

Images Negotiating With Each Other

Māori conceptualism in a rule-based multi-agent drawing engine

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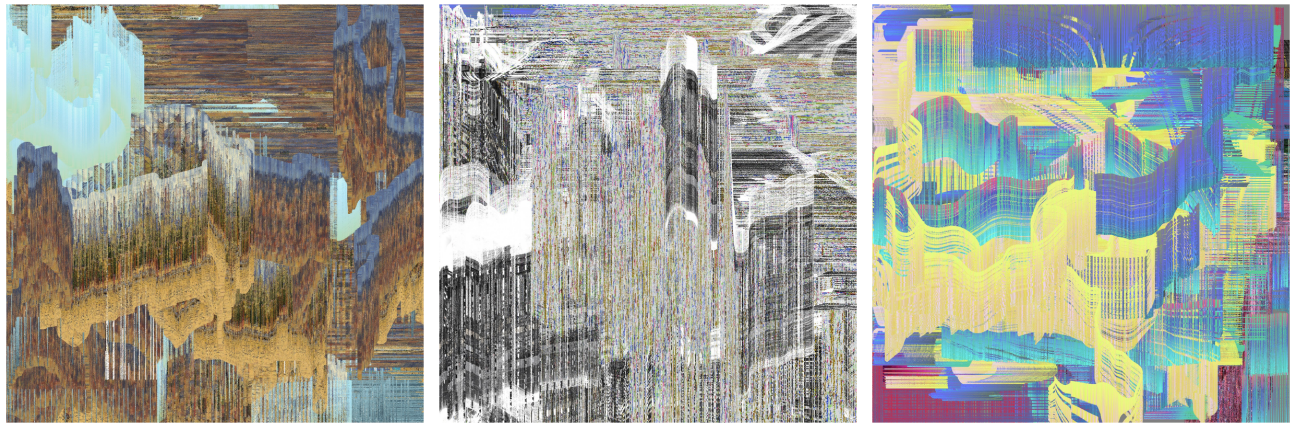


Figure 1: Three outputs from the running system. Direct canvas exports; p5.js, March 2026.

Abstract

Agentic Images is a rule-based multi-agent drawing engine in which autonomous agents carry source works into a shared canvas and negotiate territory frame by frame. There is no training corpus, no large language model, no diffusion. The claim of agency is through the piece's conceptual architecture which is written in te reo Māori: *mauri*, *whenua*, *whanaungatanga*, *whakapapa*, *tikanga*. The resulting artifacts—both the IT artifacts of code and screen recordings, and the image outputs—form an agentic infrastructure. Māori concepts operate here as computational substrate and philosophical grounding. This poster presents the architecture, the code, and the outputs, and situates the work within Indigenous computational thought.

CCS Concepts

• **Applied computing** → **Media arts**; *Fine arts*; • **Computing methodologies** → *Multi-agent systems*.



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Keywords

te reo Māori, whakapapa, multi-agent systems, generative art, Indigenous computational methods, kaupapa Māori, rule-based art, found logics, adjacency, p5.js

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1 Whakapapa as Infrastructure

The context for this work is a gesture toward a whakapapa of art works, where the generative histories of a given artifact are available as archives of adjacency rather than as indexes (Figure 2). This means treating images as having an inherent agency. This follows a now-substantial argument that computation (and indeed other disciplines) can be approached *through* Indigenous protocol rather than colonised by it. Lewis, Arista, Pechawis and Kite argue for making kin with the machine—situating computational systems inside relations of kinship and obligation rather than mastery [Lewis 2020; Lewis et al. 2018]. Mika's worlded philosophy holds that a relatum is never prior to the relations it belongs to [Mika 2017]. In Ngā Tikanga Paihere—developed by Stats NZ and Māui Hudson—*mauri* is the tikanga that weighs how far data is transformed from

the purpose of its making [Stats NZ and Hudson 2018]: a framing that fits this work exactly, where source images are transformed by the mauri that carries them. Taiuru extends the same kaupapa to AI itself [Taiuru 2026].

Closest to home, Shedlock and colleagues build kaupapa Māori approaches to Māori IT artefacts directly from te reo—a niho taniwha design model [Shedlock and Hudson 2022], and an LLM whose trust logic is structured by the protocols of pōwhiri [Shedlock et al. 2025]. In both, Māori knowledge supplies the *justificatory* layer guiding a system—an ML pipeline, a RAG model—built on other foundations.

