur's definition of poetics limits "the art of composing poems, principally [to] tragic poems," we should consider how an audience remembers the underlying mythical implications of an image especially when that image is in a comedic scene. If we value mythic images because their ethical underpinnings shape our present feelings and actions, then we must ask: how is it that we transform that which we can only imagine into applicable human behavior?

Our contention is that we learn by playing. Playing is not polemical by nature. Whereas traditionally philosophy required polemics and agonistics, playing does not require one to take sides.[4] *Ludic imagining* is the process by which we take the *external* image—the mythical image, for example, which holds the collective and expansive meanings ascribed by tradition, societies, familial structures, etc.—and we *play with it.* We *internalize* (so to speak) through our imagining, taking it out of its context, twisting and confounding it to make it our own. It is not a process of polemics or agonistics. In the act of playing with the past, we can only remember the image, not as it existed before us, but as a memory-image—an image contorted and thus ridiculous.

When we consider the mythic image, several questions as to their source and use come to mind. Despite some recent criticisms of Carl Jung's concept of the collective unconscious, such as lack of empirical evidence or the tendency to over-interpret the significance of an image,

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4 See Huizinga (1950: 156) where he writes, "All knowledge—and this naturally includes philosophy—is polemical by nature, and polemics cannot be divorced from agonistics. Epochs in which great new treasures of the mind come to light are generally epochs of violent controversy. Such was the 17th century, when Natural Science underwent a glorious efflorescence coinciding with the weakening of authority and antiquity, and the decay of faith. Everything is taking up new positions; camps and factions fill the scene. You have to be for Descartes or against him, for or against Newton…" See also Gadamer (1989) for the ontological basis of play.

Jungian mythical archetypes can be a helpful model for better understanding the ways in which we remember and apply those mythical images in our everyday life. Whereas we may hold cultural, literary, or religious images as iconic, their significance is always already external to our perceptions of them. Their significance is beyond our ken because their significance is created collectively in the traditions and beliefs of others. When we first perceive a mythic image, our understanding of that image can be shaped by several experiential factors: context and milieu, emotional and conceptual notions, and/or physical and psychological forces. We can articulate other factors, but the point is this—experiencing a mythical image requires us to be aware that the image holds significance and meaning beyond our perceptions. It requires us to think, feel, and respond as others have already before. This does not diminish the mythic image's value or use; instead, what this implies is that the mythic image is dormant for us. In order for the mythic image to be brought to life for us, in order for it to be useful in understanding our relevance and connection to the world in which we live and its other inhabitants, we must transform the 'external' mythic image into an 'internal' memory-image. The catalyst for this transformative process is in our conception of the ludic image.

Mythic images are excessive. They have more than they bear. When viewers experience an image, they interact with it in a conversation of sorts. Taking up Ricœur's distinction mentioned above regarding the two functions of metaphor, the poetic and the rhetorical, we'd like to interpret in at least two ways. The poetic stands for the rescue of tragedy, play, and art. The rhetorical stands for the city, technique, eloquence.[5] But in the single image, such as that from Aristophanes' *Frogs*, the poetic and rhetorical functions may work together. To experience an image, then, is to see it reciprocally with "true intersubjectivity and reciprocity" (Hanaway-Oakley 2017: 9). We assert that when we see images (and ourselves) as others see images (and ourselves), we combine within play the poetic and the rhetorical (Hanaway-Oakley 2017: 13).[6] In this conversation between self and others, to see images requires that

5 See Ricœur (1977: 9–12), specifically where he writes, "The old Sicilian definition 'Rhetoric is the master of persuasion' (*peithous demiurgos*) reminds us that rhetoric was added to natural eloquence as a 'technique,' but that this technique is rooted in a spontaneous creativity." (10)

6 She is quoting Merleau-Ponty's *Phenomenology of Perception* here.

we are creating a relationship of subject and object that includes self and other. The fact then that images are excessive requires "not merely the too much but a strange reversal" (Sá Cavalcante Schuback 2020: 18). Unlike mythic images, memory-images, on the other hand, give shape and definition to our personal understanding of self, agency, and actions. For Heidegger, the self is contained within a "coming to itself, of being toward a being-toward, of being the potentiality-of-being" (Sá Cavalcante Schuback 2020: 40). But these seeming 'existents' do not really exist. "The only ones that could exist as the potentiality-of-being, those who could be *the* coming-to-be" (Sá Cavalcante Schuback 2020: 41). This strange reversal (of memory and myth) is at the heart of our analysis of the excess of images.

Because we write here of the past, even in the present, the images that come to bear on that past are in the present (Sá Cavalcante Schuback 2020: 24). Memory *remembers* the past, in tension with the present, as Sá Cavalcante Schuback tells us. But memory does not perceive, since its subject is absent. To slow down a thought into its separable images means that remembering what was just or always present, but how does this past come into the present through images? "The past has a present absence insofar as it leaves traces" (Sá Cavalcante Schuback 2020: 24). Memory, though, can create images in making something of the past present. What is real and what is false in this act of making the past present? It is not memory itself that this remembers, but an act (call it of the soul) since there is as much blocked as received. "Memory is understood either as what reveals the present or what covers it over" (Sá Cavalcante Schuback 2020: 26). Let us now explain this process through games and film.

3. Playing as a Character in a Video Game

The game begins in fog. If one moves the left hand, it turns James to the left or right up or down. If one moves the right hand, the joystick moves a camera over a lonely figure through a mountainous and forested abandoned landscape and town. The two joysticks converge as if first and third person are the same. You are James, but you are not James. You can choose light, moderate, or heavy difficulty. But the map

tells you where you are. Sometimes it helps, sometimes you have to get lost. There are puzzles, tricks, characters. It is both film-like and game-like. It combines the narrative and gaming aspects along with horror. As one enters the world of *Silent Hill 2*, one can quickly differentiate it from a game like *Resident Evil* where the horror images are all too sudden (see Figure 2). You have now entered the metaphor of games and of the underworld. *Is play a metaphor?*

Of course, *Silent Hill 2* is not an imitation of any of the tragedies, let alone comedies (such as Aristophanes' *Frogs*) we have spoken of, but it does take up a mythical understanding of the underworld. "*Silent Hill* is devised to be more psychological in nature, more about character and atmosphere, intending to convey a tone of dread, anxiety, and helplessness" (Perron 2012: 2). It is a horror game intended to give one chills (see Play Station 2024). According to Perron, "Torben Grodal has introduced two metaphors that perfectly elucidate this difference in video gameplay. In order to sum up the two poles in the game experience, poles that demarcate the experience of a newcomer from one who has mastered a game, versus gameplay experienced primarily as mimesis or as art (or as a program we might add), Grodal differentiates the 'game as an experiential route' and 'the game as a map and as a system'" (Perron 2012: 3, referring to Grodal 2003: 144).[7]

Game makers may allow players to design characters whose physical or intellectual abilities will be tested within the spatial construct of the game. Even if our choices for character construction are limited, when we play, we become the motivating force behind all of that character's actions. Whereas for video games our play is always binary—our choices either lead us to the next objective or results in our demise—for films and other forms of literary interactions, our participatory play takes a different form. Understanding and applying the meaning behind the actions may require that viewers "play" with the remembered image. Sometimes, in this sense, to play with an image means making things up. If we say, "his actions can be interpreted in so many different ways," what we're acknowledging is the function behind ludic imagining, which we can describe as our willingness to be participatory, to be playful and spontaneous, and to open our creative intuitions. Even

7 Perron 2018 uses the term "videoludic" for games such as *Silent Hill* that were once called "survival horror." Thanks to Ethan Goins for introducing us to this game.

Figure 2: Pyramid Head from Silent Hill 2

though we realize that filmic characters perform predefined and restrictive actions set out by the script and the director's vision,[8] each time we remember a scene, we remember it differently from what it was and differently from how we remembered it before. Ascribing meaning to the onscreen actions of characters in a film is the direct result of our ludic imaginings.

4. Playing with Ghosts

Once remembered, the image can only be believed. Our memories are notoriously imprecise. When we recount certain events, we often inject details that did not happen into these experienced events; we construct conversations that confirm our personal biases; we invent responses that are over-loaded with emotions that were not evident or intended. Memory-images are inherently unreliable, yet they are critical in determining how we imbue meaning to those events we have

8 as well as the constancy of an eternal return in the repeated viewings of the same DVD

experienced, and then correspondingly, how we experience what is yet to come in our lives. When we realize just how fallacious our memories are, we might experience a nihilistic rush of anxiety, or we may look to dark comedy to alleviate and to ease our way. The image of the donkey in Aristophanes and the "videoludic" in games such as *Silent Hill 2* is excessive in that it is a beast of burden or a play with horror—it carries the combined weight of the rider/player and his burden; and it is the conveyor of peace and humility, it is resilient and stubborn. These images resurrect ghosts.

When we think of image as a function rather than a static object, we can understand how the descent into Hades holds mythic affect. The descent into Hades, or hell, or purgatory (or some other afterlife separation from the world of our lived experience) has been used in many stories, and yet we each hold our own account and signification for the event mythologized and remembered. Generally, we speak of ludic images as being images mediated by video games, cgi, or animation; these images are metaphors, caricatures, and simulacrum; they are mathematical functions in an uncanny valley; they are not static images, but constantly changing and transforming to our active response.

When we know the story of Dionysus and Xanthius, and then we see or experience other similar images, it is the memories we hold that shape, intentionally or not, what we understand about the new. Although the details of a scene may not be accurate, it is the responsive actions of the characters inhabiting those scenes that we are more likely to remember as the truth of the image.

5. From Playing as a Character to Playing with the Character—Applying Ludic Imagining to Film

While we began with Aristophanes' comedy-tragedy above, and then used a game, now we will pose this same question to film: How does "playing with the image" transform our conceptions about the meaning of the image, and how does it shape our lived experience?

Au Hasard Balthazar

The film is the world, and this world is filled by the character of the donkey. The humans are the extras even if the plot seems to revolve around them and not Balthazar. In Jacques Rancière's *Le destin des images* (*The Future of the Image*), he takes this one film as an exemplar of the image *par excellence*.[9] Why this film? One of the reasons, Rancière states, is because "it has light in itself, while the cinematic image derives it from an external source." (2019: 2) Bresson himself said that he named the film after one of the three magi (Bresson 1966). He also says that it resembles the Tramp in Chaplin's early films. How can a character be both a magi and a tramp? Of course, it is not that you can trust everything the director says about a film, because watching the film should speak for itself. But you can learn from how the director thinks of it—and why he may have thought about it in a certain way. As Rancière writes, "By examining how a certain idea of fate and a certain idea of the image are tied up in the apocalyptic discourses of today's cultural climate, I would like to pose the following question: are we in fact referring to a simple, univocal reality?" (2019: 1) Rancière here builds on his earlier work to develop a theory of images regarding our current cultural climate. Not all images are simulacrum, as Baudrillard might have thought. He does not exactly even speak to the indiscernibility between an AI-produced image and a "real" image. In fact, the way in which fate and image are connected magnificently reveal or realize the way in which mythical images and memory-images collide—which is precisely what connects us to the real.

Rancière's view is an entire critique of virtual reality. What does the image represent? The ass we remember. "Through the rhetorical play of telescoped, independent propositions, it passes itself off as more than a tautology by identifying the general properties of universals with the characteristics of a technical device." (2019: 2) This is a brilliant way of telling us that the poetic and the rhetorical aspects of the image are both the same and different (as in his teacher, Ricœur). The technical and the aesthetic cannot exactly be the same, but neither are they wholly other. The light that is projected requires another source, what we term (and

9 That being said, he does compare the film to the television show, *Questions pour un champion*.

not Rancière) the mythical. This is truly about light requiring light, as the epigraph above says. Or, in Rancière's terms, the Same is the contrary to the Other (*le Même est le contraire de l'Autre*). But the crucial aspect of Bresson's magi, the ass, as well as all of the images "remains unchanged, whether we see the reels projected in a cinema, or through a cassette or disc on our television screen, or a video projection" (2019: 3).

In his analysis, Rancière develops a sophisticated theory of the 'ludic' image in which he both works from and differentiates himself from other theorists such as Adorno, Badiou, Bergson, and Deleuze: "Bresson's 'images' are not a donkey, two children and an adult. Nor are they simply the technique of close-ups and the camera movements or dissolves that enlarge them. They are operations that couple and uncouple the visible and its signification or speech and its effect, which create and frustrate expectations" (Rancière 2019: 4–5). Rancière's genius lies in how he views this film in that which creates and frustrates expectations in its ludicracy or lunacy. For our view, we add to Rancière the play element: what the viewer finds in a cinematic or televisual image combines the memory-image with mythical images in a form of play. This means that for our reading behind every image are not only the individual memories that combine in making an interpretation of the

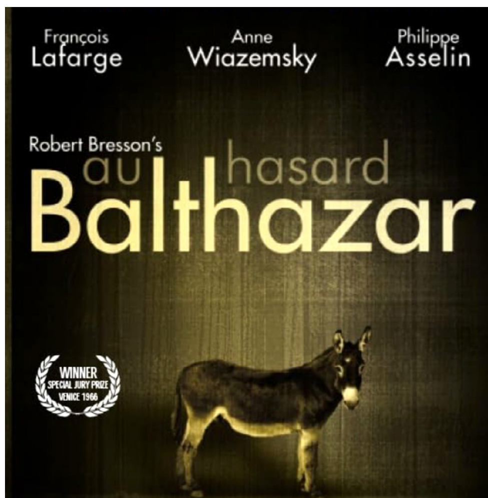

Figure 3: Au Hasard Balthazar

image but also a working if not playing *sub specie ludie* from a 'mythic' background that is part of the cultural water, so to speak. In viewing a donkey, there are fewer more ludicrous images than the ass and thus every image is an image of the whole, magi and Charlie Chaplin in one.

Bresson describes the image of the donkey in *Au Hasard Balthazar* as representative of two schemes, similar in function to Ricœur's metaphors (see Figure 3). He states:

> "The donkey takes the same steps in life that man does. That is to say: childhood (caresses); maturity (work, talent, the genius/brilliance of midlife); and then the mystical period that comes before death. Second scheme, which overlaps then with this one and becomes a part of it: the trajectory of this donkey that happens upon different groups representing the vices of humanity, from which they suffer and die." (Bresson 2013: 145)

For Ricœur, the metaphoric dual functions are poetic and rhetoric, and in *Au Hasard Balthazar,* Bresson's schemes functions to show the poetics of life, including the "mystical period that comes before death" and the rhetorical aspects of vice and its ill effects on other creatures. Further, we can see this as another echo of the dilemma with which Aristophanes presents us: art versus a just and civil society. Poetry and art can coexist with civil society, but as Aristophanes shows us in *Frogs,* to co-exist we must descend into Hades in order to return transformed. Watch this film and you will see. This is the transformative power of the audience's ability to play with the mythic image (the poetic) as it enters our memory, where it then exerts a persuasive force (rhetorically) upon our actions.

6. The Ad is a Play on the Film

Between the first and second quarters of the 2025 Superbowl, Squarespace[10] bought time to air their ad, "A Tale as Old as Websites" (Squarespace 2025a). There were two ads in this series, the first of which is a direct reference to *The Banshees of Inisherin*. For those of us who had seen the film, we recognized the ludic imagining of the ad-makers in extending the folkloric and mythic elements of the film. We recognize

10 A virtual space for designing, building and hosting a website.

the characters (though the donkey in the ad was portrayed by another donkey actor, Don Mosley, not Jenny). Barry Keogahn, dressed as Dominic, rides through the small, 1920s Irish village, tossing laptops like newspapers to the villagers. The laptop always lands open, to a page advertising each villager's trade or skill. It's a ridiculous, anachronistic image, and it ends in a way that fully transcends reality. Keogahn and the donkey ride to the edge of a cliff, and as he continues to narrate the tale as old as websites, they continue on, past the cliff's edge, walking on air, as if floating out and over the ocean (see Figure 4). A poetic ending, punctuated by a rhetorical claim—the final tagline assuring the viewer that despite what we see, "Websites are real." We do not need to know the movie to recognize mythic elements of these images, but remembering them as Dominic and Jenny, the two characters from *The Banshees* who died, then we may see this image of the two in an afterlife, and our ludic imaginations are activated.

Figure 4: Screenshot from "A Tale as Old as Websites"

Martin McDonagh's critically-acclaimed film, *The Banshees of Inisherin* (2022), re-unites Irish actors Brendan Gleeson (as Colm Doherty) with Colin Ferrell (as Pádraic Súilleabháin) from McDonagh's directorial debut, *In Bruges* (2008). *The Banshees* presents several mythical tropes which are transformed in our viewing: the characters embody archetypal images and the island of Inisherin represents a purgatorial holding space for characters who are confined by dullness and niceness. Because the film utilizes the narrative form of a black comedy, viewers are forced to play with the filmic imagery in a disarming way. To be disarmed doesn't mean that physical and emotional threats, as

well as the masochistic violence, are not still present; however, as viewers, when we remember the imagery as transformed by our ludicrous imaginations, we have set aside the weaponry that the violent images normally hold. Because we experience the violent events in the context of emphatic black humor, we are allowed to transform the mythic images into a memory-image that breaks down the traditional boundaries of sense and meaning. The ludic image reconfigures the preconceived themes and tropes of the old archetypes into safe, new, and playfully instructive memories.

We can start by exploring the affective response of viewers who have seen McDonagh's earlier film, *In Bruges.* In this film, the two actors portray two hitmen (Gleeson as Ken, Farell as Ray) who are hiding out in the Belgium city of Bruges after Ray accidently kills a young boy. Both films are dark comedies, filled with archetypal characters and classic tropes: *In Bruges*, there are the archetypes of lovers, mothers, despots, and clowns; and in *The Banshees,* we see Pádraic's "spinster sister" Siobhán (Kerry Condon), the "village idiot" Dominic (Barry Keoghan), and the loyal pet Jenny the donkey. Ken and Ray are like the gunslingers from the classical Hollywood westerns (see Ray 1985), whose friendship and shared sense of purpose develop as they join forces to fight against the immoral sheriff (the mob boss Harry Waters, portrayed by Ralph Fiennes). It is the depth and devotion of their relationship, as they fight to protect their community and each other from a psychopathic mobster, which makes *In Bruges* so well-received by critics and audiences alike. Having seen the two actors create a dedicated and caring friendship in the first film sets us up as viewers for thinking that when we see Brendan Gleeson and Colin Ferrell together onscreen, we believe their characters must care deeply for each other. *The Banshees* doesn't upend that assumption, but it makes us question how caring for each other, even (or maybe especially) in long relationships, can suddenly transform us into something unrecognizable. The onscreen friendship in *The Banshees*, for those who have also seen *In Bruges*, is a mythic image shaped by how we remember Ken and Ray. Whereas Ken and Ray's friendship moves toward trust and sacrifice, in *The Banshees,* Colm and Pádraic's friendship moves from a point of crisis—Colm dissolves his friendship with Pádraic without explanation—towards intentional violence and unresolved sacrifice. The mythic image of two friends, embodied in the actors Gleeson and

Ferrell, haunts our viewing of the two characters from Inisherin. If we have seen *In Bruges*, the rejection of Pádraic by Colm can seem especially hurtful because we remember the mythic quality of their earlier onscreen friendship.

The Banshees of Inisherin is set in 1923, near the end of the Irish Civil War. The isle is a fictional place, just off the main island, but close enough to the battles that the inhabitants of the isle can hear the sounds of war. Because they are separated from the conflict, and the inhabitants are not engaged in the fighting, they are like the inhabitants of a mythic purgatory—observers watching from the safety of stasis non-action; they are non-participants in the human affairs of 'civilized society' at war. The isle of Inisherin is a purgatorial space where the inhabitants spend their time working practical (nonartistic) jobs and then socializing at the pub. The pub owner Jonjo Devine (Pat Shortt) describes the inhabitants of the island as either "thinkers," like Colm and Siobhán, or as "one of life's good guys" like Pádraic. Escaping this purgatorial dullness of life on an island off the coast of Ireland is the motivating incident behind Colm's transformation, and Siobhán's eventual departure. For Colm the island community only offers a binary choice: thinkers and artists create, whereas the nice, dull, good guys waste their time chatting.

The film starts with Colm's rejection of Pádraic, which not only deeply hurts but also greatly confuses him. After a night of drinking and chatting with Dominic, Pádraic awakens to notice that it was April 2nd, the day after April Fool's. He thinks that Colm must have been joking the whole day, and so he tries to re-engage with him. When Colm responds brusquely to Pádraic's attempt to talk to him, Pádraic asks: "Do you think I have nothing better to do with my fecking time?" Colm replies, "You do have nothing better to do with your fecking time." He continues saying that he has written the first part of a song, that tomorrow he will write the second part, and then by Wednesday, "there will be a new song in the world, instead of listening to your bollocks." Colm recognizes the purgatorial dullness that life on Inisherin creates, and he has determined that to escape, to be remembered beyond this life, he must compose new music. He still exhibits brief moments of "niceness," as he tries to explain:

> "I have this sense of, tremendous sense of time slipping away from me, Pádraic, and I need to spend time thinking, writing, composing. Not aimlessly chatting. […] You spent two hours chatting about things you found in your donkey's shite, I timed it. None of it helps me."

Pádraic leaves Colm further confused, now questioning whether it is better to be nice or selfishly creative. Their friendship remains strained, even after Colm shows a brief moment of kindness and Pádraic confronts him again in the pub after drinking.

Throughout the film, Colm sees creating music as his escape from this purgatory. He is a fiddler who wants to complete his song, "The Banshees of Inisherin"; however, in a moment of rage, he tells Pádraic that he will cut off his own fingers if Pádraic doesn't leave him alone. Colm has become so desperate to escape this purgatory, he is willing to cut off his fingers—the means by which he creates. In this sense, his act of self-mutilation is his choosing a personal hell, a life without his music.

So, it is in the struggles and responses of the two men in *The Banshees* that we witness echoes from the mythic dilemma of *Frogs* or the videoludic gaming of *Silent Hill 2.* When we return to our original conception of the tragedy-comedy as pitting artistic expression against civility and social accord, we can assert that the two actors are emblematic of the poetic and the rhetorical: the image of Colm, an artist busy with creating a new song that will immortalize him (functioning as the poetic or tragic feature of metaphor), versus the rhetorical "nice guy" Pádraic who just wants simple, amiable conversation at the pub. In *The Banshees,* the resolution of this dilemma has deadly effect on the innocent animal Jenny. By setting this story in a purgatorial other world and utilizing black comedy to distance the viewer by making the horrors of violence ludicrous, McDonagh has enabled viewers to reconfigure mythical images of human struggle into images we cannot forget. By engaging the images, transforming them in our memories into metaphors that shape our actions in lived experience, we become the answer to how we react differently to those with whom we have close relationships.

Jenny and Dominic

Pádraic is hurt badly by Colm's rejection, and turns to his sister for comfort, to Dominic for conversation, and to Jenny for companionship. As the feud between the Pádraic and Colm intensifies, Jenny appears in increasingly more ridiculous places. She becomes more than a barnyard animal and is seen entering Pádraic and Siobhán's house whenever she pleases; she eats food from their table, and she sleeps by the fireplace like a family pet. She becomes a constant companion, an innocent and loving creature whose friendly affections for Pádraic stands in for Colm's friendship. At one point, Siobhán chides Pádraic for allowing Jenny in the house, and he replies, "I am not putting my donkey outside when I'm sad." (see Figure 5).

