**Prosomoiosi (Simulation)**

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**ABSTRACT**

"Prosomoiosi" (Simulation) is a real-time audiovisual exploration of how successive modeling frameworks overwrite cultural memory. Grounded in media archaeology, the work introduces the concept of 'medium alignment,' positing that ideas must be articulated through media that reveal their underlying operational logic. Utilizing a live diffusion pipeline with multi-prompt editing, the piece stages the algorithmic politics of selective remembrance, inviting audiences to reconsider authorship and selfhood at the human-machine interface through contemplative engagement with transparent algorithmic processes.

​**​Keywords:​**​ AI video, simulation, ComfyUI, media art, real-time generation

**ARTWORK DESCRIPTION**

*Prosomoiosi (Simulation)* is a real-time audiovisual work that employs a media-archaeological lens to examine how successive technical frameworks reshape memory and identity through the concept of medium alignment. The project pursues two interconnected objectives:

1. To reveal, through stratified narration of simulation logics, how each new medium silently overwrites cultural memory.
2. To expose the algorithmic selectivity and symbolic power of AI image synthesis via a self-reflexive demonstration built on a TouchDesigner-StreamDiffusion workflow featuring real-time multi-prompt editing and ComfyUI upscaling using the flux-dev f16 model.

By allowing text prompts, parameter noise, and performer interventions to co-evolve in the exhibition space, the work transforms image production from mere depiction to ontological negotiation, prompting audiences to reconsider the future relationship between human creativity and machine simulation.

**ABOUT THE ARTWORK**

**PROJECT CONCEPT**

Simulation transcends simple copying or representation; it is a power-laden rewriting produced through the interplay of technology, archives, and algorithms. As Wolfgang Ernst demonstrates, archival temporality shapes memory while subtly editing the past. Benjamin foresaw the dissolution of aura under mechanical reproduction, while Baudrillard warned of simulacra supplanting reality itself.

Tracing a lineage "from clay to code"—from sand tables and armillary spheres to deep learning and GANs—modeling technologies have evolved from cognitive tools into arbiters of truth. Large networks like GPT-4 and ESM-2 autonomously generate worlds from latent space and even discipline human decision-making, fundamentally altering the human-reality relationship.

Games have emerged as the most pervasive simulation medium, breaching a "fourth wall" to situate players in a hybrid third space where procedural rhetoric allows symbolic capital and ideology to permeate interaction. This extends McLuhan's "the medium is the message" and Bourdieu's analysis of symbolic power. Educational and political simulations (*SimCity*, *PeaceMaker*) and Lorenz-style chaotic systems further attest to simulation's profound influence on behavior and cognition.

In response to the media mutations of an algorithmic society, art must practice *medium alignment*—expanding AI alignment into a perceptual-symbolic calibration at the medium level. Positioned between Stiegler's "third memory" and Yuk Hui's "cosmic technics," this critical stance addresses both the contingency and necessity of technology, aiming to reconstruct a future of human-machine-medium symbiosis.

**WORKFLOW**

The project employs the following workflow:

1. ​**​Source Material:​**​ Found footage, gameplay recordings, or theoretical videos serve as the generative foundation.
2. **Real-Time Transformation:​**​ In TouchDesigner, the StreamDiffusion plugin node (developed by dotsimulate) performs model-dependent transformations, producing an output frame rate of 4–14 fps (varying by model).
   * ∙*Technical/Aesthetic Rationale:* The reduced frame rate accommodates real-time AI generation constraints while creating temporal discontinuities that expose algorithmic "selective memory"—highlighting which visual information is preserved or discarded.
   * ∙The original footage is slowed down, and the generated output is re-accelerated, creating a temporal palimpsest that embodies how modeling frameworks rewrite cultural memory.
3. **Upscaling:​**​ The generated video is exported frame-by-frame and processed in ComfyUI's Flux upscaling workflow:
   * ∙Initial enlargement via the Siax 4x super-resolution model.
   * ∙Tile-based refinement:
     + ∙*Fragmentation:* The upscaled frame is divided into tiles using TTP\_Tile\_image\_size (tile-size estimation), TTP\_Image\_Tile\_Batch (batch slicing), and TTP\_Image\_Assy (re-assembly).
     + ∙*Refinement:* Each tile is processed by the Flux model and its LoRA in four Euler sampling steps, demonstrating AI's "selective memory" in enhancing or suppressing visual details.
     + ∙*Reconstruction:* Tiles are stitched into a memory-efficient, high-resolution result.
4. ​**​Post-Production (Optional):​**​ AI tools like Topaz may be used for frame interpolation.

This tiled reconstruction mirrors broader cultural processes where modeling frameworks overwrite memory through selective retention, making the workflow itself a manifestation of *medium alignment*—where the medium's operative logic becomes visible rather than obscured.

**PRESENTATION AND INTERACTION**

The work is available in two formats:

1. **Cinema Version:​**​ 4K DCP (24/50 fps, REC.709, 5.1 surround) for theatrical/festival screenings.
2. ​**​Gallery Version:​**​ Looped 4K projection with four-channel audio.

Both versions maintain identical color and dynamic-range calibration for seamless presentation in black-box theaters or white-cube spaces.

**ARTIST STATEMENT**

Media and technology co-evolve, and every misalignment between them opens fertile ground for experimentation. Artificial intelligence should be understood not merely as a tool but as a historical-technical agent that reshapes the conditions of aesthetic experience.

Media archaeology reveals that modeling frameworks—from ancient sand tables to latent-space diffusion networks—continuously establish new regimes of seeing and forgetting. The principle of *medium alignment* asserts that ideas must be voiced through media whose operative logic remains transparent.

This stance is advanced through:

1. 1.Pushing AI image generation toward higher resolution and real-time prompt editing.
2. 2.Exposing databases' "selective memory" that determines which records endure.

By juxtaposing embodied intuition with statistical prediction, the work advocates for alignment between medium and idea in the generative era, revealing the infrastructures that steer perception to enable responsible artistic practice.

**ABOUT THE ARTIST**

​**​Shuai Liu​**​ is a Chinese digital media artist based in Cologne and Beijing. He holds a BFA in Digital Media Art from Guangzhou Academy of Fine Arts and is currently an MFA candidate at the Academy of Media Arts Cologne. Since 2024, he has served as:

* ∙Research Fellow, Digital Humanities Research Center, Renmin University of China
* ∙Advisor, Centre for AI and New Media Art, Jinan University

Liu's practice spans algorithmic image-making, interactive games, and network installations. His accolades include:

* ∙Goethe-Institut "Alsolation" AI Short-Film Award
* ∙Jury Recommendation, UK Lift-Off Network's "First-Time Filmmakers" Session
* ∙Official Selection (Experimental Section), Beijing International Short Film Festival
* ∙Gold Prize (Digital Imaging), China University AI Art Season
* ∙Art Experiment Prize, Poland's On Art Festival
* ∙Jury Special Mention, Student World Impact Film Festival (USA)

Previously, Liu worked at Guangdong Museum of Art and Guangdong Times Museum, gaining curatorial experience. In 2024, he co-founded *LUDUS*, an experimental game magazine fostering interdisciplinary exchange in AI art and game studies with partners including KHM and the University of Applied Arts Vienna.

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