This work is a small, runnable instance of that argument. It is also an instance of what I have called *found logics*—the discovery that one domain’s operational logic already fits another’s situation. Perlin noise, swarm behaviour, and finite-state machines are found logics relocated into a canvas that reads itself as land. In the same lineage, the logic of the present-day image is one of *adjacency*: where the photograph was *of* the index, the contemporary image is *of* adjacency, and earlier logics—indexicality among them—are held as edges of the archive rather than as its ground [Mitch 2018].

2 Emergent Systems in Te Ao Māori

The five concepts below are the architectural concepts and together form the graph of relations an agent enacts (Figure 2).

Whenua—territorial reading. Each agent samples the canvas around its position and converts brightness variance into local density; density sets a behaviour mode—explorer, settler, retreator.

Mauri—vitality. Each agent carries an energy that drains with activity and crowding and recharges among allies and in open ground. Mauri gates the lifecycle: it licenses spawning, and when it fails the agent enters *dying*, its marks shrinking with its remaining energy until it deposits nothing at all.

Whanaungatanga—relationship precedes action. At the start of every frame each agent broadcasts its state to a shared message bus *before* any agent acts, so that all act on a common snapshot of the world rather than on private information. “*Tukuna te āhua o tēnei manga ki te pae karere.*”

Whakapapa—lineage, memory, inheritance. Agents spawn offspring that inherit source material and a mutated noise offset; when an agent dies it bequeaths (tuku iho) its last remembered positions and an energy boost to the nearest ally carrying the same source image.

Tikanga—decision architecture. A five-state machine (exploring, claiming, defending, migrating, dying) governs each agent through condition-driven transitions.

3 The Image as Product and Infrastructure

Source works are either loaded at runtime by agents or dragged by the user onto the canvas as a link; what they deposit becomes the territory that later agents must read and negotiate. There is no separate rendering layer. The canvas itself is the governance layer, and similarity is indexed through willingness to overwrite. The source works dissolve into colour and territory. What an essentialist reading would hold as their identity inasmuch as the image as the thing it depicts, does not survive the process. But in a Māori conceptualism dissolution is not erasure: the source is folded into

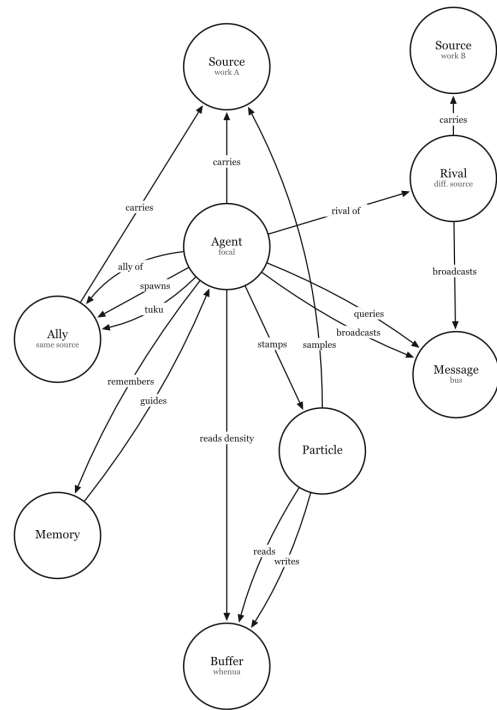


Figure 2: The agent and its relations. Nodes are what runs; the *kaupapa* are the grammar of the arrows—*whakapapa* (carries, spawns, tuku, remembers/guides), *whanaungatanga* (broadcasts, queries, ally/rival of), and *whenua* (reads density, stamps, samples, reads/writes). *Tikanga*, the five-state decision architecture, governs which relations an agent may enact at any moment.

the system through its *mauri*—carried by an agent, deposited as ground, tuku iho (bequeathed) to kin at death. What ends is resemblance and presence; what persists is *mauri*. The image’s agency is structural.

Technical and AI disclosure. p5.js; a 2048 × 2048 in-browser canvas; roughly 1,200 lines of inspectable JavaScript. A human operator may draw alongside the agents using the same sampling mechanics, deliberately collapsing the boundary between human and agent authorship; all reproduced images are direct canvas exports (Figure 1). No generative AI, large language model, or diffusion model is present in the artwork itself. During development the author used Claude (Anthropic) for code review, refactoring, and architectural refinement.

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