Figure 5: Screenshot from The Banshees of Inisherin

As we begin to view Jenny as a member of the family, the ridiculousness of her donkey-ness falls away. In biblical imagery, the donkey is a creature of servitude and humility; sometimes donkeys are portrayed in mythic imagery as stubborn beasts of burden, and sometimes they are naïve beasts suffering from the beastly treatment of humans. In *The Banshees,* Jenny can be seen as a mirror to Pádraic's simplistic view of 'being nice' as well as Dominic's naïve innocence. After Colm follows through on his threat to cut off his fingers, he throws them at

Pádraic's door, which results in the death of Jenny, who chokes on the discarded fingers. She is the casualty of Colm's sadistic stubbornness, and her death is the catalyst for Pádraic's violent reaction. As too often the case, an escalation of warring sides results in the deaths of the innocent ones.

Although it is not clear whether Dominic is murdered or has committed suicide, he, too, is a collateral victim of unexplained violence. We see the effects of his father's physical abuse in the bruises, scrapes, and cuts on his face, and we sense the emotional toll this abuse produces in Keoghan's embodiment of Dominic. When Pádraic drunkenly confronts Colm and Peader (Dominic's father), listing the three things he hates: police, pudgy-fingered fiddle players, and a third thing which he forgets. Mrs. McCormick suggests a third thing to hate—a death by suicide in cold water. Each time she appears, the villagers avoid her; but in this scene she is the banshee of Irish folklore, foretelling of an impending death. Pádraic continues his attack on Colm and Peader, saying aloud what the whole village knows: "So, you'd rather be friends with this *fella,* would ya? A fella who beats his own son black and blue every night he's not fiddling with him." Dominic is taken aback, and can only answer, "I never told him that, Daddy! He's just drunk now!"

We see Dominic again three times: he comes to Pádraic's the next day to warn him that his father will be looking to kill him on Sunday; he proposes to Siobhán shortly before she leaves for the main island; and then his body is found floating in the lake. We see him differently in these last two conversations—in part, we see how he has been changed by the events between Colm and Pádraic, and we have been changed in our empathetic response to the revelation of the extent of his victimization. Instead of the brash and dim-witted young man who has been barred from the pub, we see him in retrospect as a child victim of repeated traumas. We can understand why he acts as he does, but even more so, we see in his last conversations (separately) with Pádraic and Siobhán that he is the only one on the island able to clearly articulate what's at stake for each of them. We are left finally with the image of Dominic's body being pulled from the cold waters with the hook and pole he has carried with him throughout. We remember him as the last nice guy in Inisherin.

7. Postlude

Barry and Mosley (Squarespace 2025b)—the second ad featuring the two actors. Dressed in the same costume as the previous ad, now Keoghan and Mosley are inside a small home. Keoghan plays the ad, "A Tale as Old as Websites," on his laptop while Mosley watches over his shoulder. Barry Keoghan and Don Mosley now portray "themselves" building a website on Squarespace to promote donkeyactor Don Mosley, after his success in their Superbowl ad. *Barry and Mosley* is completely self-aware—a meta play-on the previous ad. The makers of this advertisement for a website design application show us that websites are real. It's another ludic image, extended, multi-layered, and self-aware. Whereas the first ad is poetic, the second is rhetorical. Taken together, the two ads re-enforce our assertion that mythic images become memory-images, reminding us in their ghostly haunting how we can be present in the real.

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Appealing Avatars as ‘Ludic Images’ in Computer Games and the Metaverse: Seen Through the Lens of Miyö Van Stenis’s Virtual Reality Game *Eroticissima*

Pamela C. Scorzin

Abstract

This chapter employs an interdisciplinary methodology to investigate the concept of the ‘ludic image’ as an effective dynamic and interactive playful component within digital gaming and metaverse environments. Originating from the Latin term *ludus* (play), the ‘ludic image’ advances beyond static visual representations by incorporating player agency, affordance, systemic regulations, and real-time responsiveness. The focus is notably directed towards the digital avatar within the ludic image spectrum, which functions as a nexus for player identity, social interaction, digital intimacy, and emotional involvement within virtual spaces. Accordingly, the study emphasizes Miyö Van Stenis’s *Eroticissima* (2023–), a virtual reality game that redefines erotic content through diverse, inclusive, non-normative, and highly customizable hybrid avatars (HAVAS). These digital avatars, as dynamically evolving ludic images, challenge heteronormative stereotypes and conventional aesthetic standards in society, promoting playful exploration of body, beauty, gender, sexuality, and digital privacy. By integrating artistic expression with social critique, *Eroticissima* establishes a ‘safe virtual space’ for performative identity experimentation, leveraging the ambiguity and digital performativity intrinsic to the ludic image to stimulate critical reflection. Furthermore, in contrast, the paper considers broader implications, including the objectification and hyper-sexualization of digital avatars in commercial gaming, ethical and moral considerations related to digital privacy, and the influence of algorithms and technological systems in shaping virtual interactions and digital intimacy in contemporary contexts. Through this analysis, the study highlights the role of the digital avatar as a ‘potent’ transformative instrument for reimagining digital embodiment, social connectivity, and narrative within modern digital culture.

Keywords

Ludic image, digital avatar, erotic computer game, game culture, digital intimacy, Miyö Van Stenis, metaverse, mixed realities, VR game

1. Preliminaries: Digital Avatars as Ludic Images

Within the evolving discourse of computer game culture and metaverse experiences, the concept of the 'ludic image' serves as a crucial analytical instrument to examine the experiential and interactive dimensions innate in digital play, which evoke participatory involvement, entangled engagement, and emotional responses. The 'ludic image' in digital gameplay transcends traditional concepts of visual representation and semiotic signs. Unlike static images, a dynamic ludic image is intrinsically connected to the act of playing, shaped by players' agency, systemic rules, and the continuous, process-oriented development of the digital game universe. The term 'ludic' itself originates from the Latin *ludus*, meaning 'play' or 'game.' In the domain of game studies, it highlights the characteristics of a system or experience linked to programmed rules, scripted challenges, player engagement, incorporation and immersion, often contrasted with the presumed predominantly 'narrative' elements. Consequently, a 'ludic image' is not merely a visual element within a digital game environment, but a potentially powerful interactive and impactful image endowed with prospects for play—an animated or moving image that encourages and facilitates interaction, any kind of responses and reactions, decision-making, and consequences within the framework of a computer game's rules. Drawing upon Vilém Flusser's media philosophy, which regards technical images as visualizations of information that invite interpretation and manipulation, the ludic image may be regarded as a real-time, rule-bound activity, an 'algorithmic spectacle' (Fizek 2022) that has the potential to evoke emotional resonance and deep engagement. It is not a static aesthetic representation but rather a dynamically generated visualization that responds to player input and its underlying computational logic. This distinguishes it from, for example, a still image in a film or a painting, which are primarily designed for passive reception,

although they may be classified as interactive on a psychological spectrum. Moreover, the real-time, inherently interactive ludic image is profoundly connected to the 'ludic subject' (Vella 2015), the embodied presence and incorporated agency of the player within the game world. The ludic image is perceived through the player's perspective, whether it is a first-person view, an avatar's representation, or a strategic overview. This subject-positioning is vital, as the meaning and function of the image are continually negotiated through the player's actions and the resulting consequences. Several key characteristics and effective functions define the nature of the ludic image in games or other interactive technological devices, including VR, AR, MR, or game apps for handheld devices: A ludic image within the realms of art, design, gaming culture, and computer graphics is predominantly dynamic and processual, characterized by (simulated) movement or animation; it evolves and responds solely through user interaction. This procedural dynamism manifests through various forms, ranging from direct manipulation of digital artifacts and digital avatars within the computer game environment to modifications of the virtual surroundings based on player decisions. For example, the visual depiction of a character's emotional indicator fluctuating in response to stimuli, or an environment transforming following a player-initiated event, exemplifies the plasticity and malleability characteristically inherent in the ludic image. Its rule-governed dynamism ensures that the ludic image remains perpetually active, functioning as a surface upon which the player's actions are immediately inscribed and experienced. Furthermore, interactive ludic images are intrinsically functional, serving purposes beyond mere illustration or aesthetic appeal; at the same time, they effectively communicate essential information regarding the game's mechanics, algorithmic rules, and inherent possibilities. Typical examples of these sorts of operational images within computer games include digital icons and artifacts indicating available actions, visual cues such as changes in light or color signifying puzzle solutions, and the spatial arrangement of levels suggesting particular movement patterns. Their audiovisual form is fundamentally connected to the underlying ruleset and programmed algorithms, which guide the player's understanding of potential actions and the functioning of the computer game, all while immersing the player emotionally in the process of a digital-scenographic world-building.

The concept of 'ludic narrative,' as some scholars have described it (Game Design Strategies 2013), arises from this dynamic operationality or proceduralism (Grabbe 2023), where narrative is conveyed not solely through explicit, linear plot points but also via the dynamic unfolding of interactive gameplay and the player's psychological as well as physical engagement, and participatory involvement with the game's multimodal interface systems. While rule-bound and real-time, interactive ludic images often possess a degree of ambiguity, fostering emergent gameplay and following interpretation. The precise outcomes of an action may not be immediately evident from visual feedback and may even appear random, thus encouraging active experimentation and continual discovery as well as cognitive processes afterward. This phenomenon is particularly evident in computer games with intricate technical systems and game mechanics, wherein visual representations may imply profound, unpredictable interactions and elicit vital emotional reactions. Moreover, ambiguity can enhance the concept of 'storysense' (Tadhg Kelly, cited in Game Design Strategies 2013), whereby the game hints at a compelling narrative or theme without explicitly presenting it, thus enabling the player to construct meaning, understanding, or derive enjoyment through interactions with visual elements such as individualized digital avatars. Additionally, ludic images significantly contribute to the immersive and incorporative quality of computer games—psychologically in screen-based games and by augmenting (embodied) immersion in mixed reality (MR) experiences with digital avatars through the *Body Ownership Illusion* (BOI), as emphasized by Lars Grabbe citing Mel Slater: "Seeing the virtual body from the first-person perspective is already a cue to the brain that it is the person's actual body, thus providing an illusion towards this effect. The illusion is enhanced if further multisensory feedback is applied" (Slater 2017: 21). Our physical bodies can engage with computer games in complex and fascinating ways, with effects like the so-called 'proteus effect' or the 'phantom touch': The latter refers to the sensation of touch experienced in virtual reality (VR) without any real physical contact or haptic feedback. It's a phenomenon where users perceive tactile and haptic sensations, like tingling or being touched, in VR environments, even when there's no real-world interaction. This illusion is of interest to researchers because it suggests that our perception of touch isn't solely based on physical input but also involves internal

body representations and multisensory integration, which can further trigger emotional responses in the biological body. Through the interconnection of visual focus on screens, auditory perception via speakers, and physical interaction with interfaces, we wholly engage with games that utilize all our senses. However, as Brendan Keogh asserts in *A Play of Bodies*, this bodily engagement and technological integration are mutually influential; as we physically interact with the computer game, it reciprocates by engaging our senses further, thereby enhancing the sensory experience through which we perceive (Keogh 2018). Through audiovisual design, body ownership illusions, and immediate interactive feedback, digital avatars functioning as ludic images not only serve as aestheticized representations and extensions of identity but also cultivate a profound sense of bodily presence within the virtual environment, thereby eliciting genuine emotional responses.

These digital gaming environments nowadays span from highly realistic, photorealistic graphics aimed at simulating real-world spaces to abstract audiovisual, four-dimensional designs that evoke particular moods or playful challenges, as well as non-linear or linear narratives-based adventures. The player's perception of the 'ludic space' is influenced by these programmed components, which are intended not solely for observation but for experiential engagement and playful action. Furthermore, ludic images possess substantial semiotic potential, serving as signs that communicate meaning and significance across various levels within digital environments. Even non-aesthetic elements of the game, such as algorithmic rules and seemingly minor interactions, can function as signs. For instance, a 'jump' action may not merely be an animation but a signifier of mobility, obstacle navigation, or a specific character ability like strength and agility, with its meaning varying based on context and interpretation. This semiotic richness permits deep mental engagement and repeated play, as users continually uncover new layers of meaning within the visual landscape. Consequently, the functions of the ludic image are diverse and vital to the overall gaming experience. However, a primary function of the interactive ludic image remains to direct and inform player actions, thereby fostering an environment conducive to playful interactions—what may be regarded as 'ludic space as a safe environment', as will be discussed further.

Utilizing visual hierarchy, color coding, or dynamic feedback, the computer game effectively communicates its affordances and limita-

tions. This approach enables players to make informed decisions and facilitates their evolutionary progress. Consequently, ludic images are vital in constructing the imagined space of the game, as well as in promoting its capability for alternative world-building. Whether it involves a sprawling open world, a digital bar, or a forum for musical festivals, the visual design delineates the boundaries, atmosphere, and cultural identity of the game environment. The spatial configuration of its program is not merely aesthetic but also fundamentally functional, establishing the context for challenges and opportunities for exploration and interaction. In this setting, the ludic image consistently provides feedback to the player regarding the current state of playful interactions and evolving narratives. This encompasses immediate visual responses to player actions (e.g., an enemy flinching upon being hit), visual indicators of progress (e.g., a power-up meter filling), and representations of player status (e.g., character health or emotional state). Such an ongoing feedback loop is vital for fostering player understanding and active engagement, enabling them to adapt their strategies and subsequent actions, as well as to perceive the consequences of their choices and decisions. Although distinct from traditional (linear) narrative structures, interactive ludic images make a significant contribution to the complex storytelling and thematic development of the processual computer game. Consequently, the aesthetic attributes of ludic images are crucial in shaping the active engagement and emotional experience of the player. Through elements such as art style and fashion, lighting, color palette, and visual effects, computer games can evoke a broad spectrum of emotional responses, ranging from tension and fear to joy and wonder. This emotive function enhances the overall immersive quality and emotional impact of the computer game. Therefore, the visual and auditory representation of the player's avatar or selected character design constitutes a fundamental ludic image. This specific moving digital image allows players to identify with their in-game persona, fostering a special sense of embodiment and agency within the virtual world (Vella 2015). The selections and choices players make in customizing their playful avatars, and the way these interactive avatars are visually depicted responding to their actions, primarily deepen this emotional connection. Therefore, the ludic image in computer game culture and in the metaverses is a crucial dynamic and multifaceted conceptual design interface that extends beyond mere visual represen-

tation and decorative aesthetics. It is an interactive, operational, and semiotically rich real-time component that is inextricably linked to the act of play (cf. Grabbe 2023). Its characteristics, including incorporation, interactivity, configurability, operationality, ambiguity, immersion, and semiotic richness, among others, emphasize its fundamental role in shaping players' experiences and emotional responses while gaming. Functions such as intuitive guidance of actions, the construction of comprehensive, open game worlds, instant feedback communication, compelling narrative expression, emotional elicitation, and facilitation of player identification collectively underscore the central significance of the ludic image within the contemporary medium of multiplayer computer games.

Understanding the compelling digital avatar within the context of ludic imagery offers clear insight into how it facilitates bodily responses and triggers genuine emotions—particularly in erotic computer games, as will be further discussed. The digital avatar, primarily serving as a controllable representation of a player and recognized as a fundamental component within the spectrum of ludic imagery in game studies, exemplifies a quintessential 'ludic image' in today's immersive environments of contemporary computer game culture and the evolving metaverse. More than a mere visual depiction or semiotic marker, the digital avatar functions as a dynamic interface—acting as a nexus of player agency, systemic algorithmic directives, and emergent narratives, which are continuously created and redefined through interactions within a gaming community. Derived from the Sanskrit term 'avatāra,' meaning the 'descent' of a deity from a higher realm into terrestrial form, the term 'avatar' in computing was popularized by Richard Garriott in the 1985 game *Ultima IV: Quest of the Avatar*. It was intended that the player's character would serve as a (prosthetic and representative) extension of their actual self within the virtual environment. Within the spectrum of ludic images, an avatar is not merely a static graphic or animated sign but an interactive representation primarily incorporating player agency and affordance. Consequently, the digital avatar in computer games functions as the primary point of interaction between the player and the digital environment, effectively bridging physical and virtual realities. Through the controllable in-game avatar, players can execute specific actions, make limited decisions, and perceive the immediate consequences of those

decisions. The avatar's appearance—such as its gender or non-gender expression—capabilities, skills, and permitted actions are governed by the rules of the technical system and game mechanics of the underlying platform. Its audio-visual representation significantly communicates its operational potential. For example, an avatar armed with a sword signifies combat proficiency, which may inadvertently reinforce gender stereotypes and clichés rooted in real-world perceptions. Nonetheless, the digital avatar functions as a 'vicarious embodiment' (Klevjer 2006) for the individual player, facilitating the projection of a personal sense of self into the digital environment. This encompasses more than merely control; it includes a sense of presence and ownership over the virtual body, constituting a 'prosthetic relationship' in which the avatar becomes an extension of the player's physical and mental self (Klevjer 2006). Furthermore, the status of the digital avatar as a ludic image is supported by several fundamental characteristics and functions beyond static representation. A notable feature of digital avatars, especially within modern computer games and the burgeoning metaverse, is the extensive degree of customization available to users. Participants are often permitted to modify visual features, clothing, accessories, as well as animations and auditory effects. This aesthetic versatility elevates the digital avatar as a ludic image to a medium and instrument for self-expression, allowing users to cultivate a digital persona that may reflect their real-world identity, forge an alternative self or an idealized version for virtual reality, or represent an entirely fantastical entity—an imaginative expression of the self that becomes somewhat 'materialized'. Such creative expressions enrich the 'ludic culture' while also enabling the development of new worlds, such as a 'safe virtual space' for experimenting with identities and gender. Unlike static profile images, which may also seek resonance and reactions from audiences, digital avatars as 'ludic' images in computer games and the metaverse are inherently dynamic and responsive. They can move, mimic, gesture, and react to player input and environmental stimuli. Their audio-visual states are continuously updated to reflect game mechanics (e.g., health bars, status effects, emotional levels) or social interactions (e.g., facial expressions, emotes). This ongoing real-time feedback reinforces the perception of 'reality' and the immediate consequences of player actions within the game world. The digital avatar functions as the fundamental

interface through which the player interacts with the virtual environment and other users, also highlighting the technical complexities and programmed entanglements involved. Through the avatar's perception—via its 'eyes' (first-person perspective) or in relation to its virtual body (third-person perspective)—the participant playfully perceives the digital environment and actively engages in a new process of digital world-building. Additionally, the digital avatar facilitates social interaction, enabling users to communicate, collaborate, or compete within the virtual space, which may subsequently influence real-world experiences. Its audio-visual presence in a shared digital environment is essential for establishing social presence and fostering meaningful engagement within a gaming community. Moreover, it serves as a significant instrument for identity formation within digital contexts through virtual performances. Participants have the opportunity to explore various aspects of their identity, including gender, race, and species, in ways that may be unfeasible or uncomfortable in the physical realm. This performative aspect of digital avatar utilization, often within alternative 'ludic cultures,' allows for fluid, unconventional, or experimental self-presentation, enabling users to 'replay' or 'remould' their selves through avatar performances. These actions, performed by the selected or modified digital avatar in a computer game, are directly linked to the player's embodied experience and level of immersion. The player's motor intentions are immediately translated into the avatar's movements, creating an instant feedback loop that enhances the sense of 'body ownership' and 'agency' in the digital realm. This embodied cognition indicates that the avatar is not merely an entity controlled by the player but also a medium through which the player perceives and experiences the evolving virtual environment. At times, it even feels like an extension and expansion of their physical body. Therefore, the functions of the digital avatar as a ludic image are fundamental and vital to both the individual player's experience and emotional engagement, as well as the broader social dynamics within virtual environments.

By providing a focal point for identification and action, it helps bridge the gap between the player's physical reality and the virtual world. The feeling of "being present in one's avatar" (Gonzalez-Franco et al. 2024) is a key driver of deep engagement and flow experiences during a game play. In multiplayer games and emerging metaverse

platforms, digital avatars serve as the primary means of social interaction—particularly enhanced during the recent pandemic. They represent individuals within shared virtual spaces in networked societies, facilitating audiovisual communication or non-verbal signals such as gestures, facial expressions, and poses and postures within defined digital communities. The visual cues conveyed by digital avatars are crucial for comprehending social dynamics and fostering relationships within these digital environments. Digital avatars often serve as visual indicators of a player's progression, accomplishments, or status within a game or virtual environment, including their subjective transformation and evolution. This representation can be manifested through available cosmetic items, accessories, visual effects, or alterations in the avatar's physical appearance that signify acquired abilities or experience points. Such visual cues function as ludic feedback, providing rewards and fostering motivation for sustained engagement. Even in the absence of explicit dialogue, digital avatars can contribute significantly to storytelling; their design, customization, and interactions with the digital environment can communicate aspects of a game's lore, character backgrounds, or thematic elements. In role-playing games, the digital avatar functions as the protagonist of a personalized narrative within single- or multiplayer settings, with its visual progression mirroring the player's individual decisions and pathways. Nevertheless, notably within the metaverse, digital avatars function as pivotal platforms for emerging virtual economies. Capitalist platformism facilitates users in purchasing, earning, or creating digital assets such as apparel, accessories, and virtual real estate as means of expressing their identity within the digital domain. This economic dimension elevates the avatar from a mere representational tool to a valuable digital asset and token, thereby contributing to a rapidly expanding virtual marketplace. The metaverse notably enhances the avatar's function as a medium and instrument for identity exploration and, in some cases, exploitation. Users are empowered to adopt entirely new identities, which may not be connected to their biological reality, and to further experiment with aesthetic identities that transcend physical limitations. This fluid and experimental approach to self-presentation highlights the central importance of the digital avatar in the gamification of entangled engagement and social connectedness through seemingly playful interaction. Thus, the digital avatar, as a

complex ludic image, embodies more than a mere graphic or semiotic sign; it functions as an interactive manifestation of the player's presence, agency, and identity within digital environments. Its features of customizability, dynamism, mediation, identity construction, and performativity emphasize its crucial role in shaping the immersive and social aspects of computer games and the metaverse. Functions such as facilitating immersion, integration, enabling social interaction, expressing emotions, representing status, contributing to storytelling, and providing a platform for economic activity demonstrate the significant influence of the digital avatar on both individual engagement and the collective culture of virtual worlds. As the digital venues and metaverses continue to develop, the digital avatar will undoubtedly remain fundamental, serving as a testament to the power of the ludic image in redefining our understanding of self and identity, interaction and immersion, and new forms of play in the digital era.

