

Constructed Agency,
The Illusion of Transparency and
a Future of Multiplicity

Ben Bogart

Ph.D. Student
School of Interactive Arts and Technology
Simon Fraser University

Outline

- The paradox of constructed agency
 - “Memory Association Machine”
- The illusion of transparency
 - “A Machine that Dreams”
- A future of multiplicity (The end of monopoly?)

Background Principals

- Doing over Representing
- Exploration over Expression
- Media over Message
- Science and technology as culture
- Computational methods
- Free and Open Source Software (FOSS)
- End of the myth of the isolated genius

The Paradox of Constructed Agency

“Memory Association Machine”

“Memory Association Machine” (MAM)

- M.Sc. Thesis project
- How can a machine relate to its installation context without the relation being predetermined by the artist?
 - How can the system's behaviour be beyond the intentions of the artist?
- Combination of AI (unsupervised artificial neural network) and Gabora's cognitive model of creativity.
- Video Documentation

What is a system?



Intention

- The **purpose** of the system is a particular relationship between input and output.
- This purpose is manifest in the operations that causally connect input and output.
- These operations (a computer program) are the manifestation of the artist-programmer's intention

How can the output be beyond the intentions of the artist?

1. The artist can be causally **disconnected** from the operations. (Where do they come from?)
2. The operations are the output of **another** system. (Increase complexity.)
3. The system receives input the artist did not expect and leads to **unexpected** results.

Complexity

- Even with unexpected input a system with few operations is **not likely** to surprise the artist.
- Increasing the complexity of the system (increasing the number of operations) increases the **likelihood** that the system will generate surprising output.

The Paradox of Constructed Agency

- The author must relinquish some **control** over the system, by allowing unexpected input.
- More surprising output requires more operations, which requires more intentional choices. The more choices the more **control** the artist is impacting on the system.

The Illusion of Transparency

“A Machine that Dreams”

“Dreaming Machine”

- Continuation of MAM
- “Dreams” are the result of a simplified version of MAM's free-associative process.
- Dreaming Machines #1 and #2 contain no explicit model of dreaming.
- “Dreaming Machine #3” (in progress) will make use of explicit models of perception, memory and mental representation.
- “Dreaming Machine #2” Video Documentation

What is required for a machine to dream?

- **Perception**: People who are blind from birth do not dream in images. The images we can imagine are the recombination of components of the world we perceive.
- **Memory**: We must be able to store these components to imagine, and to dream.
- **Mental Representation?** Dreams may be like imagination. We may dream of concepts (networks of related memory components).

Why this interest in 'doing'?

- Art is a **exploratory** method, not for expression but for **inspiration**, understanding, and to push the **limits** of ideas.
- By implementing current scientific ideas I hope to explore their **implications** and share them with the public.
- *The more science I learn the more I see the fault in a dichotomy between **doing and representing**.*

Representation

- Signifiers **stand in** for the signified.
- They simplify systems because the complexity of the signified (**reality**) is not needed.
- Mental representation allows the near infinity of perceptions to be **reduced** to a structure of related concepts.
- *We think through these concepts, which may become **detached** from their origins in perception.*

Transparency & Representation

- A representation is **meaningful** when its symbols, and their relations, overlap with the reader/viewer's concepts, and their relations.
- A transparent representation must be meaningful, and the degree of transparency is a result of the degree of **overlap**.
- A transparent representation is an extension of **culture** (a shared pool of concepts and relations).

Media & Transparency

- 'Media' as a technical system of **representation**.
- Transparency is when the 'media' (signifier) disappears in order to **emphasize** the 'content' (signified)
- Mediums are **systems** with inputs, operations and outputs.
- The relations between input (signified) and output (signifier) are **constructed** for particular reasons to satisfy particular goals.

Media & Transparency

- These goals are **hidden** in the operations.
- The choice of what media represents also results in what it **excludes**.
- As media are an extension of culture, so are their **hidden operations**.

Multiplicity & Control

Control

- The adoption of media technologies is an **integration** of its hidden operations into culture.
- How can we evaluate new technologies without **access** to their hidden operations?
- The purpose of FOSS is not to provide technologies to the public **free of charge**. It exists to exemplify technology development as a **cultural enterprise** and to **expose** its hidden operations.

Responsibility

- We need to understand the hidden operations of media technologies in order to make **informed choices** as to their acceptance into culture/society.
- This could mean the end of monopoly, as any software could do what the others do, choice would be based on **preference**, not compatibility.
- A multiplicity of technologies and cultural sharing of knowledge creates a strong foundation of **innovation**.

Summary

- Experiences in the world (perceptions) become concepts, which become the media through which we create, and experience, culture.
- Science, technology and commerce are a part of this cultural system, not isolated from it.
- We all have the potential to participate, to question, expose hidden structures, and find beauty.