2. The 'Ludic Image' in the *Eroticissima* VR Game by Miyö Van Stenis

Miyö Van Stenis's recent virtual reality experience, *Eroticissima* (ongoing since 2023), functions as a significant case study for the analysis of the digital avatar as a ludic image and its potentialities. Here it explores the freedom and restrictions of identity, interaction, and representation within digital and hybridized spaces. Unlike commercial and conventional erotic gaming experiences, *Eroticissima* investigates the complexities of sexuality, sexual fantasy, and socio-cultural critique through the player's digital avatar. This transformation elevates the digital avatar from a mere entertainment artifact to a 'potent' instrument for experimentation with new forms of digital intimacy and liberation from traditional gender norms and sexual practices, especially in the context of commercial social media platforms: "Surprisingly, people can connect online and fall in love without ever meeting in person. So, I hope that love will also be a part of the multiplayer mode. I would love to be part of a future where people meet and fall in love in virtual reality, just like we've seen in love stories on Tinder, Bumble,

and other apps" (Miyö Van Stenis). *Eroticissima* originated from the personal reflections of the Venezuelan artist and curator during the COVID-19 pandemic, a period globally characterized by social isolation and the reconfiguration of intimate practices. In response to the inquiry concerning the potential evolution of sexuality and intimacy within a post-pandemic digital landscape, Miyö Van Stenis—a young trained artist well-versed in internet technologies, presently based in Paris, and serving as an instructor at The New School—Parsons Paris—envisioned a social platform that surpasses the restrictions and limitations of existing commercial virtual reality (VR) erotic content, which she perceives as predominantly solitary and heteronormative. Accordingly, the project is conceived as an open-source VR/Mixed Reality (MR) environment that emphasizes inclusivity and diversity, consent and safety, and the exploration of digital intimacy through customizable, highly stylized/fetishized digital avatars for multiplayer interactions. It is designed as an artistic 'erotic metaverse' featuring brightly neon-colored 'pop designs.' The aesthetic of the game is intentionally exaggerated, aligning with Miyö Van Stenis's objective to 'reshape' erotic content to be inclusive of queer and nonbinary identities. This visual exuberance is deliberately excessive, refusing to conform to realistic or restrained representations; instead, it adopts a hyper-stylized, neon-colored, artificial, and game-like quality that fosters exploration and experimentation. Most notably, it intentionally blurs the boundaries between a simulator, a computer game, and a digital art piece. Nevertheless, it is marketed as "the first Sex and Love simulator in the Metaverse." It provides an innovative virtual reality experience designed to facilitate immediate pleasure, desire, and lust. The VR platform includes a 'solo mode,' allowing users to engage in curated adventures or seek deeper human connection, and a 'multiplayer mode,' in which users can control their chosen avatar's movements and levels of seduction through a comprehensive motion library known as 'love triggers (LT).' Furthermore, 'Easter eggs' are hidden throughout this open-world environment and within its lobby, and it periodically unlocks additional LTs, erotic toys, and accessories for its designated HAVAS (hybrid avatars; figures 1 and 2).

Figure 1: Miyö Van Stenis, Cloris, *2023, NFT, from HAVAS, © Courtesy* Eroticissima *Game and Miyö Van Stenis.*

Figure 2: Miyö Van Stenis, Tomiko*" 2023, NFT, from HAVAS, © Courtesy* Eroticissima *Game and Miyö Van Stenis.*

Simultaneously, participants are afforded the opportunity to mint tokens and other assets for trading within the digital domain. The start lobby in the game is designed as:

> "…a perfect place to meet new people to experience the lovely journey of fucking together, or meet that special one that you can't wait to put your hands on IRL. Eroticissima, as a software, will be a 'sandbox' for the first year of the project, allowing it to be tested, de-bugged, and corrected for any glitches or non-user-friendly experiences. Hopefully, the project will grow a community so it can be developed in the future as an open source allowing any user-created content or modification to the core to be used as a creative tool. All music by the one & only Francisco Mejia aka Phran." (cited from the *Eroticissima* website https://www.eroticissima.wtf/index.html).

By enabling both users, amateur developers and programmers to influence the digital environment, *Eroticissima* cultivates a dynamic and continuously evolving safe space that reflects the open-ended characteristics of computer games, where player agency propels narrative and

aesthetic progression. This ambiguity of its unfinished, off-commercial, artistic game character is also central to its ludic nature, where the player's entangled engagement and interactive involvement are not merely about accomplishing tasks and reaching 'goals', but about experiencing and interpreting a system designed to provoke and to create an alternative sexual playground.

In addition to blending ludology with some form of social activism and exploring its capacity for sociopolitical and critical commentary (cf. Pederson 2021), the highly customizable digital avatar as a ludic image within *Eroticissima* becomes an essential vehicle for this transformation/transition. It functions within an aseptic techno-framework that emphasizes sexual themes and explicit content, even pornography, while concurrently deconstructing these issues. Miyö Van Stenis endows the digital avatar in *Eroticissima* with this same spirit of critical inquiry. Unlike numerous commercial erotic computer games and commodified pornographic metaverses that pursue realistic or traditionally attractive avatars, *Eroticissima* features a diverse array of avatars, known as HAVAS (hybrid avatars), characterized by flamboyantly exaggerated, fantastical, surreal, and occasionally grotesque features reminiscent of contemporary kinky and deviant hyper-creatures. Users may select hybrid avatars with mind-boggling attributes such as "wasp waist, purple skin, barely concealed breasts under tulle, elf ears, a peroxided mohawk, fluorescent green eyelashes matching her thong" (Fisheye Immersive, n.d.). This deliberate departure from realistic or idealized representations immediately signifies a deviation from stereotypical expectations of erotic media and game avatars, which often adhere solely to the heteronormative gaze prevalent in society. In this context, the aesthetic choice forms a fundamental component of its playful image, compelling players to engage with representations that are both enticing and unsettling. This artistic-conceptual methodology challenges conventional perceptions of beauty standards and gender roles within a digital environment. The visual exaggeration extends beyond mere aesthetics or fashion; it serves as a performative statement, encouraging players to embrace a non-normative, gender-fluid, or non-binary identity that transcends the boundaries typically associated with what is regarded as a 'serious game' addressing such adult topics.

While *Eroticissima* incorporates 'explicit scenarios' to engage users, the initial user experience highlighted by Miyö Van Stenis indicates a

focus on embodied exploration and performance rather than traditional goal-oriented gameplay. The avatar's actions, even seemingly trivial ones such as jumping or dancing, are imbued with a subversive quality due to the specific context. The 'ludic image' of the hybrid avatar in this digital scenery does not pertain to mastering a particular skill set, but rather to performing and observing the effects of one's virtual body within a technical system programmed and designed to emphasize eroticism and emotions. This emphasizes the player's embodied presence and the immediate, often visceral, feedback from the digital avatar's movements and appearance. Consequently, *Eroticissima* defies easy categorization and mere representation within a computer game, and this ambiguity is directly mirrored in the avatar's playful role. Players are presented with 'a new character,' yet the purpose and intended meaningful interactions remain subject to individual interpretation and personal exploration. This ambiguity challenges the conventional procedural functionality of ludic images in traditional games, where visual cues typically provide clear guidance for player actions toward a generally defined goal or score. Instead, the digital avatar as a ludic image in *Eroticissima* promotes playful experimentation as well as critical reflection, whereby the meaning and significance of subjective interactions emerge through the player's unscripted engagement with the programmed system and their individually chosen avatar's form within the digital environment. This cultivates a different form of 'ludic narrative,' one that is more open and experiential and less constrained by algorithms, yet limited within the boundaries of the written program.

One of Miyö Van Stenis's articulated artistic objectives is to circumvent the reproduction of 'heteronormative stereotypes' or gender clichés—and, in particular, male-gaze centric—of mass pornography in her character design. The digital avatar, serving as a central ludic image within the erotic computer game, actually functions as the primary instrument for deconstruction, disruption, and subversion. By presenting non-normative, gender-fluid, and even marginalized body types, facilitating diverse forms of emotional and sexual interactions, and thereby potentially challenging conventional scenarios and stereotyped settings, the digital avatar questions the passive consumption typically linked to traditional pornography and sex exploitation in mainstream culture. Furthermore, the customizability and boldly heightened aesthetics of the *Eroticissima* characters facilitate players in exploring and expressing

various aspects and nuances of the self and its desires that might be repressed or inaccessible in the physical realm. Thus, the digital avatar functions as a virtual 'safe space body' for experimentation with gender, body forms, and beauty norms, and, last but not least, sexual practices. This role aligns with the broader function of the hybrid avatars within the designed digital environments, where gamification in digital interactions facilitates the adaptable and fluid construction of identity. In Miyö Van Stenis's *Eroticissima,* this exploration is specifically directed through the prism of eroticism and emotions in the digital era, inviting participants to engage with and comprehend their own desire and lust, their sexual fantasies in a playful yet potentially challenging setting. By placing players in explicitly erotic scenarios with aesthetically unconventional avatars, *Eroticissima* also uses the ludic image to prompt critical thought about the nature of intimacy and embodiment in digital spaces. Overall, Miyö Van Stenis's recent virtual reality game provides a comprehensive platform for understanding the digital avatar as a 'potent' ludic image that surpasses primary representational and interactive roles within games. Particularly through its exaggerated digital pop aesthetics, focus on embodied digital performance, and intrinsic ambiguity, the digital avatar in *Eroticissima* critically deconstructs established standards of body and beauty, especially those related to commercial pornography and digital intimacy in society, and herewith foremost addresses Generation Z gamers. This artistic approach predominantly challenges binary notions of gender and sexuality, thereby fostering a sense of agency and autonomy within the digital realm of game culture. As an artwork and artistic statement, its functions and objectives transcend mere computer play, facilitating identity exploration and inciting critical reflection on digital intimacy in the present context. In the evolving landscape of mixed reality (Scorzin 2023) and the metaverse, *Eroticissima* exemplifies how the digital avatar, as a 'potent' ludic image, can be utilized not only for disreputable entertainment but also as an effective artistic and critical tool for challenging perceptions, subverting expectations, and ultimately reimagining the potential of embodied interaction within digital environments. Nevertheless, the conceptual basis of *Eroticissima* chiefly derives from the concept of 'digital intimacy' within networked societies. Miyö Van Stenis delineates this concept as distinct from physical intimacy, while emphasizing the unique affective and performative potentials inherent

within virtual environments. By incorporating elements of role-playing games (RPGs) and popular social platforms such as VR Chat, *Eroticissima* challenges traditional boundaries of physical sexuality, authentic identity, and social connection. Consequently, it provides a 'safe virtual space' where individuals can explore (immaterial) fantasies in a playful (quasi-material) manner, free from societal or cultural constraints.

3. Customization and Objectification in Digital Avatars as Ludic Images

However, the objectification, fetishization, and hyper-sexualization of the (female) body persist throughout commercial game culture. Genetic information is expanded and transcended through computer-based data, while gender stereotypes and clichés, and biases are continually reproduced and amplified by emerging advanced technologies. Whether as a digital twin or a digital alter ego, biological nature now manifests as an aseptic artifact within computer games, VR chat rooms, or metaverse platforms. Its hyper-visuality, designed for efficient communicative purposes, still serves a purely pictorial function: digital avatars become extensions, expansions, and expressions of envisioned representations of the (physical) self in virtual environments, acting simultaneously as both a medium and a model, whether reproducing gender stereotypes or playfully challenging these conventions. Digital avatars, functioning as ludic images, therefore, serve as contemporary theatrical masks and digital puppets, enabling users to access new immersive and interactive three-dimensional online platforms for social interactions, as well as for the pursuit of erotic encounters and altered/remote sexual experiences. The quasi-intimate connections established through integrated camera systems, complemented by haptic-tactile and acoustic elements, evoke in their techno-sexuality the 'pinnacle' of the network-driven nature intrinsic to all digital communication technology. Erotic lust and sexual desire only amplify the yearning for connection. Although interaction primarily occurs through digital visual stimuli, a concurrent sensation of being 'so close, so far' and 'as if' remains. Sensual fantasy characters derived from interactive and animated virtual image bodies are always

narratively scripted and communicatively designed with strategic planning for effective appearances in the metaverse and on prominent social media platforms. These characters are thoughtfully composed and fashionably staged, and today, however, their presentation is no longer exclusively aimed at the 'male gaze' (Mulvey 1975). From digital twins to innovative diverse body shapes that surpass traditional notions of beauty forms and gender norms, extending to diverse fantastical or futuristic hybrid beings or alluring hyper-creatures, there now appear to be virtually no boundaries to digital character and avatar design driven by user imagination and creative expression in contemporary contexts. However, censorship algorithms impose strict restrictions when nudity, sex, and eroticism are culturally designated as offensive and inappropriate. What is interpreted as 'inappropriate and immoral behavior' in the digital space is mainly determined by the big tech companies, which automatically provide the algorithm- and AI-driven filters and rigorously enforce them on social media, for example. With the emergence of nudity, sexual content, and explicit eroticism on commercial digital platforms, as well as within artistic free spaces and 'safe spaces' of the metaverse or immersive virtual reality experiences (such as those by Miyö Van Stenis), ongoing debates and essential discussions are taking place regarding (data) security and safety, consent, and regulation. Issues such as deepfake pornography, revenge porn, and the unauthorized use of an individual's digital (body) image or identity on social media and in the metaverse for sexualized representations in virtual environments, made pretty easy with GenAI-tools, remain pertinent and contentious in this context. They continue to raise numerous longstanding and ethical as well as legal questions concerning the emerging internet culture. Although erotic art and various expressions of sexuality have historically been fundamental components of human culture across societies and cultures in time, their migration to interactive digital platforms such as social media, computer games, and the metaverse necessitates a broader discourse on issues of privacy, legality, security, access, consent, and the ethical and moral utilization. This discussion should acknowledge both the opportunities and the risks and challenges associated with these emerging communication technologies, particularly in relation to explicit erotic content and privacy. Simultaneously, new, commercially driven digital design agencies are developing captivating virtual influencers rooted in the traditional adage "sex sells," such as non-human,

AI-assisted CGI or AI-driven influencers prevalent on popular social media platforms like Instagram and TikTok. These artificial entities are significantly influencing and globally reshaping Generation Z's perceptions of the body, identity, and standards of beauty.

For artistic positions that deal reflexively and critically with digital and real physicality and their biopolitics in contemporary visual culture or even explore creative spaces for the representation of naked bodies beyond commercialized pornography and its new commercial social media platforms (such as *OnlyFans*), these forms of rigid, preprogrammed cultural censorship by algorithms can quickly become a challenge. The conventional and culturally contextualized concepts of female attractiveness, together with their related attributes, persist in being hypersexualized and objectified across mainstream digital platforms. Conversely, contemporary digital artists such as Miyö Van Stenis seek to utilize their creative expertise to explore alternative digital representations of the human form and to develop fluid, non-naturalized concepts of gender. This is achieved even through the employment of industrialized 'ludic images' characteristic of commercial gaming culture. These portrayals are evidently influenced by mainstream character design prevalent within global gaming culture, especially within the fantasy genre, while simultaneously aiming to redefine and challenge existing stereotypes, clichés, and biases. This phenomenon, together with the essential gamification present in contemporary art, is observable in numerous interactive digital artworks by prominent artists such as LuYang, Keiken, Theo Triantafyllidis, Danielle Brathwaite-Shirley, Ayoung Kim, Cao Fei, Harriet Davey, and Miyö Van Stenis, as previously discussed. Historically, eroticism and sex have been associated with physical intimacy and immediate closeness, i. e., with direct personal encounters, intimate situations, and the cultivation of deep emotional bonds, right up to the modern day—so far, so good for the romantic ideal. The digital age, and before that the telematic age (Peter Weibel), has given rise to entirely new forms of communication and interaction that challenge these traditional notions and their artistic representations. Social media platforms, dating apps, interactive mixed reality experiences, and the immersive metaverse now offer unprecedented new opportunities for parasocial connections and 'superficial' intimacy in staged situations. However, they also raise questions about the authenticity and depth of these new mediatized relation-

ships, which only function through technical extensions, prostheses, and substitutes for the human body—like the digital avatar as 'ludic' image. Luminous hybrid species entities and unusual human-machine hybrids, lifelike (sex) robots, or imaginatively conceived avatars of digital culture—as exemplified by Miyö van Stenis's *Eroticissima*—expand the opportunities for playful exploration of diverse erotic forms and sexually attractive and erotically sensual body types in the metaverse. These representations now appear detached from natural biological constraints within a viable techno-aesthetic framework. As previously discussed, *Eroticissima*, for example, consequently addresses several significant socio-cultural issues, including the democratization of sexual expression, the role of technology in redefining intimacy, and the ethical considerations of virtual interactions. Miyö Van Stenis's emphasis on digital intimacy as a distinct modern phenomenon—separate from but complementary to physical intimacy by means of a playful image—provides a nuanced perspective on how technology influences human connection and sexual encounters in the digital era. As the digital artist continues to refine *Eroticissima*, most recent MR experiences—with appealing digital avatars as ludic images like this—possess the potential to reshape our understanding and experience of social connection in virtual spaces, rendering it a vital subject for further academic and artistic investigation.

Behind each digital avatar, however, there remains a subject equipped with a biological body—or perhaps a form of artificial intelligence possessing a rudimentary understanding of biological physicality and lustful desire? In any case, digital artworks, paralleling traditional culture, examine the psychological and emotional facets of sexuality, nudity, desire, lust, love, and intimacy within a framework governed by stringent regulations and restrictions, currently involving algorithmic rules and software programming. In the domain of computer games and the metaverse, the foundational technology and algorithms govern and circumscribe the extent of erotically and sexually suggestive interactions, thereby rendering the 'ludic image' potentially a 'digital puppet'. The physical movements of virtual bodies are, for example, strictly limited to the mechanical functionalities of the game and the visualization capabilities of respective social media technologies. In summary, online portrayals of sexual attractiveness and explicit nudity predominantly feature artificial bodies portrayed within fictitious scenarios.

Secondary sexual characteristics are often combined and sampled. Traditional gender-specific features are even here no longer restricted to a 'natural' or biologized conception of gendered bodies; instead, they are assembled in collage-like and digitally generated forms to endorse futuristic concepts of gender fluidity and to craft a visually compelling aesthetic. Nevertheless, digital styling and virtual body enhancement continue to accentuate the same familiar human body parts and their well-known erogenous zones—both in physical and virtual contexts; namely, the eyes, mouth, hair, neck, shoulders, chest, waist, hips, and, notably, the stomach, legs, and buttocks (Scorzin 2025). In contemporary capitalist societies, all aspects are subject to customization and commercialization—share your most personal and intimate preferences with tech companies even while engaging in gaming! This phenomenon may unveil the darker side of the inherent responsiveness and replayability of digital avatars as ludic images within our contemporary game culture. {twinker-smiley avatar}

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The Resurgence of Machinima Play. Remixing Cinema and Gaming for a New Generation

Phylis West Johnson

Abstract

This chapter examines machinima as a contemporary fusion of cinematic form and ludic play, highlighting its evolution from early fan-driven game recordings to a resurgent, artistically-driven digital image practice. Drawing from case studies across platforms such as *Roblox*, *GTA V*, *The Sims 4*, and *VRChat*, it analyzes machinima's aesthetic, cultural, and technological dimensions through the lens of ludic code and game structures. The discussion situates machinima within post-cinematic theory, emphasizing procedural authorship, avatar-based performance, and immersive storytelling. This framework extends earlier studies of machinima as fan practice (Casswell and Jenkins 2003; Jenkins 1992), convergence culture (Jenkins 2006), and remediation (Bolter and Grusin 1999), arguing that the ludic image lens better captures its hybrid of play and cinema.

Keywords

Ludic play, machinima, film aesthetics, post-cinematic imagery, game culture, game literacy

1. Introduction

Machinima has experienced a resurgence post-pandemic among younger generations across action and strategy games (e.g., *Black Ops*, *Halo*) to adventure and lifestyle platforms (e.g., *Ever Quest*, *Roblox*, *The Horizon*, *Second Life*). Role-playing is central to all of them. Some like *Fortnite*, *Minecraft* and *Worlds of Warcraft* boast of strong and active communities that become critical to strategic planning during game play. The author is particularly interested in how the ludic role of machinima has evolved over time since its inception. The essay also addresses the role of festivals like the *Milan Machinima Festival* in shaping this evolving art form and concludes by exploring future trajectories for machinima in AI-assisted production, virtual reality, and educational applications.

1.1 Overview: Machinima as Playful Cinema

This article explores the technological and creative revolution brought forth by machinima, focusing attention on the resurgence of a new generation of filmmakers, who express their stories and ideas creatively and artistically through remixing game play footage. The author follows the innovation of machinima through the evolution of gaming technologies and its extension to stand-alone software, and to larger cinematic visions foreshadowed in its early years by industry professionals such as British filmmaker Peter Greenaway (Harvey 2010; Jegathesan 2011). Since 2020, the Milan Machinima Festival (MMF) has emerged as the leading international platform dedicated to game engine cinema. MMF curates machinima works from around the world, celebrating both experimental aesthetics and narrative innovation within ludic environments. Its programming—organized into themes such as *Game Engine Cinema*, *Reprogrammed Visions*, and *Game Video Essay*—positions machinima as an expressive digital art form shaped by procedural authorship, avatar-based performance, and immersive storytelling. As Matteo Bittanti (2025) notes, machinima is no longer simply a fan-driven byproduct of gameplay but a deliberate aesthetic intervention in the tradition of post-cinematic moving images.

Machinima originated as a popular form of entertainment in the late 1990s, using video game engines to produce animated films. Early

examples were showcased on Machinima.com on *YouTube*. The first machinima achieving notoriety were produced in the early 2000s. Among the most popular were comedies produced by Rooster Teeth Productions, namely *The Strangerhood and Red vs. Blue*, with the first being created within *The Sims 2* and the latter series made via Halo. Such machinima highlighted the creativity of the producers and inspired several film festivals through the mid to late 2000s. Games like *Halo*, *Half-Life*, *Grand Theft Auto* (*GTA)*, and *Fallout*, were also familiar names leading the machinima movement. The quality of these productions improved with advancements in technology, improving animation quality and storytelling (Horvath 2011a; 2011b).
Machinima produced by both players and fans of these popular games garnered several hundred to upwards of 18 million views online during its heyday. Beyond game platforms, machinima also encompassed simulations (e.g., "*The Sims*") and virtual worlds. For the purposes of this contribution, the ludic image is defined widely in relation to machinima, positing that machinima exists at the intersection of cinematic and procedural image generation. The visible interest in machinima, as a creative expression, appeared to face subsequent decline when its primary host ceased to exist in 2000, after a nearly 20-year run. That was Machinima.com, a platform that rose as a machinima haven for producers wishing to exhibit their work and their fans who contributed to its growth in popularity. When Machinima.com shut down, producers and fans scattered across *YouTube*, and interest in it waned or so it seemed over the short run.

More recently machinima experienced a resurgence post-2020, particularly visible on platforms like *Roblox* and *GTA V*. It has been rediscovered by a new generation of producers, who emulate legacy machinima producers or produce something new. Ultimately, one can still discover machinima classics on *YouTube,* but it appears that *Twitch* has established its own archive of new and old favorites.

1.2 The Magic of Machinima and its Ludic Spell

More than 70 years ago, Antonin Artaud's *The Theatre and Its Double* presented a glimpse of theatrical performance as "virtual art." The text was written in 1938 and translated from French to English twenty

years later. In this contribution, my goal is to demonstrate how the magic of machinima unfolds differently depending on its creator. Generally, the purpose of a video game is complete when the game is over. That might be the result of someone giving up on the game or someone winning or losing the game. Most games involve multiple levels. Some players succeed at completing these levels at major tournaments. When that happens, game play attracts a large fan base, especially for the most popular ones. Game play has continued to attract millions of players and fans. Likewise, machinima seems to be finding its own place again among a new generation of gamers and virtual filmmakers.

Games and similar platforms like *Roblox*, *Fortnite*, *Horizon Worlds*, and *VR Chat* (among others) which appeal to children, teens and young adults have fueled a new generation of machinima. Each of these platforms have their own social communities, which inspire inherent fan bases. Cultural reinterpretations within a digital society invite new opportunities for imaginative use of game mechanics, which can become pivotal to a post-pandemic generation of filmmakers since the closure of *The Machinima Channel*.

As a fusion of cinema and machine, machinima emerged as a recording of events within games. The segments are remixed into unique storylines that may or may not reflect the original storyline behind the game. Conceptually, machinima involves multiple, intersecting histories of art, cinema, photography, television, computer graphics, animation, and gaming. Most of the aforementioned games have evolved into machinima and even movies. Some machinima serve as simply tributes to the game, but in this chapter, the focus is primarily on the creative interplay between form, tools and the producer to create something new.

This contribution distinguishes the concept of play in video games in massive multiplayer online role-playing games (MMORPG) like those of *Fortnite* where there are conquests, as opposed to those that simply provide role play and content creation. Of course, the latter can be fodder for creating unique games which inspire play. *Roblox* fits into this second category. Yet, most games now blur those boundaries. Social communities have developed within *Fortnite* and *Roblox*, similar to those within *Second Life* and similar virtual worlds. *Fortnite* is more or less a strategy game similar to its predecessor, *Worlds of Warcraft*. Both have developed strong communities within their platforms for strategic

purposes and socialization, which sometimes have fed into subsequent machinima plots. Yet, play is central to machinima created in these virtual environments, while the motives of the actor/player/producers may vary. Each strives to capture the magic of the game world and shape it into something unique and accessible to all.

2. History of Machinima as Cinematic Play

Machinima was viewed early on as a platform for independent filmmakers to share their work without traditional barriers. This movement influenced mainstream media, leading to collaborations with established filmmakers and studios. This section follows machinima through its development to present times.

2.1 The Experimental Era

George Lucas's pioneering use of CGI in *Star Wars* and Spielberg's early reliance on the Unreal Engine for *Jaws*' animatics exemplify how film technologies seeded practices that later informed machinima. Bolter and Grusin's concept of "remediation" (1999) helps frame machinima as part of this ongoing exchange between cinematic and game media. Lucas's innovations in CGI laid groundwork for machinima.

In the 1990s and early 2000s, machinima rose as a field of interest among media scholars and professionals, who envisioned its aesthetics as valuable insight into the world of game culture (Lowood and Nitsche 2011, Ng 2013). First-person shooter (FPS) games, *Doom*, *Quake* and Disney Interactive Studio's *Stunt Island,* allowed players to archive game footage so they could study game replays to improve their technique. This was the beginning of machinima, initially for skill development on game consoles. *Quake* was one of the first, if not the first, game to use the game engine as a tool for digital storytelling (Johnson 2012; Lowood and Nitsche 2011).

An early example of machinima was the short film *Anna*, produced by Katherine Ann Kang, the founder of Fountainhead Entertainment and co-founder of the Academy of Machinima Arts and Sciences with

Paul Marino (2004). Relying on early *Quake* footage, she documented the life of a flower, a theme unrelated to the intent of the shooter game. Machinima as art is illustrated here. Kang designed and produced top games, as well as directed and produced notable machinima.

Wired Reviewer Brad King (2002), in *Machinima: Games Act Like Films,* profiles Kang, among others, when introducing and defining the craft in his feature article, while also noting the debut of the Academy as an important cultural maker in machinima's evolution. What is interesting is that many of those key to the development of machinima as an art form were also instrumental to the design and production of the leading games of that era, and many of those games remain relevant today. These early founders were quite aware of the artistic potential of their new medium of design, and led the experimentation, paving the way for the sophistication and development of the genre, represented across *YouTube* on thousands of channels, as well as Machinima.com through its heyday.

As producers experimented with computer graphics and animation, particularly for pre-visualization of scenes in blockbuster-type action movies, these advances would benefit the gaming community, and eventually the machinima community, which continues to be redefined by its fan base, several decades after it inception. *Star Wars* R2D2 creator Tony Dyson became one of the leading figures in machinima production within *Second Life*, with his design of a multi-sim studio constructed for Hollywood-style production for what he referred to as real time animation in a virtual world (Johnson and Pettit 2012; Fitzroy 2012).

2.2 Rise and Fall of Machinima.com

Hugh Hancock of Strange Company would rise to become a leader within machinima practice, first with the *Quake* movies, and later with a long-form feature derived from *World of Warcraft*. Hancock founded Machinima.com in 2000, providing a platform for fan-produced content. Its membership was composed primarily of young adult male gamers. Its market escalated to nearly 20 million at its peak (Hancock and Ingram 2007).

Paul Marino (2004), author of machinima book *3D Game-Based Filmmaking: The Art of Machinima*, credits renowned film critic Roger

Ebert with establishing machinima as an art form. Over the years, it has earned many awards and acknowledgements at major film festivals such as Sundance. The launch of the Academy of Machinima Arts & Sciences, with Paul Marino as the executive director, was another defining point for machinima as an art. Marino was also co-founder of ILL Clan, a pioneering creative force in this new form of animation, dating back to the mid-1990s, when machinima playback and short films were mostly created for dedicated fans. Ultimately, ILL Clan shifted to machinima work in *Second Life*, joining forces with the Electric Sheep Company, an in-world production company then that caught the attention of naysayers. By the end of the decade, ILL Clan's portfolio featured work for major TV networks, film studios, and companies like IBM.

Machinima had gained the attention and respect *of Wired Magazine* and *The New York Times* by this point (Korolov 2010). Tech journalist Leander Kahney (2003) had already predicted the transition of machinima from capture to creation, because game engines could be used to produce spectacular special effects at a fraction of the cost of cinematic production. Machinima had been re-conceptualized. The field of machinima splintered in diverse directions, live capture, documentary, music video, storytelling and experimental. Each of the categories had either a traditional or artistic approach. There was a growing appreciation of 3D gaming, and a film culture that had flourished subsequently. Marino looked ahead to an era "when people will only want to work on machinima for its own sake" ("Put Yourself" 2006).

Machinima.com became home to series like *Halo 4*, *Street Fighter*, *Morta*l *Komba*t, *World of Warcraft* and *The Sims*. Additionally, live-action streaming was introduced on the channel. Machinima was acquired by Warner Bros. in 2016, and a few years later, the company decided to close its doors, leaving millions of fans without a community. Through its nearly 20-year run, the site expanded its programming to role-playing games, simulations and platforms.

Initially, Warner Brothers, who acquired Machinima.com, moved the content to a *Twitch* channel. Warner eventually abandoned that initiative. *Twitch* appears to now manage the machinima community, and it has continued to grow to more than 31 million users, with live streaming as the focus among younger gamers and fans. It also archives classic and new machinima. Most titles can be found on the *Machini-*

ma Twitch Channel, with a preference among fans for traditional legacy games over newer ones like *Roblox,* and not so much virtual worlds. However, there appears to be a fanbase for all machinima.

2.3 Rise of MMORPGs: Lights, Action, Role Play

Machinima plots became more developed with the rise of MMORPGs (massive multiplayer online role-playing games) like *War of Warcraft*. As the fan base grew into the millions, machinima's popularity expanded to virtual worlds and simulations catering to role-playing. *The Sims*, *Second Life* and *War of Warcraft* were among the early platforms that inspired new forms of machinima. There were several *YouTube* channels and online sites where fans could upload their machinima.

The primary incentive for creating machinima was no longer to improve game performance, but rather it was to assemble or produce game footage into unique stories. At times, this involved staging scenes within the game or platform as well as other virtual environments. In virtual words, this process has been referred to as real time animation and virtual filmmaking, with some early examples, ranging from music videos, short stories, documentaries, game shows, news and just about anything that happens in a virtual world or large virtual community, reflected both in *The Sims* and *Second Life* (Johnson 2012). The central focus of these virtual platforms is role-play and content creation. Members create a world where they can live, work and play within such space. Within a virtual world, members can record their life story, those of others, or create a fictitious identity, assume a role, and become a movie director or be featured in an animated movie.

Machinima is typically screened on *YouTube* and *Vimeo*, including television sets, theaters and auditoriums in virtual worlds. It can be viewed in a virtual living room, virtual drive-in, and at some of the best real-life festivals. The goal of filming in a virtual world or platform is not the result of any sort of game play but driven by a spirit of creative role play. Over the years, these concepts have expanded the versatility of machinima and its ludic play beyond the confines of the original intention of the game or platform. The structural components have adjusted to the needs of producers.

3. Machinima Communities: Shared Play, Culture and Production

Machinima communities developed in parallel with its growth. They consist of players, producers, and fans who co-create a machinima culture around particular games and platforms. Ito et al. (2019) emphasize how these communities support youth creativity and connected learning. Games of conquest and action games like *Black Ops* have led to different storylines than games such as *Roblox*. Simply, viewing machinima within these respective communities has created bonding opportunities among its members. There are some exceptions of course. Moreover, the process of making machinima, by its nature is typically a collaborative process, which brings people together for its creation. It empowers the player/producer to reinterpret their in-game/in-world experience by remixing it into a completely new thing.

The producer uses archival footage from the game play, which often involves more than one person in a competition. The footage is then arranged into a story. It may also be a new storyline which is different from the intention of the game designer, or it might be an extension of the game play. In any case, the machinima is the evolution of the game reinterpreted by players as well as fans, who vicariously experience the game by re-imagining it. The producer does not need to be one of the players, and often is an observer, who becomes the producer or puppeteer of the project.

Minecraft and *Roblox* might offer best practices for education, with the phenomenal surge of workshops revolving around how to engage students via gaming (VWBPE 2024). One of those ways is machinima creation. To simplify, *Minecraft* can be played in game or creative mode, and the latter is relevant to the discussion at hand. *Minecraft* has created a massive fan culture, and machinima is a huge part of the artistry that has emerged. Similarly, *Roblox*, and even more so than *Minecraft* or *War of Warcraft*, offers elements of a virtual world; there is an artistic appreciation and interactivity among players who become creators themselves, no longer simply players engaging in battle. *Roblox*, similarly designed as *Minecraft*, encourages collaborative projects in the game, which inspires content creation including machinima. In the same way, *The Sims*, now its 4th rendition, across its various incarnations, has allowed for creative storylines to emerge from the game.

Machinima solidifies fan culture with game narratives that arise from participant interaction.

In juxtaposition *Second Life* was designed as an emergent world, one imagined and constructed by its community. Its non-ludic intent initially separated it from MMORPGs like *GTA*, *World of Warcraft*, *Roblox* and *Minecraft*. *Second Life* machinima, however, also captures a sense of shared culture that is prevalent among the aforementioned games like *Roblox* and *GTA*. Within their machinima outtakes, fans celebrate an appreciation of non-sensical play at times. Other times, these collaborations lead to award-winning machinima.

4. The Virtual Environment as the Machinima Studio

Lev Manovich (2011: 89) explores how "new visual aesthetics" contribute to an "emerging information aesthetics." Deleuze's idea of becoming (2002; 1989), exemplified in his discussion of *Alice in Wonderland*, illustrates how machinima is more process than product. It's also a very common metaphor and theme employed within the *Second Life* community of artists and creators. Virtual environments function as studios where real and virtual intertwine. Goriunova (2019) notes that such digital creativity reshapes aesthetic practice. Manovich (2001), in *The Language of New Media*, discusses the concept of virtual, as not relating to a virtual world necessarily. It is the screen that defines the visual, be that of computer games, animation or virtual worlds. The imagery is layered in time and space on the screen. The viewer—as gamer and observer—is immersed within a simulation that is grounded in reality.

This "perceptual exchange" (Colman 2011: 59) infuses the real and actual within one space, always transforming; here, the digital space is a virtual environment that has the potential to positively impact the world, socially and artistically. Virtuality becomes a reflection and reproduction of the experiences of the creator and that which is created. The virtual consumes real time and real space. The imagination connects these spaces to create a living theater, which when captured,

the machinima becomes an archive as well as a personal canvas. This layering of parallel universes allows for infinite cultural and artistic interpretations by creators and viewers of machinima, each with their own notions of the significance to their lives. Emergent storylines or artwork may serve as reflection or aspirations which become imprinted in the frames of machinima. The in-game and in-world footage are appropriated for use outside its initial framework—the game or world of role-play becomes something bigger than itself that lives on beyond its original design (Marache-Francisco and Brangier 2013). These stories may be redefined by each generation of participants.

5. Theorizing Machinima as Ludic Image

Finally, the author demonstrates how machinima is a fusion of game and cinematic theories, united by an appreciation and re-interpretation of ludic play. The aesthetic of ludic images—images rooted in play, interactivity, and procedural logic—has become central to understanding post-cinematic forms. This essay leans on definitions and conceptual frameworks of ludic aesthetics as espoused by foundational theorists (e.g., Huizinga; Caillois; Juul; and Manovich). The ludic image, as its shaped and shared through machinima, is rooted in play and procedural logic; it provides a lens for understanding machinima as post-cinematic practice. Johan Huizinga (1949) and Roger Caillois (1961) established play as structural and cultural, while Fernández-Vara (2019) emphasizes game literacy as key to machinima creation. Game structures and ludic codes shape machinima's form, while machinima producers transform those structures into meaningful cinematic narratives.

Key conceptual threads within the art and practice of machinima involve a playful aesthetic familiar to the game culture: Machinima as ludic image practice blends cinematic and game-based visuals. The producer must understand the culture and community surrounding the game, platform, simulation or virtual world. The producer's knowledge and understanding of game literacy and culture are likely to frame the piece so its intended audience can relate to its story. Actually, the technology, whether that is a platform, game engine or device, will also influence content creation and machinima production. Basically, the

viewers likely understand the inside jokes and cues. Thus, machinima is positioned as a hybrid practice shaped by audience-participant interactivity, narrative logic, and game structure. All these elements are addressed in the following sections: (1) ludic aesthetics, culture, and game structure, (2), game structure and ludic code, and (3) post-cinematic practice. Yet, machinima is not limited by these structures, codes or practices, as it has the potential to evolve into something new.

5.1 Ludic Aesthetics, Culture and Game Structures

Game structures shape the visual and temporal form of machinima, from camera constraints and nonplayer characters (NPC) signaling environment triggers and mod-based customization. Theorists Jesper Juul (2005) and Alexander Galloway (2006) offer frameworks for understanding how players are immersed into action play, while Manovich (2001) argues for perceiving computer games rather as engines of database-driven visuality. In this way, machinima emerges at the crossroads of these dynamics, as a space where game play evolves into cinematic infrastructure with user intervention. Those users might be players or fans, but as they become the directors of the production, the old structure develops into something personally meaningful and new.

5.2 Game Structures and Ludic Code in Machinima

Machinima inherits structural constraints from the game engines where it is made. Indeed, camera logic, avatar control, spatial scripting, and cinematic editing tools like *Rockstar Editor* and *Source Filmmaker* all contribute to individuality in how machinima is shaped, which involves a multitude of choices by the producer along the way.

Since 2020, the *Milan Machinima Festival* (MMF) has emerged as the leading international platform dedicated to game engine cinema. MMF curates machinima works from around the world, celebrating both experimental aesthetics and narrative innovation within ludic environments. Its programming—organized into themes such as Game Engine Cinema, Reprogrammed Visions, and Game Video Essay—positions machinima as an expressive digital art form shaped

by procedural authorship, avatar-based performance, and immersive storytelling. As Bittanti (2025) notes, machinima is no longer simply a fan-driven byproduct of gameplay but a deliberate aesthetic intervention in the tradition of post-cinematic moving images. Aarseth (1997) acknowledges the producer's field of vision may be limited within game structure and rules; however, once stepping outside that frame, the filmmaker is free to reimagine how to reassemble the footage and reimagine the work.

5.3 VR Machinima as Post-Cinematic Image Practice

Initially emerging as a form of fan remix culture (Lowood 2006; Nitsche 2007), machinima is no longer derivative or fringe. Recent scholarship (e.g., Brittani 2025) views machinima as a critical post-cinematic practice, which extends digital moving image culture into interactive environments. This holds promise for developing virtual reality machinima based on 3D spaces like *VR Chat*, *Rec Room* and *Horizon Worlds* in the years to come.

Indeed, a relatively new science fiction machinima, *S.Y.N.C,* was released in 2022. It was shot completely in *VRChat* and captured entirely in virtual reality. It has alternate endings, incorporating multiple narrative directions. It was written, directed, edited, and performed by a producer who refers to himself as Legend50210. New Media critic Wagner James Au (2022) described it as a "slick production [with] impressive fight choreography—even more impressive, when you realize Legend plays all the characters."

There are only a handful of games that employ VR technology, but that number will continue to expand in coming years. Does this change the dynamics of machinima, which often veers away from photorealism in favor of performative aesthetics and emergent behavior? No, it simply expands its possibilities. As game engines evolve to allow for more immersive environments, creators will also have more authority to negotiate game physics, camera systems, and multiplayer conditions. Such traits align machinima with post-cinematic studies (Shaviro 2010) and processes that acknowledge the importance of authorship (Bogost 2007). In the case of Legend50210, he was able to produce a VR machinima by himself and as multiple characters.

S.Y.N.C. (2022), produced entirely in *VRCha*t, exemplifies machinima's shift into VR environments. Bailenson (2018) discusses immersion as a hallmark of VR, reinforcing machinima's potential as post-cinematic practice. As game engines evolve, machinima expands into more immersive domains, blending avatar embodiment, glitch aesthetics, and emergent performance (see Figure 1).

Figure 1: S.Y.N.C (A VRChat Short Film) *produced by Legend50210. Screenshot by author (Source: YouTube. Accessed August 3, 2025).*

6. Experimentation and Aesthetics: Case Studies

Several cases from different platforms and technologies illustrate machinima that has been well-received by their machinima communities, by attending to the appropriate aesthetics, culture and sense of cinematic play structure. The plots vary among each case, yet most convey a sense of absurdity and experimentation, inviting its audience to appreciate the playful intent of the production.

6.1 Roblox

Roblox, released in 2006, has become wildly popular among younger generations, with more than half of its users under 16. It is freely available online and that allows its users to play and create their own

games online. Those games, also being accessible, then become central to machinima produced by both the content creators and players. As a gaming platform, *Roblox* attracts a mostly young audience, primarily children, teens and young adults, giving them opportunities to fully immerse themselves in creation, play and the large social community that has developed around it—and that includes its machinima.

Some of the initial players may now be introducing their own children to the game. *Roblox* also increased its membership at the time of the 2019 pandemic. Recently two works that gained notoriety at the MMF (2025) were the *Last Guest* and *Bacon Hair*, recognized for narrative ambition and expressive use of simple game assets in storytelling.

6.2 GTA V 5

Another platform with a long run is *Grand Theft Auto*. A number of editions have been released since its debut. It has developed a loyal community of players and creators. Similar to other platforms like *Fallout*, *GTA* users have created an elaborate community, which has extended to include radio stations in-world that now attract listeners outside the game. It has been criticized for encouraging violence among its players, while also being applauded for the creativity it has inspired. Also honored at the MMF, *Grand Theft Hamlet* has received critical praise by the Machinima community as well as the larger entertainment industry. The machinima highlights performance-based cinematic composition within ludic constraints. *GTA* was first released in 2001, with *GTA 5* debuting in 2013. The game allows its users to play in first- or third-person mode, which is particularly helpful to machinima producers.

6.3 Day Z

A relatively new MMORG is *DayZ*, which focuses on an immersive perspective, spatialized sound, and multiplayer co-authorship. The goal of *DayZ* is to stay alive and healthy during a zombie outbreak that has befallen the in-game world. The online survival video game was developed and published by Bohemia Interactive. Game development began in 2012, with the game officially released in 2018. The setting

for the game is the fictional post-Soviet Republic of Chernarus (based on a real life region in the Czech Republic). The game sold more than three million copies during its pre-release phase. The game has inspired machinima by riffing off the zombie storylines.

6.4 The Sims 4

The Sims 4, released in 2014, is described by its publisher Electronic Arts as a social simulation. Players are introduced to an open-ended platform that has no goals to complete, similar to virtual words like *Second Life*. Both were released circa 2000. The *Sims* franchise has sold more than 200 million copies word-wide. Its recent version allows players to swap assets online. MMF 2025 highlighted *The Rimmers*, a machinima series, made within *The Sims 4*. Most machinima within *The Sims* relies on avatar-based storytelling, with themes centering around domesticity, identity, and gender.

6.5 Virtual Worlds

Machinima created in *VRChat*, *Horizon Worlds*, and *Second Life*, similar to *The Sims*, have no strategic plot to accomplish. These worlds often serve as affordable movie production studios for machinima creation. Machinima has helped to inspire and grow their VW communities. Many of these virtual worlds have held their own machinima festivals or meetups, helping to train and recruit crews in-world.

There have been some producers who have used *Second Life* as a studio to enhance their storyline and complete their piece. One example is Soderstrom's music machinima *Finest Work Song*, which was filmed in *Second Life*, *Halo2*, *HalfLife2*, and *Fallout3*. On the other extreme, Tony Dyson, mentioned earlier, created a machinima studio within *Second Life* as a platform for creating an animated children's show titled the *Bobbekin*s. He died before the series gained traction, although it did gain national attention during production (Fitzroy 2012). He based the machinima series on a children's book he wrote, *The Adventure of Clive and Sue Bobbekin*. The book was published in 2015 by Netdreamer Publications.

6.6 Other Works

The Milan Machinima Festival showcases the evolving potential of ludic image practices, bringing together machinima works created in platforms such as *Call of Duty*: *Warzone*, *Sleeping Dogs*, and AI-assisted engines like OpenAI's *Sora*. For example, *The Zone* (2024), awarded the Critics' Choice at MMF MMXXV, used preserved HUD elements and player interaction in *Warzone* to demonstrate the geopolitical tension embedded in game space. Daniele Imani Nobar, producer of *The Zone* noted that he was particularly impacted by the Iranian protests and global tensions heightened during the pandemic. This experience profoundly influenced his work. Other entries, such as *In the Long Run, We Are All Dead* and *Video Games That Don't Exist*, challenge traditional storytelling by merging cinematic slow motion with real-time environments or AI-generated surrealism. These works reflect machinima's shift toward hybrid aesthetics that combine ludic code, spatial logic, and narrative abstraction. Finally, but far from insignificant, is the animation series *CRASH* which has been described by reviewers as the next *Red vs. Blue* for younger generations (Lee 2025). It uses *Halo's Master Chief Collection* and *Garry's Mod* in its making of the first episode.

7. Narrative and Avatar Performance

Machinima narratives are built through avatar actions, voice acting, and camera movement within game worlds. In this way, unscripted machinima inspires emergent storytelling and role-play aesthetics. Ludic images in machinima are not only interactive but performative. They depend on avatars—scripted or improvised—who express stories through game-generated bodies. As Pearce (2009) notes, avatar embodiment often blurs any player-performer distinction. In machinima, this becomes central to narrative delivery. The narrative may play off a central theme within the game itself. The machinima producer understands the gaming community and their audience, those very familiar with the constraints of the platform. Machinima combines cinematic tropes with real-time performance, cutscene logic, or voice-over story-

telling. But often the real creativity comes into play when a producer steps outside the game's narrative to create something entirely new. Such narratives are likely to gain the attention of fans who become enthralled at how a game was remixed into something new. Similarly, this is how machinima extends its popularity beyond its immediate gaming community.

In works like *The Last Guest* (*Roblox*, originally a *Minecraft* production) or *Emesis Blue* made within *Team Fortress 2* (TF2), the creators choreograph virtual actors using AI scripts, multiplayer tools, or machinima editors. Such decisions challenge traditional ideas of narrative control, authorship, and audience address. The genius of this interplay between mechanics and imagination was not lost on MMF judges. Greenway would have likely applauded the cinematic performative play. This is something that can happen within a game or virtual world.

8. Technological Conditions: Platforms, Engines, and Interfaces

Each machinima platform, be that *Roblox*, *GTA V*, *The Sims 4*, *Second Life*, or *VRChat*, provides unique affordances for ludic imagery. These include camera systems, mod support, avatar customization, diegetic audio, and user-generated tools.

Peter Greenaway (2007) once suggested that *Second Life* could become a new cinematic machine, and in many ways, machinima in post-2020 virtual worlds and games with large collaborative social arenas (i. e., *Roblox*, *VRChat*) have fulfilled that vision. Projects like *Grand Theft Hamlet* (GTA V) recently earned top prizes internationally, from *London's Film Festival* to MMF 2024. This project underscores machinima's convergence with digital scenography, participatory performance, and posthuman storytelling. Such work illustrates how interface, hardware (HMDs, tablets), and networked environments influence both aesthetics and cognition. Similarly, VR-based works like *Knit's Island* have recently been honored at *The Swiss Film Festival* for its realistic capture of human emotion as players pretend to live out a survivalist fiction (see Figure 2).

Figure 2: Knit Island *produced by Barbier et al. 2023. Screenshot by author (Source: YouTube. Accessed August 2, 2025).*

9. Conclusion: Toward a Taxonomy of Ludic Image Practice

Younger generations are more likely to produce machinima via *Twitch* live capture, often remixing classics. New machinima producers pay homage by remaking classic machinima using their preferred game instead. A story originally produced in *Halo* might now be recreated with *Roblox*. *Twitch* has its own machinima library, where young and old fans can explore hundreds of titles produced over the past 30 years or more. Machinima *like Red vs. Blue* have timeless appeal.

As technologies allow for more immersive online experiences, players and filmmakers will be able to interact more authentically with one another, whether that is creating a parody, dramatic series, or simply capturing highlights at an interactive gathering within a game platform. Shaviro's (2010) concept of "post-cinematic affect" situates machinima within broader digital image culture, while Fernández-Vara (2019) links machinima literacy to game literacy. Future trends, including AI scripting, machinima in education, and VR-native narrative cinema, point to its continued transformation as a ludic image form.

Featured Machinima

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Before Bandersnatch. An Archaeology of Recorded Interactivity in Video Games

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Abstract

This chapter explores the narrative strategies and technological innovations of full-motion video (FMV) games, a hybrid medium that emerged in the 1980s and 1990s, combining pre-recorded video and gameplay. By examining titles such as *Night Trap* and *Dragon's Lair*, the study situates FMV within a historical and media archaeological framework, analyzing its relation to media technologies like laserdiscs and CDs. Employing media ecology and theoretical perspectives from Elsaesser, Manovich, and IDN studies, the article investigates how FMV games blurred the boundaries between cinema and gaming, contributing to evolving forms of interactive storytelling, tracing formal continuities and ruptures between early FMV titles and contemporary interactive media like Netflix's *Bandersnatch*. By contextualizing FMV within broader technological and cultural currents, the article sheds light on the trajectory of recorded interactivity, revealing how recorded video's integration into interactive media has reshaped narrative forms and audience engagement from the 20th century to the present.

Keywords

Digital narrative, expanded cinema, full-motion video, interactivity, media archaeology, new media, recorded media, video games

1. Introduction: *Bandersnatch, Until Dawn*, "Hybrid Media" and IDN

On December 28, 2018, Netflix released *Bandersnatch*, a standalone movie connected to Charlie Brooker's science fiction anthology series *Black Mirror*. Set in 1984, the narrative follows Stefan Butler, a young programmer tasked with adapting a choose-your-own-adventure novel into a video game for the fictional software company Tuckersoft.

What made *Bandersnatch* distinct was the fact that its story was interactive, allowing viewers to make decisions that could change the narrative path. This sparked discussion on the mainstream regarding the boundaries between movies/television and video games, raising questions about interactivity in cinema/television and even doubts on how *Bandersnatch* should be categorized (Molloy 2018; PlayLab! Magazine 2019). Was it a movie? A video game? Something in between?

Similar ponderings had recently been asked regarding a game published in 2015: *Until Dawn* (Lussier 2017; Webster 2015). Released for the PlayStation 4 by Supermassive Games, *Until Dawn* combined a traditional horror framework with the branching structure of interactive digital narratives, giving the player control over eight different characters. Their respective deaths or survival are entirely dependent on player input, through dialogue trees and quick time events (QTEs) that lead to different narrative paths and endings. Such narrative focus and presentation comes from a tradition of "interactive dramas" popularized by David Cage and his studio Quantic Dream, which created games that blended cinematic storytelling with player-driven choices and gameplay that relies on QTEs, dialogue trees, and exploration rather than combat or puzzle-solving (like *Fahrenheit* [2005] and *Heavy Rain* [2010]).

In a 2025 article, D. M. Khotin observes a shift in games such as those by David Cage from traditional gameplay towards narrative, rethinking mechanics in favor of interactive drama that emphasizes emotional involvement and the consequences of player actions. This shift, he argues, challenges their classification as video games in the traditional sense. With few gameplay elements and mechanics functioning mainly as tools to advance the story, these works move away from

McLuhan's principles of "hot media".[1] Khotin proposes to approach them as "hybrid media," where narrative predominates and the player acts as an "active spectator" rather than a fully engaged participant. Interaction is limited to prompts or decision points, while cinematic conventions—dramatic arcs, directional staging, multi-camera setups, and performance—dominate the experience (Khotin 2025). For him, these projects constitute a new form of interactive storytelling at the intersection of cinema and games, but leaning toward the former: "hybrid media," defined as digital narratives that fuse cinematic techniques with limited interactivity, positioning the user simultaneously as spectator and participant.

This definition resonates with concepts from the field of interactive digital narratives (IDN), which explores several related areas and technologies that shape how stories can be told interactively. Three trajectories of IDN based on form can be identified: text-based, cinematic/performative, and ludic/experimental (Koenitz et al. 2015: 11), which reflect distinct approaches to interactivity and narrative structure within digital media. The cinematic/performative form draws heavily on the audiovisual language of film and theater, privileging immersion, emotional engagement, and authorial control, with interaction typically constrained to key decision points, scene branching, or limited manipulation of time and perspective, thereby allowing the participant to influence the narrative without disrupting the overall coherence. Khotin's "hybrid media" proposal closely aligns with this trajectory, as seen in *Bandersnatch*, which employs a structured narrative enhanced by player input. Yet IDN forms are not mutually exclusive (ibid., 11). David Cage's interactive dramas and *Until Dawn* combine cinematic features with ludic elements: though narrative agency remains limited, positioning them near the cinematic form, they still allow more interactivity than *Bandersnatch* through avatar movement and environmental exploration.

Hybrid media, interactive digital narrative, interactive movie—such terms can also be applied to games of the 1980s and 1990s where interaction was largely confined to QTEs and the appeal centered on the

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1 Hot media are low in participation, while cool media are high in participation or completion by the audience. An example of a hot medium would be the radio, while an example of a cool medium would be the telephone (McLuhan, 1994: 23).

novelty of full-motion video (FMV). FMV refers to video produced outside real-time graphics—live action, cel animation, or pre-rendered CGI—played back from storage media. Enabled by laserdiscs and later CD-ROMs, these games combined pre-recorded audiovisual content with minimal interactivity. *Dragon's Lair* (1983) and *Night Trap* (1992) exemplify early cinematic experiments, while *Phantasmagoria* (1995) and *Harvester* (1996) adapted FMV to adventure game conventions. During this period, the industry was testing ways to merge recorded media with player agency, often marketing such works as interactive "moviegames", which can be read as precursors to *Bandersnatch* and *Until Dawn*. Examining them through a media-archaeological lens uncovers continuities and ruptures in interactivity, aligning with Elsaesser's notion of media history as "[…] tracing paths or laying tracks leading from the respective 'now' to different pasts […] in modalities that accommodate continuities as well as ruptures" (2004: 99).

However, not every FMV game qualifies as an interactive film. Chris Hales defines the latter as a "[…] representation of primarily prerecorded moving-image sequences, the display of which can be affected by the audience or a performer" (2015: 37). Thus, titles like *Phantasmagoria*, and *Harvester*—despite using FMV—are structurally closer to adventure games, with the key difference being that avatars and NPCs are digitized footage rather than pixel-based graphics. By contrast, *Night Trap* and Don Bluth's laserdisc works (*Dragon's Lair*, *Space Ace*) align with Hales's definition, as player input directly triggers different prerecorded sequences, whether live-action or animation. As Hales stresses: "Whether fiction or nonfiction, art or game, interactive films require moving image content in the form of prerecorded sequences—as opposed to real-time manipulation of video […]" (2015: 37).

This article focuses on FMV games that fit this definition, though adventure-like titles remain relevant to discussions of interactivity in recorded media. *Phantasmagoria*, for instance, blends FMV cutscenes, QTEs, and point-and-click gameplay, and its live-action digitalization blended with its balance of both the ludic and cinematic forms of IDN suggests structural affinities with *Until Dawn* and David Cage's interactive dramas—though further analysis of these lies beyond the present scope.

2. From Analog to Digital: A Concise Archaeology of Interactivity in Recorded Media

Before turning to FMV games, it is worth noting that interactivity in recorded media predates the computer. One early cinematic example (though illusory) was William Castle's *Mr. Sardonicus* (1961), which featured a "Punishment Poll"—an "interactive" gimmick where audiences voted on the fate of the antagonist using glow-in-the-dark "Mercy" or "No Mercy" cards. Just before the final scene, Castle appeared onscreen to invite the vote, with promotional materials likening it to Roman crowds deciding a victim's fate and stressing the audience's power as a selling point (Castle 1976: 164–65). Only the "No Mercy" ending is known, and though Castle claimed a merciful version was shot, cast testimony and archival searches suggest otherwise.

The *de facto* earliest example of interactivity in film can be found in *Kinoautomat: A Man and His House*, which debuted on the Expo 67 of Montreal. It was a theater equipped with a voting system at each seat, featuring buttons to be used whenever the protagonist appeared on screen asking the audience for advice. The votes were displayed in a frame surrounding the screen, and the narrative continued along the path chosen by the majority. Although it gave the impression of multiple narrative paths—reinforced by a host and claims of 32 possible endings—the story always returned to the same conclusion (Navarro Remesal 2019: 34).

The *Kinoautomat* required a human intermediary to execute audience choices, and direct interaction between the spectator/agent and a cinematic experience was not possible until the late 1970s when MCA/Philips, Pioneer, and RCA introduced the laserdisc system, which allowed random, direct access to every point in a video (Koenitz et al. 2015: 14). The technology remained in use until the late 1990s, when it was replaced by the CD-ROM and DVDs, optical discs that offered digital video instead of analog. While the laserdisc never achieved widespread consumer adoption, it was notable for providing reasonable video quality and allowing for nonlinear access to content, making it more versatile than traditional videotapes. One of the earliest explorations of this nonlinear potential was *The Aspen Movie Map*, developed by the MIT Machine Architecture Group between 1979 and 1981. This project transformed filmed car journeys through the grid-like streets

of Aspen, Colorado into a navigable video experience in which users could explore the city interactively (Hales 2015: 39).[2]

Since laserdiscs could be adapted to computer interfaces, it was possible to use them in multimedia games. Arcade cabinets in the early 80s took advantage of such technology to stand out among the pixel or vector-based games that dominated the market. *Interstellar* (1983), *M.A.C.H. 3* (1983) and *Firefox* (1984) are examples of titles that used laserdiscs to display detailed backgrounds behind the standard sprites. These games, however, didn't offer a high level of interactivity with the pre-recorded footage: gameplay happened independently to the pre-recorded videos, which were used simply as non-interactive backgrounds. A stronger example of laserdisc interactivity in the arcade is American Laser Games' *Mad Dog McCree* (1990), a light-gun shooter based on Western-themed, live-action video sequences.[3]

None of the laserdisc examples discussed so far employed prerecorded media to convey narrative, instead emphasizing exploration or gameplay progression rooted in ludic immersion: a deep absorption in the performance of a task, independent of the mimetic content of the game (Ryan 2009: 53). Yet laserdisc technology was also used narratively, as in the *MysteryDisc* series—*Murder, Anyone?* (1982) and *Many Roads to Murder* (1983)—which offered branching detective stories with multiple endings, navigable via remote control, anticipating mechanics later seen in *Bandersnatch*. In the arcade market, meanwhile, a smaller trend of interactive animation emerged in the early 1980s—beginning with *Dragon's Lair*.

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2 An earlier example of interactive navigation can be found in Peter Kamnitzer's *City-Scape* (1968). Developed in collaboration with General Electric and NASA's Manned Spacecraft Center, the project used a $2 million real-time computer system (NASA II) to generate a fully computer-modeled cityscape made from coded mathematical equations which offered six degrees of motion and dynamic, perspective-correct navigation through a virtual environment (Youngblood, 2018: 251–6). Both *City-Scape* and *The Aspen Movie Map* pioneered new forms of spatial interactivity, but with contrasting aims and methods. *City-Scape* was a fully computer-generated simulation of a hypothetical city, designed to let users pre-experience alternative urban futures in real time, using mathematical models and simulation hardware. In contrast, the *Aspen Movie Map* offered an interactive, video-based navigation of a real city, built from filmed footage stored on laserdiscs.

3 Nintendo had explored a similar concept in the early 70s with their cabinet *Wild Gunman* (1974), an electro-mechanical arcade machine that employed a light gun connected to a 16 mm projector (Giant Bomb n.d.).

3. *Dragon's Lair:* Laserdiscs and the Arcade

While the art and home-video sectors used laserdiscs for branching narratives, the video game industry also exploited the medium's nonlinear potential. Rick Dyer, inspired in the 1970s by the text-based game *Adventure*—a precursor to *Zork* that impressed him with its ability to simulate a "responsive, intelligent world" (Dyer 1996)—sought to combine such interactivity with high-quality visuals. Laserdiscs made this possible by enabling full-motion animation far beyond the pixel or vector graphics of early 1980s arcades. To realize the animation, Dyer turned to Don Bluth, who had left Disney in 1979 frustrated by its "bureaucratic" direction and prioritization of "efficiency and profit" over artistry (Bluth 2022: 173–75). Seventeen staff members joined him to found Don Bluth Productions (ibid., 195). Their debut feature, *The Secret of NIMH* (1982), drew Dyer's attention and led to their collaboration on *Dragon's Lair* (Bachaelor 2020).

Unlike most games of the era, programmed mainly by engineers, *Dragon's Lair* was the product of collaboration. Writers at Rick Dyer's Advance Microcomputer Systems (AMS, later RDI Video Systems) drafted the concept and passed it to Don Bluth Productions, where animators shaped it into cinematic storyboards. AMS provided stick-figure sketches, which Bluth's team translated into "cinematic and dramatic stagings" (Blakeman 1983: 34). The animation was produced like a feature film—cels drawn, painted, and filmed—then transferred to videotape, recorded onto laserdisc, and integrated with programmed instructions at AMS to respond dynamically to player input (ibid., 35).

By using a laserdisc player to deliver pre-recorded animated sequences, Dyer's team created an arcade game that looked like a cartoon. The engine would simply jump to different video tracks on the disc depending on input, a limited though still significant early example of the encyclopedic affordance of digital environments pointed out by Janet Murray in *Hamlet on the Holedeck* (1997: 82–90). It's important to point out however that in *Dragon's Lair* such affordance was exemplified by an analog-digital hybridism that combined the laserdisc's storage and retrieval capacities with its integration with the arcade's computer (Majewski and Knight 2025: 7).

Narratively simple, *Dragon's Lair* casts the player as Dirk, a knight navigating castle traps to rescue Princess Daphne from the dragon

Singe. Unlike live-action interactive movies such as the *MysteryDisc* series, it offered no branching paths; its appeal lay in professional, film-grade animation that contrasted with the sprite-based arcade norm. This distinction drove its 1983 success, earning $32 million in coin-drops its first year (Bluth: 229) and $43 million in cabinet sales (Bacarr 1984a: 11) on a $3 million budget (Clarke 2022: 39). Not even the high price hindered its success, as it was the first game to cost 50 cents a play instead of the usual quarter (*Daily Advertiser* 1983*:* 125; Gresham 1984: 15).

Dragon's Lair's commercial success led to many imitators. While cabinets like *Cliff Hanger* (1983) utilized footage from previously existing movies in the *Lupin III* franchise to cash in on the laserdisc interactive animation craze (Packwood 2022; Williams 2023), other developers adopted the same approach as Dyer and Bluth, producing original animations for interactive movies like *Ninja Hayate* and *Super Don Quixote* (1984) or movie-shooter hybrids like *Cobra Command* (1984). Dyer and company would even release another laserdisc title in the form of *Space Ace* later that year.

Despite this initial buzz, these games were very limited in terms of gameplay. Let's take *Dragon's Lair* as an example: interaction with characters relied solely on QTEs, and the player had to react to light cues on screen to do the right move. If the player failed in enough of the QTEs, it was game over, and if the player managed to get all of them right, they were rewarded with the progression of the story. Considering Janet Murray's definition of agency as "…the satisfying power to take meaningful action and see the results of our decisions and choices" (1997: 123), *Dragon's Lair* doesn't offer much in terms of active participation in shaping the narrative. There are only "correct" and "incorrect" actions to take during Dirk's journey to rescue Daphne, not much room for meaningful branching choices other than in which door to enter when going down the stone elevator.

Still, the search for higher player agency and forking narrative paths were part of the developers' ambitions during the early years of laserdisc games. Bluth expected future breakthroughs with laserdisc interactives to appear in two years' time. By combining multiple discs in one game, he hoped future players would, perhaps, "…come across games whereby a move to the right would invite a totally different adventure" (Robley and Kunkel 1984: 44). Meanwhile, Gary Goldman (Bluth's

animation director) was aware of the mechanical limitations of their games. He stated that there could never be total control with laserdisc, or any video game that was out then. What they were able to provide was the illusion of total control, which they hoped to increase in future projects like *Space Ace.* To him what projects like these were offering was a "…window of the future, a means by which gamers can play movies" (ibid.).

In this hope of increasing the illusion of control, developers gave the player a larger range of choices to make during their journey in *Space Ace*. It had three different modes, with only the hardest showing all the animated sequences. Throughout the game, players were presented with choices like whether to "energize" Dexter into Ace or remain in their normal form, or which path to take when faced with different routes. These decisions altered the order in which the challenges and scenarios were laid out, creating variations in story progression; and by giving the choice to energize Dexter, players could deal with the enemies in distinct ways: not energizing resulted in simply skipping the fight scenes, while turning into Ace led to a more confrontational approach where they had to go through more QTEs and directly face Borf's goons. Still, despite these branching paths, the story always converged to the same conclusion: Dexter defeats Borf and rescues Kimberly. There were no alternate endings, only various ways to fail QTEs, which, just like in *Dragon's Lair*, triggered different animations depending on which part of the game world the failing point was.

Both games were guided by a linear narrative that moved from point A to point B. However, *Space Ace* offered more variability to the sequence of events, increasing the player's sense of agency. Both offered mechanisms that affected the order of rooms/scenarios the player would face, but while in *Ace* these were determined by the paths taken by the player, in *Lair* they were determined by a randomization system that established a certain sequence of rooms independent of player choice (Dragon's Lair Project 1997). This randomization was a way of increasing variability, but it didn't have the same meaningful effect on narrative agency as the one employed by *Ace*. Therefore, *Space Ace* represented a step forward in terms of meaningful interaction when compared to *Dragon's Lair*, enhancing the "illusion of total control", even if only by a small margin, without providing true narrative divergence.

But the dreams of total player control would not come with the laserdisc. The limitations of the titles that relied on the technology led to harsh criticism not only of their gameplay mechanics, but also their profitability and efficiency. By the end of 1984, the laserdisc arcade craze collapsed. While initially successful due to the novelty of their visuals, these games quickly revealed themselves to be unreliable, expensive, and lacking lasting play value. With arcade revenues plummeting during the video game crash,[4] many planned laserdisc projects at companies like Atari and Midway were cancelled, and by 1985 the "interactive movie-game" trend was waning (Williams 2023).

Arcade laserdisc games would pick up again in the early nineties with titles like *Mad Dog McCreed* (Majewski and Knight 2025: 6) and other American Laser Games productions like *Crime Patrol* (1993). Rick Dyer was again involved in laserdisc game development, creating *Time Traveler* for Sega in 1991 and releasing the follow-up for *Dragon's Lair* the same year. But his games were still similar in terms of gameplay to the RDI productions of the 80s and couldn't compete with new releases like *Street Fighter II* (1991) (Packwood 2022). Light gun shooters were where the success for laserdiscs was in the early 90s, not QTE games like *Lair* or *Ace*.

Around the same time laserdiscs were making a comeback in the arcades, the format got its home console in the form of the LaserActive.[5] Launched in 1993, it was a hybrid console capable of playing both CDs and laserdiscs plus additional hardware add-ons that enabled compatibility with multiple gaming consoles, as well as being compat-

4 The video game crash of 1983 was the result of several overlapping problems that destabilized the industry. The market became oversaturated with hastily produced, low-quality games, while companies like Atari overestimated demand and flooded shelves with unsold cartridges. At the same time, economic inflation hurt arcade profits, rampant cloning undermined consumer trust, and home computers emerged as attractive alternatives to consoles. Together, these factors caused revenues to plummet by almost 97 % in just two years, leaving the industry in a state of collapse until Nintendo's stricter quality control and innovative business practices helped it recover (Williams, 2016).

5 Rick Dyer had previously attempted to develop a laserdisc console in the mid-80s. Called Halcyon, it was a voice-controlled computer with speech recognition and AI-like interactivity intended to bring cinematic experiences more complex than *Dragon's Lair* straight to the living room (Bacarr, 1984b: 9). However, its exorbitant proposed price of around 2,000 dollars doomed its commercial release, and only prototypes were ever produced (Stuart, 2015).

ible with conversions of laserdisc arcade games like *Road Blaster* and *Time Gal* (1985). However, its extremely high cost and small software library rendered it a commercial failure (Packwood 2022).

The era of the laserdisc was over, but the popularity of FMV games was about to rise once more thanks to other recording technologies. With the advances in personal computers and the increasing capacity of storage mediums, new titles blending interactivity with pre-recorded media were about to achieve some success in the home market. Interactive movies weren't limited to the arcade or expensive consoles anymore. Now, they could be played at home using computers, gaming consoles and CDs.

4. CD-ROMs, CD-Is and Digital Interactivity

Created by Philips and Sony in the late 1970s as a digital format for music, the CD wouldn't reach worldwide markets until the early 1980s. Due to its laser technology,[6] marketing material described it as having superior sound quality and durability over vinyl records. It was presented as a groundbreaking step in music consumption, promising "perfect sound" and protection from physical wear (Walsh 1983). By the mid-1980s, the computer industry recognized the medium's potential for data storage: after all, CD players simply read bits (digital data) from a disc.

Research on adapting CDs for computational use developed into two competing formats: the CD-ROM (Compact Disc Read-Only Memory) and the CD-I (Compact Disc Interactive). Sponsored by Microsoft, a CD-ROM conference was held in Seattle during the first week of March 1986. Showcasing the promises of this new technology, its centerpiece was the soon-to-be-released first commercial CD-ROM title: the complete 21-volume *Grolier Academic Encyclopedia*, about

6 Both laserdiscs and CDs utilized lasers and optical pickups to read pits and lands on a reflective disc, but while laserdiscs employed bulky helium-neon lasers for analog video, CDs adopted compact semiconductor laser diodes for digital audio, making the format cheaper, smaller, and more practical for mass consumption (Repair FAQ).

200 MB of text on a single disc.[7] Just before this conference Philips introduced the CD-I, a consumer-oriented format meant to bring interactive multimedia into the living room that promised encyclopedias with videos, language options, sing-along operas, and sophisticated games controlled with a simple remote. However, the reality of the CD-I was quite different in its early stages: technical limitations such as low data transfer rates and weak video playback made these multimedia promises nearly impossible. Meanwhile the CD-ROM gained traction in business and academia, offering products like *Microsoft Bookshelf*, which bundled multiple reference works onto one disc. By 1987, the two fields were established—the CD-I pursued the path of home entertainment, while the CD-ROM secured a role in information storage and professional use (Maher 2016).

It would take until 1991 for CD-I hardware to hit consumer shelves, but it struggled to achieve mainstream success due to its high cost, limited content, and competition from emerging technologies (Chamberlain and Hutchison 1993). Moreover, although Philips had advertised digital video as an integral part of the system, the feature was not ready at launch, leading the company to announce a separate plug-in module for later release (ibid., 1). A DV cartridge (Digital Video) was required for playing movies and music videos (Clough 1994: 5), and once the peripheral was available some games were developed for the system as well as ports for laserdisc titles like *Mad Dog McCree* and Don Bluth's interactive cartoons.

But not every medium containing FMV elements needed the DV cartridge to work. The first interactive movie developed for the CD-I, *Voyeur* (1993), made use of the native hardware to display limited video sequences. Directed by Robert Weaver and designed by David Riordan, it was filmed using digital matte technology: live-action sequences were recorded in front of a blue screen, and actors were later composited into digital environments. This method provided flexibility in layering visual elements onto the CD-I's limited native video output, as the platform determined that only 30 % of the total screen space could be full-motion video (Southwell 1994: 11). Voyeur's narrative unfolds

7 An impressive amount of data stored in a single medium. Hard disks in the mid-80s offered around 10–20 MB, while CDs had storage capacities of over 600 MB (Maher, 2016).

over the course of a single weekend at the mansion of Reed Hawke, a wealthy businessman preparing to announce his candidacy for the U.S. presidency. The player plays the role of a private investigator who spies on Hawke and his family through hidden cameras across the estate. A murder is prone to happen by the end of the week, and the goal is to find enough evidence to stop the killer. These come in different forms: video clips, audio fragments, documents. Gameplay is structured around monitoring different rooms at specific times of day: all scenes begin simultaneously, so choosing one perspective always comes at the cost of missing another. Including performances from TV and movie actors like Robert Culp and Grace Zabriskie, *Voyeur* also contained four distinct storylines randomly booted by the hardware (ibid., 11), giving it some level of variability.

When these interactive titles were launched, the video advantages of the CD-I over the CD-ROM weren't as apparent anymore. With the development of codecs like cinepak it became possible to store and play full-motion video in CD-ROMs (Steaming Media, n.d.). They became the industry standard not only for distributing software, encyclopedias and educational programs, but also for games and interactive media. Benefiting from being tied to the rapidly growing PC market, CD-ROM drives were standard in most home and office computers by the mid-90s (Belsie 1994). Meanwhile, the CD-I wasn't compatible with PCs, leading to the discontinuation of the format by the end of the decade (C^2DH 2025).

With the ability to display FMV and being compatible with PCs, CD-ROM started to become a standard for CD-based gaming. The PC-Engine was the first console to have an add-on for CDs with the TurboGrafx-CD (released in Japan as CD-ROM^2 in 1988), which allowed larger game sizes and higher audio quality (Digital Radical 2023; Edwards 2010). The first standalone console built entirely around CD-ROMs was the 3DO (1993) (Norat 2025), and through the mid-90s many others followed (Meharry 2017). Meanwhile, PC gaming was also making use of CD-ROMs, and successful titles like *Myst* (1993) found commercial and critical success[8] by blending pre-rendered 3D

8 The game sold over six million copies in 1993 and remained the best-selling PC game of all time until 2001 when it was surpassed by *The Sims* (2000) (The Strong National Museum of Play, n.d.).

graphics, point-and-click mechanics, puzzles and a live-action FMV cutscenes (Myers 2023).

Before the mid-nineties' surge of standalone CD-ROM consoles, Sega approached CD technology in a similar way to the PC-Engine. The Sega CD was released in Japan in 1991, an add-on for the Genesis that offered enhanced audio, expanded storage and, most notably, FMV capabilities. Games like *Sewer Shark* (1993), *Ground Zero: Texas* (1993) and even ports of laserdisc titles like the *Mad Dog McCree* series, *Dragon's Lair* and *Space Ace* became part of its library of interactive FMV. Despite its ambitious technology, the Sega CD didn't reach critical or commercial success, as many players and critics found its FMV titles lacking in meaningful interactivity (Horowitz 2005). Still, one game in its library would become an integral part of video game history: the interactive movie *Night Trap*, which became infamous in 1993 when it was cited in U.S. congressional hearings on video game violence and obscenity, leading to the creation of the Entertainment Software Rating Board (ESRB).

5. *Night Trap:* Vigilance and Parallel Narratives

Released for the Sega CD in 1992, *Night Trap*'s development didn't begin with Sega. Just like *Sewer Shark*, it started as a title for a never-released console by Hasbro: the Control-Vision (or NEMO). Starting its development in the mid-80s by its affiliate company Axlon (created by Atari founder Nolan Bushnell), the system aimed to bring laserdisc-like interactivity into homes using the more affordable VHS technology. While VHS fidelity wasn't as high as the laserdisc, it offered greater storage at a lower cost and was already a household standard. The Control-Vision would exploit VHS and analog TV features to simulate interactive experiences, such as switching between camera feeds (something seen in *Night Trap*) and real-time interaction like in *Dragon's Lair* (Parish 2018).

Developers created a couple of demos for the NEMO, like *Scene of the Crime* (an interactive detective story where the player must shift through different surveillance cameras to discover who stole the money from the safe) and *Bottom of the Ninth Inning* (a baseball game)

(Plunkett 2011). These eventually culminated in the filming of feature games *Night Trap* and *Sewer Shark* in 1987. However, Hasbro canceled Control-Vision by late 1988, as the cost proved prohibitive when compared to the NES (ibid.). Moreover, the emergence of CD-based computer technology, which offered high-capacity, non-linear storage that was better suited for interactive media, would have made a VHS-based console obsolete due to the native linearity of tapes (Parish 2018).

In 1991 NEMO supervisor Tom Zito founded Digital Pictures, acquiring the rights for *Night Trap* and *Sewer Shark* and repurposing them for the Sega CD (McFerran 2018). *Night Trap* would be released in 1992, and *Sewer Shark* would follow the next year. While the latter was a blend of interactive movie and rail shooter, the first took the design of *Scene of the Crime* as a blueprint for its gameplay and narrative.

Designed by Rob Fulop and James Riley (also credited as the director), who had helped develop *Scene of the Crime* (ibid., My Life in Gaming 2017), *Night Trap*'s gameplay was based on surveillance cameras and QTEs. The story follows a group of teenage girls invited to stay overnight at the Martin family's house. Among them is undercover S.C.A.T. agent Kelly, who has infiltrated the group to help monitor suspicious activity at the residence. It turns out the Martins are secretly collaborating with the Augers, vampire-like creatures who use mechanical claws and drills to drain their victims' blood. The player, working remotely as another S.C.A.T. operative, observes the events of the night through the house's network of hidden cameras. These cover eight rooms, and gameplay revolves around quickly switching between videos, eavesdropping on conversations, and capturing Augers by triggering hidden traps. The surveillance feeds run simultaneously, so staying in one room inevitably means missing events elsewhere. Failing to trap a sufficient percentage of Augers—who constantly invade multiple areas of the house—results in game over, leaving little time to linger on conversations. The player's main objective is to safeguard the teenagers and, after the midway point, the S.C.A.T. agents who enter the house, by capturing as many of the bloodsucking creatures as possible. At the same time, attention must also be paid to dialogue, since the Martins occasionally change the security systems color-code, restricting access to the traps. These colors are randomized with each playthrough, adding an extra layer of unpredictability to the gameplay.

New players will most likely fail numerous times before getting familiarized with the interactive mechanics, and the narrative is pieced together over multiple plays and exposure to different video fees chosen at will by navigating the surveillance system. This delivery of information through simultaneous, parallel storytelling directly correlates to experiments in interactive TV being done in the early 90s, which explored how audiences could engage with branching perspectives on the same story. For example, Oliver Hirschbiegel's *Mörderische Entscheidung* (1991) broadcast two simultaneous versions of a crime narrative on separate channels, encouraging viewers to switch perspectives with a remote control. The experiment tested different strategies, such as reducing information on one channel to prompt switching (Koenitz et al. 2015: 14). *Night Trap*'s narrative strategies are similar: the story is fragmented across the eight video fees, but the cameras aren't constantly delivering significant narrative information or interactive options. There are moments when rooms are completely empty, incentivizing the player to instantly change perspective. The narrative is always partial, and it is impossible to paint a full picture of the events in a single playthrough. Repetition solidifies the story, as multiple playthroughs lead to variations in which camera the player will choose to watch and therefore which elements of the story will be revealed to them.

The game's design directly ties surveillance with agency, as the player has access to the whole house and can see conversations, plot reveals, and intruders approaching according to their own navigation of the system. On the other hand, outside of these switching perspectives, interaction with the world is still limited to QTEs (for trapping the Augers). The design also plays with the limits of agency, as the fragmented nature of the events forces the player to constantly choose between competing possibilities. It demonstrates a greater level of interactivity and variability when compared to titles like *Dragon's Lair* and *Space Ace*, but its story remains non-branching: there are multiple scenes, but they occur in parallel, and lead to a couple of distinct endings that vary slightly depending on which characters are saved. There are no huge narrative shifts happening depending on player performance or choices, only different death scenes for the "bad endings" and a congratulatory discourse by Kelly for the "good ending". *Night Trap*'s main mode of interactive storytelling isn't narrative variability, but narrative fragmentation, the distribution of scripted sequences across multiple

rooms that make narrative progression dependent on navigation, a narrative web where agency is experienced as the ability to control what to see and when to act.

6. Conclusion: An Archaeological Approach

From William Castle's gimmicks to *Night Trap*'s fragmented surveillance-based narrative and *Bandersnatch*'s globally distributed streaming experiment, the history of interactive movies demonstrates a continuous negotiation between cinematic storytelling and interactivity. While technologies have shifted—from film to laserdiscs to CD-ROMs to online streaming—the core tension remains the same: how to balance cinematic presentation with participation. Still, as the materiality of the support medium changed, new possibilities were implemented. The development of non-linear storage mediums and their technological advancements throughout the 80s facilitated the development of a variety of interactive titles. Laserdiscs allowed near-instant access to any point in a video, making it technically possible for creators to design titles like *Dragon's Lair* and *Murder, Anyone?* CD-ROMs further expanded these possibilities in the early 1990s, providing not only greater storage capacity but also more versatile computational capabilities. The combination of video, audio, graphics, and user input allowed developers to craft more complex, multimedia-rich experiences, where simultaneous video feeds were made possible like in *Night Trap*, or where interactivity was not limited to QTEs but could involve puzzles, exploration, and emergent storytelling like in *Myst*.

By returning to earlier experiments in interactive narratives, we embrace the perception of media history as "… a succession of distinct and equally expressive languages, each with its own aesthetic variables, and each closing off some of the possibilities of its predecessor" (Manovich 2001: 8). Seen from this perspective, the categorization debates—whether *Bandersnatch* is a film or a game, or whether *Until Dawn* lies closer to cinema or to gaming—become less pressing than recognizing their shared participation in a broader media ecology. Laserdiscs and CD-ROMs, as material forms, exemplify how technology shapes aesthetic choices, audience engagement, and narrative possibili-

ties, highlighting that interactivity emerges from the interplay between media, technology, and user participation.

Ultimately, rather than fitting these works into rigid categories, it may be more productive to view interactive movies and FMV games as part of an evolving spectrum of audiovisual storytelling in which cinema, games, and digital media continuously intersect, overlap, and transform one another. Each technological shift—from linear film to laserdisc, CD-ROM, and eventually streaming—offers different forms of participation that still communicate with earlier developments in technology, aesthetics and mechanics.

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Ludic Interactions and Poetic Relations. On the Semiotic and Aesthetic Interfaces between Cinematography of Animation and Digital Games

Tiago da Costa e Silva

Abstract

This chapter explores the aesthetic and semiotic interfaces between animation cinematography and the evolving structures of digital games. Animation, as a synthesis of sequenced images, has long extended its expressive power beyond mere movement into the poetic realms of metaphoric and iconic sign articulation. With the advent of interactive media and gamification, this expressive potential enters new territory: the interfacial-ludic and, consequently, the interactive-poetic. The guiding hypothesis of this paper states that at the intersection of the ludic and the poetic, the aesthetic comes into play—for it embraces the dynamics of interfaces and interactions in the symbiotic creation and projection of new imaginative realms and dimensions, redefining, in turn, the receptive and productive dimensions of gaming. Building on Charles S. Peirce's semiotics and Roman Jakobson's poetic function of language, the paper introduces the concept of the semiosic dispositive—a dispositive not only in the technical-medial sense but also as a generative framework that enables, sustains, and reconfigures sign systems in diagrammatic form. This involves the haptic, the syncretic, and the emergent interplay of internal interactions, which prompt new configurations of language and media articulation. Through this lens, animation and games are read as intertwined modalities: both rely on diagrammatic structures of language and active engagement with diagrams themselves, proposing interactive rhythms that reconfigure narrative and sensory experience. The paper traces the evolution from the photochemical dispositive of cinema to today's interactive digital interfaces, showing how animation's poetic language migrates into the logic of rule-based play. It proposes a model for analyzing how narrative, interaction, and iconicity form hybrid assemblages across dispositive thresholds, thus

potentially establishing an intended language-status toward speculative media such as real-time projected and interactive holography. This contribution situates animation and games within a unified aesthetic-semiotic field—or, more precisely, within a semioesthetic paradigm—framing them as ludic-poetic systems whose shared interfaces redefine mediation, narration, and, subsequently the cultural phenomenology of play.

Keywords

Animation cinematography, digital media, semiosic dispositive, poetic, ludic, aesthetics

> Fiction is to the grown man what play is to the child;
> it is there that he changes the atmosphere and tenor of his life.
>
> Robert Louis Stevenson. *A Gossip on Romance*, 1882.

1. Introduction

1.1 The Play and the Musement

It is, by now, a foregone conclusion to affirm that storytelling shaped humanity, and, attached to storytelling, there are two other important components. On the one hand, as J. Huizinga (1950) has already brought to attention, there is the sapiens—the intellectual, intelligent—referring to the logical attributes in the formation of every culture. Yet, the storytelling attached to it becomes characterized by, and perhaps simultaneously defines, humanity's cultural tendencies toward narrating stories: the process of making, in the form of the *faber* – the maker in the sense of realization—and the ludens—the ludic, the play, the poetic. Storytelling, the creative, the narrative, the sage, the oracle, all of these instances that deal with forms and sequential developments of events in time bearing ludic, projective, cathartic, apocalyptic, and moral fruits, all share a similar structure, namely

what Aristotle characterized as epic, something unfolding in time, in sequence. Within this epic, there is also the lyric, intrinsically poetic, dubious, and ambiguous in sense, yet fruitful in its meaning-making power: continuous over time, timelessly joyous. And, too, there is the dramatic, involving the *personae dramatis*, to which the hearer or reader of the story will relate. Stories become actual when relatable; they become matters of thought, implication, continuity, and, also important for our present topic, matters of inspiration and, in its broadest sense, invention.

It is not the only feature of play, of the *Spieltrieb*, the willingness to play—as Friedrich Schiller posited in his *Über die ästhetische Erziehung des Menschen in einer Reihe von Briefen*—to create an aesthetic condition to teach some value or some vectorial ethos through the articulation of story, though a story can acquire this function, either willingly or by chance. Instead, and far more compelling, is the attractive and affective power of play in refreshing perception as well as conduct: the realization, the change of habits of conduct, which might potentially occur when play is at the center of creation or invention—or, at least, at the center of any propensity to inventively initiate something new. This could range from a new line of thought or a new form of conduct related to invention and inspiration just metabolized, up to the production of any form of content in any possible medium.

It is not by chance that the North American chemist, mathematician, logician, and semiotician Charles S. Peirce (1839–1914) wrote about one of the most important activities of mind: that which leads toward receptivity to the highest forms of perception, opening into an inspirational and incubative process that might render fruitful results. These results, as we shall see, are much more substantial than a simple act of imagination or a single moment of inspiration. They lead to *Musements*, to movements of the mind that learn how to connect with or insert themselves into dialogue with the realms of aesthetics and the artistic—being both receptive to aesthetic processes and objects, as well as inspired toward the realization and implementation of such Musements in poetic terms. But let us not get ahead of ourselves. As Peirce mentions, "there is a certain agreeable occupation of mind," a "Pure Play," as he calls it, "the lively exercise of one's powers" within an environment of pure and boundless freedom of fancying and

imagining (cf. EP2 1908: 436–437).[1] Yet, it is more than that. The *Play of Musement* calls for such a perceptive opening regarding any state of things or matter, or even the freest inspiration, that it serves as an impulse for musing, something that catches the attention and the aesthetic interests of the muser, and begins to render productive impressions. Soon, these impressions become attentive observations, then observations into musings, and "musings into a lively give-and-take of communication between self and self" (ibid). As Peirce recommends, if one were to ask him how to experience this musing power of freedom, he would rather poetically, making use of a poem,[2] say: "Enter your skiff of Musement, push off into the lake of thought, and let the breath of heaven swell your sail. With your eyes open, awake to what is about or within you, and open a conversation with yourself; for such is all meditation" (ibid). And yet, Peirce adds: "It is however not a conversation with words alone, but is *illustrated, like a lecture, with diagrams and experiments*" (ibid., emphasis added).

Adding to Peirce's reflection, another North American philosopher, John Dewey (1859–1952), in his book *Art as Experience*, contends that if any production possesses an aesthetic, poetic, or artistic quality—qualities attributed to certain receptive as well as productive capacities—this production "presupposes a prior period of gestation in which *doings* and *perceptions* projected in imagination interact and mutually modify one another" (Dewey 1934: 52, emphasis added). Considering the Play of Musement as an experience, an aesthetic one, it is our opinion that both approaches bear quite similar meanings: receptivity and productivity of new ideas and actions with aesthetic quality, cultivated through a certain self-control that enables, for that matter, if conditions for that *are present*, the receptivity, the perception, and the interaction with aesthetic and poetic realms. Accompanying the idea of interaction and interactivity, the former indicating the properties of a potential action of putting two or more informational sources in dialogue, the latter indicating a characteristic permutability and learning capacity

1 This specific reference indicates the work *The Essential Peirce. Selected Philosophical Writings, 1893–1913, Vol. 2*, as indicated in the bibliographical references. The abbreviation of this publication is the following: EP2, followed by the page number and the date of the production of the text.

2 Peirce quotes a passage from the poem *Human Frailty* by William Cowper (1731–1800).

implied in the informational sources utilized (cf. Braga 2010: 26–29; Couchot et al. 2003: 27–38), there is, for sure, an advancement involving the aesthetic reception and production related to digital games, that is, the ludic interaction—much more than simply 'playability', involving an esthetic experience at this level in the sense similar to that proposed by the Italian philosopher and aesthetician Luigi Pareyson (1918–1991). We suggest that, while playing and being immersed in the interaction of a particular game, the action herein is that of *forming* in Pareyson's sense. This means here, as *forming*, that the productive force and the inventive capacity are abilities required both by thought and action, given the fact that speculative and practical operations are constituted by a *formative activity*, which, in the concerned field—and here we mention the field of digital games—*execute* and *produce* works, actions, at the same time as they *invent* the very manner in which these works will be carried out (cf. Pareyson 2007: 37, 72–73).

1.2 Theoretical Framework and Scope of the Present Inquiry

Let us propose an interlude here. After this somewhat provocative introduction of the terms *Play*, *Musement*, and *Formation*, we must assure the reader that the reflections proposed in the present paper are not vague, but refer concretely and experientially to lived and experienceable operations within the cinematographic, audiovisual, and digital game realms.

There is a great deal of content, impulses, narrative, and structural exchange between cinema and audiovisual media in general and digital games in particular, wherein these two realms interconnect to the point of suggesting new stories, new narratives on the one hand, as if their clash would generate a myriad of possible world-buildings; and, on the other, the possibilities of multiple and varied constructions of strategies, outcomes, and forms of conduct relative and natural to the environment of games. This is what is called *intersemiotic translation* (cf. Plaza 2003). We know from experience, by now, that this is the case: let us take, as an example, the digital game *Alien Isolation* (2014), which is a survival-horror game in first person constructed to render the universe-characteristics of the film *Alien* (1979) interactively. The claustrophobic settings, the fear, the strategy, the no-win feeling of

the film is reconstructed in the game, as the main character, another leading lady—similar to Ellen Ripley, the protagonist of the first film and also of the second film, *Aliens* (1986). The game requires a careful play with strategy and thinking, for in this game most of the decisions will have consequences while facing the in-built responsiveness of the antagonist, the Alien drone. The main character is animated in a similar manner as in the film *Being John Malkowich* (1999): the player slips in her 'being' and co-animates the protagonist, without, however, her losing her own core as a strong leading character. As it turns out, there is much of the film's protagonist in the game's protagonist, as she, Amanda Ripley, is the daughter of the film's protagonist, Ellen Ripley.[3]

At the intersection of the ludic and the poetic, the aesthetic comes into play, for it embraces the dynamics of interfaces and interactions in the symbiotic creation and projection of new imaginative realms and dimensions, redefining, in turn, the receptive and productive dimensions of gaming. There is simultaneity as there is mutual conditionality operating in both realms, conditionality here understood not in the sense of a pure restraint, but in the sense of a mutual fecundation toward the inception of new outcomes within each particular narrative or game-universe spectrum. As is well documented, with the advent of interactive media and gamification—a term denoting the expansion of the realm of digital games and the potential of playability relative to its inherent interface—the expressive potential enters new territory: the interfacial-ludic and, consequently, the interactive-poetic, furthering aesthetic experiences, intersemiotic translations, and the potential reframing of the message, producing variations of its leitmotiv and spreading it across media-platforms. Exactly this point reflects the hypothesis guiding our present inquiry.

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3 It is interesting to note that the main argument for the development of the premise of *Alien Isolation* was based upon a scene of the film *Aliens* (1986) that was cut from the first version for the theaters at the time. The cut sequences, now available in the director's cut versions, show Ellen Ripley after the events of the first movie, in which she stayed in cryogenic stasis for the past fifty-seven years. Upon her rescue and return to Earth, she receives the news that her daughter, Amanda, who was eleven at the time of the first film (though unmentioned there), had passed away of old age. This becomes the main setting for the game *Alien Isolation*, as the character, Amanda Ripley, now in her mid- twenties, is looking for her mother.

In order to develop the main thesis of our paper, the central framework of inquiry is based upon Charles S. Peirce's broader framework for semiotics and Roman Jakobson's theory of the poetic function of language. These two theoretical frameworks, pervading our paper, inform the introduction of the concept of the semiosic dispositive. The semiosic dispositive defines not only the concept of dispositive in the technical-medial sense, or solely within a receptive-environmental setting, but also, and more importantly, reframes and reconfigures the broad notion of dispositive as a sign-producing, generative framework that enables, sustains, and reconfigures sign systems in diagrammatic form. This involves the perceptive, the haptic, the syncretic, and the emergent interplay of internal interactions, which prompt new configurations of language and media articulation. Through this lens, animation and games are read as intertwined modalities: both rely on diagrammatic structures of language and active engagement with diagrams themselves, proposing interactive rhythms that reconfigure narrative and sensory experience.

Methodologically, we present the development of animation as synthesis: the idea of generated, reconstructed movement within a medium for its visualization, the formation of perennial forms of movement-media, and the establishment of cinematographic language as the prime matrix for the embodiment of what we understand as audiovisual. Cinematography, as a medium, enabled the permanence needed for the creation of cinematographic language—language here understood first in the sense of Jacques Aumont (1996), as related to cinema, being a diagrammatic, heterogeneous assemblage of moving images, camera movement, music, sound effects, epic-like narrative form, dramatic aspect, the metaboly of the lyric within narration, editing, as the technical operation, and montage, as the aesthetic choices of putting the sequences together (cf. Aumont 1996: 53–70). Secondly, language is understood in the sense of sign-systems within certain media and mediatic *dispositives*, such as the cinematographic: an assemblage of codifying and decodifying signs, each capable of expression, communication, and thought-generation (cf. Santaella 2001: 379). These sign systems, too, are syncretic, multimodal—that is, they have distinct natures and qualify the sign action—i. e., semiosis – according to the potentialities and objects they represent and the interpretants they generate. Hence our proposal regarding animation as the bearer

and catalytic factor of the synthesis of sequenced images, which, with its expressive power beyond mere movement, enabled the formation of languages and the merging of hybrid digital interaction into the poetic realms of metaphoric and iconic sign articulation.

The present theoretical framework—Peirce's semiotics and Jakobson's poetic function of language—makes it possible for us to trace the evolution from the photochemical dispositive of cinema to today's interactive digital interfaces, showing how animation's poetic language migrates into the logic of rule-based play, especially interactive-digital forms. Moreover, based upon Lucia Santaella's concept of matrices of language formation, this paper proposes a model for analyzing how narrative, interaction, and iconicity form hybrid assemblages across dispositive thresholds, which can, even speculatively, potentially reach language status in emerging media such as real-time projected and interactive holography.

2. The Formation of the Cinematographic Language

2.1 From the Synthesis of Animation to Early Cinematography

As Étienne Souriau observed during the pioneering years of cinematography—correctly pointing to an outcome of a consolidated medium and language—the art of cinema lies in producing a transcendent impression of a world of beings and things, solely through the concerted play of lights, shadows, forms, and sounds. What began as a curiosity of moving images had become a new artistic language, capable of expressing abstract ideas, moral conflicts, and poetic visions with unique force (cf. Angel,1982: 7). The primeval search for moving images and its power of the telling of stories, a fascination that has evolved with us and accompanied the search for technical devices to embody these stories to some extent (cf. Da Costa e Silva 2016: 11–17; cf. Machado 1997: 13–14 and 33–34).

It is well known that a myriad of optical devices explored and expanded this fascination throughout the following centuries up to

mid-nineteenth century, a historical point in time, in which photographic procedures and technical advances in moving images would establish the dispositive apt to enable a more permanent device for storytelling (cf. Furniss 1998: 13).

It was, however, the Lumière brothers' cinematograph that consolidated what we can call the cinematographic paradigm. Their device recorded sequential photographs on a flexible strip of celluloid and projected them to audiences. These presentations emphasized cinema's capacity for analysis (capturing instants through photography) and synthesis (reconstructing motion through projection). At the heart of the system was the grip mechanism (*la griffe*, literally, 'the claw'), which advanced the film frame-by-frame in synchronization with the opening and closing of the shutter. At sixteen to twenty-four frames per second, this mechanism created the illusion of continuous motion while concealing the transitions between still images.[4]

Initially, the cinematograph was exhibited as a novelty alongside vaudeville acts, shadow plays, or magic shows. Films such as *Arrival of a Train at La Ciotat* or *Workers Leaving the Factory* (around 1895–6) displayed simple actions, often chosen for their abundance of motion. What began as a technical curiosity rapidly evolved into a new medium of mass entertainment and, potentially, scientific documentation.[5]

The emergence of cinema as a language came through the solidification of its perennial medium capable of producing syntheses of movement and attaching to it the potential for storytelling, something that was much more developed throughout the experiments with animation. Drawing inspiration from literature and theater, from drama and epic stories, but also from all manners of theatrical events, figures like Georges Méliès, among many others, extended the medium beyond recording to storytelling. Staged—in the sense of prepared,

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4 It is important to point out that this simple mechanism bears the status of a *cultural technique*, in the German sense of *Kulturtechnik*, as a device of mechanical origins—let's imagine the operation of the needles of sewing machines, for instance—that enabled, from the perspective of its simple mechanical motion, the future development of a true art form and proposed a revolution in storytelling.

5 By now, the famous anecdote about the Lumière brothers' consideration of their invention as a something of limited cultural future, being rather a curiosity at best, is well known. However, the impact that this technical advance brought about for the synthesis of movement, has proven its value as a technical device and its passage to a full-blown mediatic dispositive.

produced—narratives like *Voyage dans la Lune* (1902), where different sets, special effects, and a sequential narrative structure, generated with edition, juxtaposition, and montage, created the sense of a coherent story, resulted in an enduring cinematographic medium that was not theater filmed, but as an emergent cinematographic language: its own mode of expression. However, the moving pictures were not enough to found this language. The influences of drama, theater, in all of its forms, brought with it the sound and the musical planes into this medium, and would soon configure the cinematographic language.

Corroborating this point, scholars such as Jacques Aumont (1994), Claudiney Carrasco (1993, 2003), and Lucia Santaella (2001) have argued that cinema borrowed its foundations as language from literature and its specific character of telling a story. Adapting Aristotle's categories, he proposed that three literary genres infuse the cinematic form. The *epic* predominates, with its reliance on narration, omnipresent storyteller, and recounting of past events—in other words, cinema's fundamental mode of presenting a story. The *dramatic* appears as an adjectival genre, especially in scenes of direct action or dialogue where events unfold in the present, creating the emphasis on the 'here and now' of the message being conveyed—a characteristic coming also from the direct influence of theater of all sorts, as aforementioned. The *lyric* enters more subtly, coloring the narrative with subjective or poetic inflections. Here the 'poetic' can be understood in its broadest sense, encompassing film editing and, especially, montage as an aesthetic choice, along with all other plastic and syntactic elements involved, as well as the metaphors and aesthetic scene compositions. This 'threefold' model propels the hybridity of the components of storytelling of the cinematographic language—perhaps adding one more significative layer to the diagrammatic character of the cinematographic message. The predominance, however, lies in its *epic* core: to tell a story through moving images and sonorous and musical images—all of this unfolding within time, the time that the cinematographic medium and language demand for being interacted with.

It is in this sense that the framework of David Bordwell (1985, 50 f.) reinforces this view by distinguishing three key elements in cinematic narration. The *fabula* (story) is the abstract ideal of events to be represented. The *syuzhet* (from the Russian сюжéт, transliterated as *sjužét*), or plot, is the arrangement of those events within the film, that is, the selec-

tion, sequencing, and emphasis given, that is, the very manner in which the filmic syntax, the story is *actually* told. Finally, *style* encompasses the technical devices of cinema: framing, camera movement, montage, sound, and other syntactic-formal strategies. Style thus concretely embodies the *syuzhet*, which is the current manifestation of the story. Together, these dimensions show how cinema transforms raw story material into a structured and stylistically mediated narrative experience.

From these foundations emerged the syntax of cinema, a repertoire of expressive resources that gradually defined the identity of cinematography as medium and as language. Among these are the varied shot types—panoramic views, long shots, medium shots, close-ups—each regulating the viewer's proximity and relation to the represented world. Camera movements and angles expand the possibilities of perspective and rhythm. Montage, in its many forms, became a central device for creating meaning, juxtaposing images to generate continuity, contrast, or metaphor as aesthetic-poetic choices. Sound, introduced later, added voice, music, and noise as essential dimensions of expression. Each of these elements became codified into conventions, while also offering room for innovation and rupture.

One of the most distinctive contributions to the language of cinema came, however, from music. In the silent era, films were rarely silent: pianists, small ensembles, or even orchestras provided live accompaniment. At first, the music was generic, chosen from popular repertoires without regard to the film's content. Later, publishers produced catalogues of pieces classified by dramatic function— "music for fire," "music for mystery," "music for catastrophe" —which musicians could adapt scene by scene. By the early twentieth century, original scores were commissioned, as in Camille Saint-Saëns' composition for *The Assassination of the Duke of Guise* (1908). With works like Griffith's *The Birth of a Nation* (1915) and Eisenstein's *Battleship Potemkin* (1925), image and music began to interact more closely, creating rhythm, emotion, and ideological resonance (cf. Aumont 1994: 44–46; cf. Carrasco 1993: 18–21).

The introduction of synchronized sound in the late 1920s revolutionized the cinematic experience. By embedding an optical soundtrack directly onto the film strip, projection could now integrate dialogue, effects, and music seamlessly with the moving image, as we can see in the films *The Jazz Singer* (1927) and *King Kong* (1933). By then, cine-

ma had become *truly* an audiovisual, for the narrative planes, the moving pictures and the sonorous/musical planes were fused together as a *language* (cf. Santaella 2001: 383; cf. Aumont 1994: 157–183). This transformation profoundly shaped the language of film, reinforcing the temporal and rhythmic qualities already inherent in motion pictures.

2.2 The Role of Animation and the Established Paradigm of Cinematography

Animation played a particularly significant role in exploring these new possibilities. Disney's *Steamboat Willie* (1928), for instance, the first fully synchronized sound cartoon, exemplified how sound could punctuate and enhance movement. The technique known as "Mickeymousing" —matching musical gestures precisely to onscreen actions—became a hallmark of animated and live-action films alike, providing both humor and emotional emphasis. Such synchronization grounded the medium's capacity to weave together visual and auditory signs into a unified expressive system, solidifying its core paradigm not as moving pictures alone, but as a paradigm as an audiovisual medium. And because this specific syntax unfolds in time, the projected message is composed of elements unfolding in sequence and in time. Moving images and 'moving' sounds: hence the strong influence and permanence of the musical dimension, but also the dimension of dialogue, the dramatic, presenting the epic as a 'here and now' story, and the dimension of all sorts of sound effects, accompanying noises, which enrich the storytelling.

We may suggest that the main paradigm characterizing the distinctive feature of the cinematographic medium and language is its *plastic–kinetic–sonorous syntax*, which opens to the spectator the film, in its specificities, as a time-continual phenomenon unfolding diagrammatically, involving many planes of perception.

By mid-century, with the addition of color and advances in editing and special effects, cinema had matured into a comprehensive language. It integrated visual narration, dramatic performance, sound design, and musical composition into a polyphonic medium capable of conveying complex meanings and emotions.

In the digital context, this articulation of plastic–kinetic–sonorous syntax acquires new dimensions and possibilities. The plastic aspect of

cinema is expanded by computer-generated imagery, digital compositing, and advanced color grading, which allow filmmakers to construct worlds that may be photorealistic, hyper-stylized, or entirely abstract. Where analogue film depended on the indexical trace of the photographic image, digital cinema liberates representation from this constraint, opening the way for purely synthetic environments that nevertheless sustain the credibility of cinematic illusion.

The kinetic dimension has also been profoundly transformed. Digital technologies enable not only the simulation of motion through animation and procedural generation but also the recording of human gestures via motion capture. Editing has become non-linear, permitting complex recombination of temporal sequences with a degree of flexibility unthinkable in celluloid-based processes. Moreover, the "virtual camera" of digital space has freed cinematic movement from physical limitations: trajectories can be designed that defy gravity, scale, or perspective, yet remain legible to the spectator as part of a coherent visual grammar.

On the sonorous plane, digital sound design has radically broadened cinema's expressive resources. Multichannel formats such as Dolby Atmos allow for immersive spatialization, enveloping the spectator in an acoustic environment that mirrors or contrasts with the visual field. Music is frequently composed and mixed directly within digital workstations, synchronized with the moving image at a granular level. In animation and effects-driven cinema, this reinforces the principle of audiovisual correspondence, extending the tradition of "Mickeymousing" into more complex and subtle modes of interaction.

Taken together, these developments suggest that the digital era integrates image, movement, and sound within a unified computational framework. The plastic–kinetic–sonorous syntax of cinema is now articulated not only by artistic intention but also by algorithmic processes. Code becomes an invisible yet decisive layer of film language, shaping the possibilities of representation, rhythm, and audiovisual resonance. Digital cinema, in this sense, reaffirms the medium's status as a language in constant evolution—one that continues to expand its grammar while challenging the boundaries between the real, the constructed, and the imagined. This is the phenomenological and semiotic grounding of the expressivity of the cinematography, its dispositive, which includes, by formation, its medium and its language. Though defined earlier, around

between 1927 and 1933, the consolidated cinematographic language, because of the very nature of its dispositive and the productive phenomenology and semiosis inherent to it, enables the medium and the language to adapt itself to new forms of production and techniques, as well as to accommodate new productive paradigms, such as the post-photographic paradigm, hence digital, and the digital sound dimension within its scaffold, thus reinventing itself again and anew.

In this sense, thus, animation is not merely a technical or aesthetic procedure; it is the continual enactment of life itself, a dynamic process that carries forward transformation and adaptation. By tracing its etymological roots from *anima* and *animare*, we recognize that to animate is to infuse vitality, to stimulate and provoke, but also to generate connectivity across forms, media, and systems of meaning. As such, animation becomes a fertile ground for creative abductions, a conduit for impulses that perpetually expand its expressive and synthetic potential. It is, ultimately, a living *synthesis*—constantly evolving, always receptive, and, as it can be seen in the famous work by Giannalberto Bendazzi (1995), while tracing the origins and the significance of the most influential animation pioneers worldwide, animation is *endlessly* generative.

The result—an enhanced idea and conception of cinema—however, is not solely a technical definition, for such adaptations modify the techniques involved, but rather an ever-growing semiotic dimension involving the concept of *semiotic dispositive*.

3. Aesthetics, Ludic, and Play: On Ludic Interactions and Poetic Relations

3.1 Semiosis and Semiosic Dispositive

The concept of the dispositive (from the well-known and complex French *dispositive*)[6] provides a compelling framework for understanding the reciprocal relationship between cinema and digital games, par-

6 As it is already well-known, the manifold concept of dispositif originates in French, meaning "device," "apparatus," or "arrangement", notably developed by Michel Foucault to describe heterogeneous ensembles of discourses, institutions,

ticularly in the ways these media shape reception, meaning-construction, and operational conduct. Both media operate as structured yet adaptive environments, in which users engage with phenomena, signs, objects, and narratives that simultaneously guide interpretation and invite action at a certain level—provided that the term *interpretation* also shares, at any rate, the meaning of *act*, or *conductive operation*.[7] Cinema, through its technical and semiotic apparatus—camera framing, montage, sound, and spatial arrangement—structures spectators' attention and orchestrates the perceptual and cognitive reception of narrative meaning. Digital games extend this principle by incorporating interactive and operational dimensions, thus enlarging by far the range of interpretation and conduct, wherein the user, the interactor, is not merely a receiver but also an agent whose decisions and actions effectively affect the progression of the environment of the game.

In this sense, the dispositive functions as a catalyst between these media, mediating the exchange of forms, techniques, and cognitive strategies. Cinematic techniques—such as spatial framing, temporal manipulation, and audiovisual rhythm—inform game design, shaping players' attention, emotional engagement, and understanding of narrative structures. Conversely, the interactive dynamics of games, which foreground user agency and operational feedback, have begun to influence cinematic language, particularly in interactive cinema, virtual reality experiences, and transmedia storytelling, where spectators' navigation and choices introduce variable experiential pathways.

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laws, practices, and technologies that structure social power and knowledge. Yet, the concept was adopted by contemporary media studies and articulated in the field of audiovisual and digital contexts, referring mainly to the configurations of technical, narrative, and interactive elements that shape perception, engagement, and user experience. It encompasses film projection systems, video games, and hypermedia platforms as orchestrated "apparatuses" of meaning and action. Moreover, dispositive refers to the interplay between technological setup, narrative strategies, and spectator/player positioning. Philippe Verhoeven (1999) proposed the idea of analyzing dispositive as a concept through semiotics lenses, and, building up upon this suggestion, we propose here the term *semiosic dispositive*.

7 If we consider *interpretation* as the act of dynamically and effectively producing an interpretant in the mind of an interpreter in the sense of Peirce's concept of semiosis, we must consider, as Peirce affirms, that "thinking, being an active operation, is a species of conduct." (cf. EP2: 386–387).

Through the dispositive, reception and meaning-construction are inseparable from operational engagement. In digital games, especially, as in interactive cinematic experiences, the player or viewer constantly oscillates between perceiving phenomena and signs, interpreting them, and testing and modifying their actions in response to environmental feedback. The interaction is not a product of calculated response but a product of a fruition, an immersive experience of being in the game, otherwise known as *immersion*, which, on its part, surely has an aesthetic and *Musement* component of the aforementioned *Pure Play*. The dynamic of this process is still one of a dialogue, but one that involves changes and decision making simultaneously as the message being thereby conveyed—let us retrieve the notion of *formativity* we mentioned earlier in this paper. In the context of digital games, interaction and interactivity, the experience of immersion is characterized by the playing in the formative sense, seeking an *achievement*,[8] to make, to play, discovering, learning, and knowing how to play. To *form* means, in this sense, simultaneously to *make*, to *realize*, and to *know how to realize*. While inventing the manner by which, in this case, what is to be done conducts itself in order to *get* done. It is to act while inventing the way in which, in this specific case, what is to be done allows itself to be done. In other words, to form is to succeed in doing (cf. Pareyson 2007: 72–73).[9]

8 The word *achievement* must be understood in the context of a process of formation, in the sense that it is not a closed or crystallized goal, but a part of the process of reaching the embodiment of a given task within the unfolding of this task.

9 While Pareyson speaks about formativity as an operation of making within the arts in his *Estetica. Teoria della Formatività*, the concept of formation in his sense is a complementary notion of the concepts of interactivity, interaction, and immersion, in what refers to the gaming experience. Forming is an act, the act of *making*, as *realization*, within a certain world-setting or universe of discourse. When Pareyson says that an operation can be called formative when the resulting work can be recognized as well made—not because it "followed the rules," but because it constitutes an achievement (*riuscire,* from the original in Italian*, réussite* from the French translation, *Gelingen*, from the German translation), meaning that it has discovered its own rule rather than applying a pre-established one, Pareyson means that the component of invention, the inventiveness is what gives rise to the artistic expression, instead of being an expression of pre-formulated rules *exterior* to the making. As he mentions, to form, then, is *simultaneously* to make and to know how to make: to ensure that, without relying on already established technical rules, one can assert that what has been accomplished has been accomplished properly (cf. Pareyson, 2007: 37–40; 71–75).

The whole spectrum of phenomena and signs stemming from the dispositive are not only as conveyors of meaning but also as operational cues, thus eliciting the structuring of both cognitive understanding and pragmatic activity. In all levels of audiovisual this exchange takes place, no matter how abrupt or energetic, processual, or strategic, this might occur. The dispositive thus bridges phenomenologico-semiotic reception and pragmatic action, facilitating emergent interpretations while guiding adaptive operational conduct within the environment.

Furthermore, the mutual influence of cinema and digital games is conditioned by their shared engagement with diagrammatic logic and relational structures. In both media, narrative and interaction are spatially and temporally organized to enable discovery, comparison, and synthesis of disparate elements made present with the clear perceptive sense of a 'here-and-nowness', that is to say, they appear as a presentness of a diagrammatic structure invading the senses and impelling itself into our perceptive and semiosis modes. Cinematic framing, visual metaphors, and audio cues produce all sorts of signs that games translate into actionable interfaces and dynamic feedback loops. Likewise, procedural and interactive systems in games inform new cinematic strategies for pacing, attention control, and narrative branching. In this continuous exchange and co-evolution, the dispositive operates as both medium and mediator: it *orchestrates*—in the analogical sense implied here—the flow of percepts, signs, experiential structures, operational pathways, therefore conditioning and molding the interpretive and pragmatic strategies of users across the diverse contexts continually unfolding in time.

It is important to point out that the mode of action of the dispositive—in its broadest sense and characterized by its *diagrammatic* and *dialogical* properties—is that of actively promoting cognitive exploration and knowledge acquisition (cf. Verhaegen 1999: 117–119). Its properties of being diagrammatic and dialogical function by structuring the spatial and relational dimensions of mediated and communicative environments as well as in digital and interactive contexts, while these relational dimensions generate interfaces that guide and shape users' and interactors' interpretations at several levels. This capacity to open dialogues and relational pathways is the very source of creative and inventive cognitive frameworks that enable users to connect otherwise disparate elements and promote a myriad of interactions (cf.

Schindl 2007: 98–114). Users, players, interactors, inquirers, thus, become, potentially, *musers*.

In this sense, the current idea of meaning-making in a semiotic context requires a much-needed extension. It is clear that any message within the cinematographic apparatus will be effectively interpreted as such, for cinematography is already a well-known codified language, as well as any digital game will, too, be interpreted as such game, provided the rules and the technical interface are learned by the user. All the levels of signs[10]—from the *Representamen*—the aspects of qualisigns, sinsigns, and legisign in the sign's appearance, to the relation to possible *Objects*, determining relations of iconicity, indexicality, and symbolicity, up to the generation of actually conveyed *Interpretants* in the sense of rhemes, or interpretants of qualities and icons, discents, the interpretations of sinsigns and indexes as events in (quasi) propositional forms, that is, qua facts or events, and, finally, arguments as conveying the more mediative and symbolic-representational involving the context in question, be it a film or a digital game—will constantly be emitted by the dispositive, forcing these emissions into the perception of the receivers, the spectators or the users, thus conditioning, over time and exposure, the rhythm in which these sign-levels are to be actualized in perception and in semiosis. It is important to mention that not every element being emitted by the dispositive is immediately perceived as a sign—much of this content needs to pass through perception, and only then, after this work of perception, can these elements pass from phenomenon into semeion. This recognition adds two more layers to our consideration of semiosic dispositive: the first one is that the emission of elements, filmic material or digital-game material is not a readily-translatable

10 For this paper, we are mainly considering semiosis from the perspective of the semiotics of Charles S. Peirce. Peirce's semiotic structure is that of a triadic operation, indecomposable, involving always three elements. Semiosis, or the sign-action, refers to the sign as being a first in a triadic relation representing its object, the second term, and producing a third term, the interpretant of the sign. The interpretant of the sign is another sign, the sign produced by the first sign, more developed then the first. This basic structure of Peirce's semiosis, as he defined it based upon his logic of relatives. Concretely, there are more subdivisions within semiosis, as Peirce developed in his later refinements of semiotics, such as the later sixty-six classes of signs, but the basic triadic structure underlying semiosis as just presented suffices to exemplify the action we are referring to through the text.

content ready to be used, but it must enter perception first and, as such, it must go through a process of perception before it enters semiosis in the cognitive sense. Therefore, reception and mediation from the dispositive become even more dialogic and diagrammatic in the sense that the perceptive, cognitive, and interactive dimensions demand constant translation—and in the sense of games and their intrinsic active interactivity, the play, the being-in-the-game involvement, becomes also a matter of constant production of actions, some more reactive, others with a degree of strategy, others more automatized and habitualized—and these will be, over again, scrutinized by perception and cognition.

The give-and-take enabled by the dispositive retains the mode of discovery, includes, however as well the mode of invention, in which sign production, interpretive engagement, and operational conduct co-emerge, enabling users to construct meaning, navigate complexity, and adapt behavior—especially considering the simultaneous and reciprocal growth and influence of these two media forms. Simultaneously, the participants, reflecting upon the reciprocal growth and interface within interaction, participate in the processual adaptability of the myriads of sign-actions, or semioses, and progressively reach ever-growing generalizations, strategies, discoveries, novelties, associations, and perceptive actualizations offered by the interaction and by the interfaces with the semiosic dispositive. Semiosic dispositive, thus, becomes the catalyst for discoveries and inventions in the process of interaction, both receptively as well as productively.

3.2 Perception, Semiosis and Moving Pictures of Thought

Let us focus upon perception as one of the components of the semiosic dispositive. Because it is a projecting apparatus of a certain stripe, and considering the forms of projection are here concretely considered, whether a cinema film of 35 millimeters, 16 millimeters, a television broadcast, a beta tape of a television show, or the differences in image and sound qualities between television shows from the 70s, 80s and 90s, or even a high-definition screen of 8K ultra HD with 7,630 by 4,320 pixels of definition, one of the highest definitions available—as

of now, of course—there are *phenomena*, *phanera*,[11] being produced and interacted with perceptively and cognitively. The fact that the type of visual projection alters the perceived phenomena and its semioses—but not to the extent of altering the message too much—is due to the fact that the sinsigns involved, that is, the ground of the signs as being something occurring *here-and-now*, just one time, at this very moment, embodying the qualities made available by the medium and thus "tinging" the message as it is, but only to the extent that these qualities become embedded in the message, part of it, reinforces the importance of an attentive phenomenology involving reception and action within the experience. The sound dimensions, with all their levels, are dependent, too, on the technical aspects involved as well and interfere in the perception and interface-processing of the message.

In order to explore more the importance of perception, and its relevance for the receptive and operative aspects of interaction with the semiosic dispositive, let us now discuss a specific model of perception stemming from the work of Charles S. Peirce.[12]

In his later, more mature work, Peirce explored the transition from phaneron, i. e., phenomenon—the total content of consciousness—to semeion, that is, semiosis. Peirce introduces key terms to clarify this transition. He coins the word "percept," from the Latin *res percepta*, describing it as the raw manner in which an object imposes itself upon perception. The percept is an "image of strictest literalness," devoid of discrete facts but rather presenting itself as pure, continuous experience. *Phaneral experience* and its characteristic presentness becomes, in

11 Peirce coined the words phenomenon, derived from the Ancient Greek φαινό-μενον, (*phainómenon*), but also sometimes phaneron, also derived from Ancient Greek φανερός, (*phanerós*), conveying to them, equally, the meaning of "manifestation", "visible", or "perceivable through the senses", to represent that element which appears in an interpretative mind in any form. Hence, phenomenology and phaneroscopy are the proper names as the one science dealing with the inventory of whatever is in any mind in any form.

12 It is important to note that Peirce himself never formalized a proper theory of perception based upon his theory of phaneroscopy, that is, his phenomenology. But a suggestion of how a functional theory of perception could be thought of can be formulated from his studies in phaneroscopy. While a proper theory of perception is not completely given, it is possible to consider Peirce's suggestions to a functional hypothesis for perceptive theory insofar as it is pragmatically considered, that is, as a functional hypothesis within the scope of his phaneroscopy and semiotics.

this sense of a flowing stream, the first continuous stream that "carries continuously all thought, all segments of experience, all sensations, emotions, dreams, illusions, errors, actions, calculations, efforts, intentions, etc." (De Tienne 2007: 37).

Peirce observes that perception flows continuously or as a rapid succession of perceptions that appear seamless. Presentness as a characteristic of the phaneron allows the connection between phaneral experience and perceiving mind, causing both the flowing of phaneral experience and the perceiving mind to coalesce in the presence of each other (cf. De Tienne 2000: 424–425), that is to say: the quality of being spontaneous, uncontrollable, inescapable, and immediate, *such as it is*. A percept is an *image*: it is the "strictest literalness" that contains absolutely no fact (R693, 372: 1904[13]). The term *image*, however, does not mean the same as in semiotic terms, such as, for example, an imagetic relation of similarity. The term image here, in the context of the percept and the description of the dynamics of perception, has to be understood as an *imprint* that occurs in the senses of perception. This form of *imprint-image*, carries no discrete facts, for it is still in the continual inflow of phaneral experience, and, as such, is only present to the perceiving mind as an appearance in its *suchness*. As Peirce thematizes it, "[…] there is either *a continual flow of perception*, or, as I ought perhaps to believe, *so rapid a succession of thoughts of perception*, that the effect upon my distinct consciousness (which is limited to so much of my feeling as I can almost absolutely control) is that of a continuous flow" (R693, 378: 1904, emphasis added). The percept is the phaneral presentness, "the object perceived in a single act of perceiving" (ibid). Every form of knowledge arises from the percept and the only way to describe a percept or a series of percepts is to engage in a comparative study by describing a perception through the consideration of distinguished percepts by their superior vividness (cf. ibid).

13 All references to Peirce's manuscripts refer to the Charles S. Peirce Papers microfilm edition (Harvard University Library, Photographic Service, 1966). References employ the numbering system for manuscripts developed by Richard S. Robin in his *Annotated Catalogue of the Papers of Charles S. Peirce* (Amherst: University of Massachusetts Press, 1967), and supplemented by Robin in "The Peirce Papers: A Supplementary Catalogue," Transactions of the Charles S. Peirce Society 7(1), 1971, 37–57. The references for the manuscripts indicate R (Reel) for the microfilmed manuscript, followed by the manuscript's number, followed by its date, and finally by the page number.

The percept acts as an unmediated object presented to consciousness, distinct from communicative signs. Knowledge, according to Peirce, originates from these percepts, and understanding perception requires studying percepts by their vividness. This "image of extraordinary detail," potentially disrupts prior habits of thought with its compelling force, leaving behind a "memory of the percept" that marks the starting point for the semiosic process.

Beyond percepts, Peirce identifies less insistent "modified reproductions" of these percepts. He describes them as analogous to "composite photographs," created by imaginative habits that retain aspects of prior percepts. With repetition, these perceptual experiences form observational facts, diagrammatic in nature, as perceptual judgments express characteristics of percepts in propositional form. These judgments, which Peirce describes as nearly compulsory, blend naturally into abductive inferences without clear division, synthesizing facts and newly perceived ideas. The constant repetition of percepts, that is, the repetition of specific "awarenesses" already detached from the continual flow of phanera that have made their way into the perceptive senses will lead to what Peirce called *facts of observation*. A fact of observation already contains a proposition concerning the content of the "images", "imprints", and "composite photographs". No fact of observation is isolated, just as no percept is isolated either, which reinforces the notion that the process of perception possesses a continual and diagrammatic character. This is equivalent to affirming that the constant and insisting repetition of propositions made from each detailed, vivid, and positive imprint and image will lead to the pronunciation of *perceptual judgements*, that is, the formulation asserting "in propositional form what a character of a percept directly present to the mind is" (EP2: 155).

The scrutiny of the phaneron implies an effort to objectify a determinate phaneron, creating thus an objective distance between the perceiving mind and the phaneron. In this process, the objectified phaneron becomes the object of an abstract mental scrutiny. This study requires from the inquirer, user, muser, the ability to mentally detach the phaneron from the continuous stream of phaneral manifestations (cf. De Tienne 1999: 423). This objectified phaneron is, however, not yet mediated in semiotic sense, although the objectified and detached phaneron is no longer part of the continuous flow of phaneronic experience. The objectified phaneron is an object of study

on the *verge of becoming* something else, a whole different object of study.

In the moment in which mediation takes place, the intrinsic presentness of phaneral continuity vanishes and makes way for the observance of logical relations abstracted and generalized from the constant observation of the objectified phanera.

Thus, if the formulation of such perceptual judgments is compulsory as well, they are beyond our control and will go on whether we are pleased with them or not; at a later stage, perceptual judgements will, however, start revealing certain characters of the percepts that keep inflowing and coalescing in the mind of the perceiver. By acts of abstractions, prescissions, and generalizations caused by the insistent repetitions of images, imprints, and reproductions of percepts, the perceptive judgements will start reformulating the characters of these appearances in propositional form, however, in a rather highly hypothetical or conjectural form, and therefore, very fallible.

Hence, the processes of abduction provide the power to operate by synthesizing facts and ideas as well as by perceiving newly formed ideas that impose themselves upon the participant's—or interactor's—mind. When it takes place, abduction reveals a myriad of esthetic qualities: it is this sensuous, living process, along with creative experience, that generates ideas, images and diagrams, concepts, objects and signs, for it bestows sensibility toward perception, insight and ideal. It is through this process that self-controlled mediation rises from perception. And with due training, these myriads of forming semioses become themselves flowing streams of more complex diagrams and images, overlapping and interacting with each other. This takes place as more controlled and malleable processes, as mentioned at the beginning of our exposition, "illustrated, like a lecture, with diagrams and with experiments" (EP2: 437), that is, in forms of continual, flowing streams of sequences of images, of *moving pictures*—one of the main characters of *musing*.

This *flowing stream* of moving pictures will never cease, for this is the very channel through which an individual, a group of individuals or communities of inquiry experiment phanera and learn by it. It fuels the very manner a sound mind learns and exercises inferences, projects, and proceeds to formulate thoughts and actions upon perceptions.

But most importantly, as Peirce mentions: "abductive inference shades into perceptual judgment without any sharp line of demarca-

tion between them" (EP2: 227). That is to say, there is a myriad of abductive forms that emerge from the process of perception, either from a metaboly of cognitive, internal, nature, or from a perceptive suggestion pervading the whole of the perceptive experience. Be as it may, when abduction appears, it might change the whole consideration of the flowing streams and the semiosis being formed at a given instant.

This is of a particular importance for cinematography, audiovisual, and games alike, because one of these invading and pervading abductive occurrences will be actualized within the time-based reception of a film, animation, or a game, and will change the habit of interpreting the storyline, thus provoking, if so perceived and interpreted, a reorganization of the received material.

It is the case, for instance, of the film *The Abyss* (1989). In a particular scene, the crew of an underwater oil-drilling platform is confronted with the most probable death by drowning of one of the main characters. While attempting to revive the crewmember, the other characters react to the horror of the scene and try to enable the revival as best as they can. This scene is shown through a camera capturing these efforts, showing the characters near the drowned person, sometimes the face of some of the characters reacting to the efforts—as one of them tries to provide this person with cardiopulmonary resuscitation (CPR) — until the efforts start to fade, and the public is shown a lower rhythm in actions by the characters. But then, one of the protagonists refuses to give up and starts the effort all over again, increasing the rhythm of actions, tone of voice, bodily effort. While this might be translated as a worthy effort, though futile because the person is, according to the *current* cinematographic setting—that is for the audience, most likely already deceased—there is a sudden inversion of perspective. The 'camera' shows a suggested 'vision' of the drowned person, as if this person would 'see' what the crew members are doing at this very moment, that is, putting an oxygen mask over this person's face (or over the camera's lens), so that the camera angle is perceived as stemming from the person's face upwards. This inversion promotes a new suggestion in a flash of perception: the newly introduced camera angle reveals something hidden. And the *generalization*,[14] which occurs through this perceptive

14 Even in the context of perception and the flowing stream between phaneron and semeion, it is possible for us to mention generalization as a form of abduction.

abduction is strongly suggestive: the presumably dead person is, in fact, probably alive, or has a strong chance of living. Up to now, there is no certainty, but only a slight hint at this possibility. But then, the character starts to cough and move and, in the process, the hint becomes the fact, as the person begins to breathe.

This illustrates how storytelling occurs: this process takes the shape of moving pictures being constantly actualized and reorganized by a myriad of experiential factors, both *phaneronic* as well as *semiosic*. As a necessary conclusion, because these images eventually gain their own reality and existence, they constantly feed back to the mind as in an active form of pragmatic, and, in this context, also aesthetic, experiences.

Perception within the *semiosic dispositive* is not a passive reception of phenomena but an active, formative engagement, wherein percepts, and their repetitions, and their cumulation into composite and diagrammatic-perceptive structures, generate a continuous stream of semioses. Through this process, abductive inferences emerge seamlessly from perceptual judgments, reshaping both the flow of experience and the interpretation of presented phenomena. It is within these dynamics that aesthetic experience arises: the interplay of immediacy, insight, and imaginative elaboration produces a sensuous, evaluative dimension that guides perception and cognition. Moreover, in ludic contexts—whether in cinema, audiovisual media, or digital games—these streams of perception and abduction become interactive, inviting participants to explore, intervene, and produce meaning. The semiosic dispositive, therefore, operates not merely as a medium for reception but as a site of ongoing aesthetic and cognitive relationships, where perception, abduction, and playful engagement converge to form lively, perceptual and aesthetic experiences.

This is the ground for the semiosic dispositive to promote intersemiotic transpositions and translations, as well as aesthetic experiences and ludic interactions at a metaphorical level.

While it is not possible to further this point, for it would extrapolate the scope of our present reflection, generalizations are abductions. As Peirce mentions: "The majority of logicians do not include [Abduction] among arguments, but only as an adjuvant to arguments. But this is an error of classification. Every such adjuvant of an argument is *ipso facto* an argument. It tends toward a conclusion. Those same writers very likely recognize Abduction in another part of their books as *generalization*" (R478, 1903: 100–102. Brackets added).

4. Play of Musement as Aesthetic Experience: Final Thoughts for Further Inquiry

What kind of poetics manifests in animation, cinema, and digital games, and how does it express itself? What is the mode of operation of this poetics? Taking aesthetics and poetics as a functional theory that defines the essence of art within the pragmatic dimension of semiosis (cf. Santaella 1994: 169; cf. Jakobson 1960: 350–358), we identify different levels of iconicity and their relation to the poetic function. Iconic similarity predominates in a poetic message, in contrast to messages dominated by symbolic structures whose interpretive criteria are largely predetermined by convention. The qualitative predominance, that is, the predominance of the qualisign, iconic relations, and rhematic—that is—interpretational relations of qualities, lead to the suggestive and associative powers of the muser in co-creating meaning, producing translations and transpositions of meanings across media and languages. If languages tend to overlap and to enrich each other as a natural tendency – pointing to the fact that most of languages are hybrid due to the diagrammatic forms they are generated, as seen by the action of the semiosic dispositive—the iconic and its tendency to elicit *poeticity* tend to create internal tensions in meanings in the message of a given narrative, rendering it highly ambiguous. Not ambiguous in the sense that it is "blurred," but, as Jakobson pointed out, it focuses on itself. This means that the tension becomes the very generator of possible, suggested, but never exhaustible meanings due to its power to elicit ever-growing associations and permutations of meaning, reinscribing the original message in a whole new gamma of perceptions and interpretations, creating variations of itself, transposable to any other realm of artistic significance at any moment in which this suggestion occurs.

As we have pointed out in the previous section, the semiosic dispositive at its phenomenological dimension, by constantly enabling the passage from phaneron to semeion, constantly invites the perceiver, the interactor, the muser, to participate in this suggestive give-and-take of aesthetic experience. For instance, the organization of animated films—their design, editing, and structuring—permits meaning to emerge non-linearly, rather than as a mere presentation of facts. The audiovisual messages in view, by virtue of their linguistic and structural design, possess the potential to suggest multiple meanings, foster-

ing analogical connections to other possible situations, whether real or imaginary. Such projects create cinematic experiences designed to produce effects, to invite multiplicity, and to enable polysemy.

Cinematography, through moving images and sound, allows a higher degree of suggestiveness than static media. Yet not all cinema is inherently poetic. Poetic construction occurs when the medium is organized to produce ambiguous and self-reflexive meanings. Following Jan Mukařovský (1997: 185), a poetic message establishes forms oriented toward themselves. In animation, this predominance manifests as a plastic–kinetic–sonorous syntax that foregrounds a qualitative universe in which the sign draws attention to itself. These syntactic qualities—as qualisigns, sinsigns, and legisigns—allow signs to signify more through their potential for suggestion than through convention, or to extract from conventions their qualitative dimension, generating semantic shifts relative to their referents.

Poetics, then, can be understood both as a form of *graphing*, including a method of operating with language to produce effects that expand interpretive possibilities, as well as a manner of interaction in which the perceived and interpreted material becomes a springboard to further ideas and perceptions. Both vectors are important here: the mode of codifying the message, as well as how the message is transmitted. As we have seen, the form of producing a movie and how it is projected, will matter as to elicit this polysemy. This is, in one possible sense, what Umberto Eco considered to characterize the polysemy of a work of art—and we might extend this to the aesthetic experience in general, especially including all forms of digital interactivity that might bring about the esthetic, the inventive component, the component of *Pure Play*.

This plurality of interpretation becomes effective once the message reaches an interpreting mind. Cinema's narrative and poetics establishes a structured relation with its language to offer the senses the potential for interpretive, ambiguous, and open-ended effects. Even when the central story is comprehensible, there exists a multiplicity of effects that permeate it, interact with it, and are never exhausted or singular. For Roman Jakobson, for instance, the poetic function is not vague; its apprehension depends upon the capacity of the reader, viewer, interactor, muser, to recognize organizations within the language endowed with an inherent power to reveal the world and its meanings.

The action of poetry emerges dynamically in the interplay of perceptive relations and semiotic relations in motion.

The relationship between metaphor and interactionism as eliciting the ludic and poetic becomes of vast importance. In this key, metaphor operates in the sense of producing an ambiguity in the message, similar to when the message is focused upon itself, in which there is no other closure, the message is not referring to something outside itself, it is, itself, the reference. What occurs is that the message, the poetic material, the film, the animation, the game, produces semiotic interactions between focus and a frame of reference. In accordance to Max Black's interactionism, metaphor arises from a reciprocal projection between a focus and a frame; each reorganizes the other's implications. Metaphor—extrapolated from the literary and linguistic realms and extended to any aesthetic realm of nonverbal experience— invites, by its very nature, interpretation while maintaining an openness that resists closure. The meanings it generates are never entirely fixed, emerging instead from what can be called a second-order form of representation. In this way, metaphors render literal readings of images ambiguous, and sometimes even contradictory. Unlike symbols, which invest objects with clear specificity, metaphors allow multiple potential discourses to coexist within a single structural framework. They provide a kind of narrative parallel to the concrete, logically determined sequence of events, offering flexibility and multiplicity in how meaning can be constructed (cf. Wells 1998: 84). Carl Hausman, in his book *Metaphor and Art* (1989) observes that artistic metaphors are productive, for they generate new predicates—meaning here new meanings out of its original tension of original signification, without exhausting the suggestive possibilities of reframing and reinterpreting. Metaphors, as poetic expressions, are also experiential, for they reshape attention and feeling, redirecting the attention of the muser to new relations otherwise not made explicit without this ambiguity, and become, therefore, inexhaustible, as they resist final paraphrase—that is to say, they cannot be exhausted by a rather exterior explanation of the aesthetic phenomenon within. Moreover, the constant exposure to the flow of qualities in these poetic-metaphoric messages produces a subtle blurring between message and referent. As Hausman (1989: 220) explains, in creative metaphors, meaning and reference merge; the aesthetic sign strives to approximate its object asymptotically. This happens due to

the fact that, semiotically, metaphors are special forms of iconic signs, the so-called *hypoicons*: hypoicons are specialized forms of icons that, due to the degree of suggestion and association to the presented qualities, can elicit and produce interpretative associations with anything that reveals some likeness to the first quality. But this occurs at a higher level of conventions, in which not only qualities—such as a tone of an instrument alone, or a noise, or a stain of watercolor on the paper—but as a qualitative relation between more or less defined situations are parallelized and become the very motor for the tension of ambiguity, generating the poetic and aesthetic effect. The aesthetic sign is generally iconic, originating from qualitative, hypothetical connections. Its play of appearances, feelings, and potential relations constitutes a ludic flow of signs, fostering guided—and yet not predetermined—meaning in semiosis. According to Santaella (1994: 180), the qualitative character of the aesthetic sign determines the inherently ambiguous relations it maintains with its potentially unattainable objects. This ambiguity is responsible for interpretive openness, producing an impression of unified immediacy in feeling.

The aesthetic phenomenon of the metaphor must be lived through, experienced, in order to be grasped. When this interactionist account is extrapolated to interaction and interactivity, as in digital games, metaphor is not only interpreted but *enacted*: the paradigm of animation, as already mentioned, becomes one including the interactions as a main factor. But the interactions, here understood not only in the sense of metaphors, but as the interactions of the mediative-technic and consequently of the semiosic dispositive: the whole syntax, the ground-qualities of the languages, as expressed, including the *interactive-ludic* paradigm, become operational invitations. The semiosic dispositive here couples poetic suggestion to ludic action, so that meaning-construction and conduct-change co-emerge; conjectures are tried, revised, and sedimented as habits of play. Thus, the poetic becomes ludic, and ludic interactions become poetic relations—each a mode of pragmatic and aesthetic semiosis.

Finally, this analysis resonates with the concept of *Musement*—the playful, abductive engagement of the mind that generates creative impulses to play and to interact, aesthetically co-creating and forming. The poetic and aesthetic dispositive of cinema, animation, and digital games functions as a semiotic catalyst, opening new fields of phenom-

ena, inviting analogical thought, and generating emergent meanings. The freedom inherent in these media akin to the imaginative liberty of play—exemplifies the firstness of experience, where purely potential ideas, feelings, and qualities may be instantiated and connected, producing a continuous proliferation of interpretive, creative, and interactive possibilities. In this sense, animation, cinema, and digital games operate through a semiosic dispositive that enacts *poiesis*: giving life, opening perceptual fields, and generating the conditions for abduction, exploration, meaning-construction, and, subsequently, the opening of paths of invention and discovery in aesthetic realms. The openness of the experience becomes characteristic.

As Umberto Eco posited in his book *The Open Work* (1989):

> "The poetics of the open work is an expression of such historical possibility: here is a culture that, confronting the universe of perceivable forms and interpretative operations, allows for the complementarity of different studies and different solutions; here is a culture that upholds the value of discontinuity against that of a more conventional continuity; here is a culture that allows for different methods of research not because they may come up with identical results but because they contradict and complement each other in a dialectic opposition that will generate new perspectives and a greater quantity of information." (Eco 1989: 83)

As for the concluding thoughts of the present reflection, we might add: across cinema and digital games, the dispositive operates not merely as a technical apparatus but as a semiosic catalyst. It organizes plastic–kinetic–sonorous (audiovisual) and ludic–interactive resources into diagrammatic fields that suggest the interwovenness of interpretation and action together within forms of aesthetic and ludic experiences. This recasts the apparatus as a generative framework—one that enables, sustains, and reconfigures sign systems in time through user encounters, precisely where the ludic and the poetic co-emerge.

Aesthetic experience, in this sense, first opens as phanera within perception, then is shaped into semeion, the sign action, through percepts, perceptual judgments, and the perceptual flow culminating in forms of abductions, promote the actualization of the perceptual flow into semioses in the form of generalizations, intuitions, metaphor as well as in all manners of aesthetic experience. The dispositive's interfaces put forth the diagrammatic scaffolds that carry this passage from felt qualities to interpretable relations and onward to operational conduct.

In digital games, this passage adds operation and formative actions in the game, and this process focuses on conduct as a ludic-interactive process. In cinema, it entrains attention and affect. In both, meaning is inseparable from how one can act or be acted upon.

The flowing stream of moving pictures will never cease, for this is the very channel through which a person experiences phanera and learns by it. It fuels the manner in which a sound mind draws inferences, projects, and proceeds to formulate thoughts and actions upon perceptions.

The predominance of iconic similarity in the poetic function, especially the hypoiconic/metaphoric mode, including the operation of aesthetic semioses, find their infrastructural home in the semiosic dispositive. Diagrammatic arrangements amplify metaphor's operations: they withhold closure, keep reference and meaning in productive tension, and seed abductive occurrences. Thus, cinema, animation, and games, when expressing poetic messages, bring about *Musement*—the playful, abductive exploration that Dewey would recognize as the gestational core of artistic experience. Here, openness is not vagueness but formativity: a disciplined invitation to produce new connections, perceptions, and habits. In this sense, *animare*, to give life, denotes not only animation's origin but the dispositive's vocation: to animate interpretation and conduct, to keep semiosis alive by sustaining qualitative suggestion, diagrammatic comparison, and pragmatic testing.

In this light, the dispositive is not simply a means; it is a living schema for inquiry, ludic interactions, poetic relations, and aesthetic experiences—an engine of abduction—whereby phanera become semeia, metaphors take operational form, and play remains the aesthetic condition of discovery through the *Ludic*, the *Musement*, the *Play*.

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