THE CASE FOR KNOWLEDGE ART:
A CYBERSEMIOTIC ANALYSIS OF
SPACE-TIME AESTHETICS IN
THE META-ENVIRONMENT

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Space-Time Aesthetics in the Meta Environment: A Cybersemiotic Analysis and Case for Knowledge Art

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“Within a transcultural, transdisciplinary perspective, the Planetary Collegium is concerned with the advancement of emergent forms of art and architecture, in the context of telematic, interactive and technoetic media, and their integration with science, technology, and consciousness research.”  

Roy Ascott

“Telematic art is a descriptive of art projects using computer mediated telecommunications networks as their medium.”  Edward Shanken, 2000

“Technoetics is a convergent field of practice that seeks to explore consciousness and connectivity through digital, telematic, chemical or spiritual means, embracing both interactive and psychoactive technologies, and the creative use of moistmedia.”  Roy Ascott, 2008
Practice, perception, and the several arts are equally ways of gaining insight and understanding. The naive notion that science seeks truth, while art seeks beauty, is wrong on many counts. Science seeks relevant, significant, illuminating principles, often setting aside trivial or overcomplicated truths in favor of powerful unifying approximations. And art, like science, provides a grasp of new affinities and contrasts, cuts across worn categories to yield new organizations, new visions of the worlds we live in.
Mixing Realities

Cyberperception of Space and Time
SPACE-TIME AESTHETICS
META-ENVIRONMENT
CYBERSEMIOTICS
MEDIATION PROPERTIES + QUESTION
KNOWLEDGE ART
OUTCOMES
Circadian Rhythms

Space and Time were Distinct Perceptions
Mostly Fixed Euclidian Space
Limited Episodic Memory
Circular Visualization

Circadian Rhythms
Mechanical Age
“The railroad did not introduce movement or transportation or wheel or road into human society, but it accelerated and enlarged the scale of previous human functions”

Marshall McLuhan, 1964

Space-Time perception
Einstein Theory of Relativity
Expanded episodic memory
Linear interval visualization

Linear Perception
Mechanical Age
Influences on the Digital Age

Structural and linear events
Access to many events/information
Not information centered
User centered
Digital Age
“During the mechanical ages we had extended our bodies in space. Today, after more than a century of electric technology, we have extended our central nervous system itself in a global embrace, abolishing both space and time as far as our planet is concerned.”

Marshall McLuhan, 1964

Substitute: “abolishing” with “transforming our perceptions of”
We have been using physical narratives that emphasize embodiment to represent the architecture of digital information environments and the user-interface relationship.

Commoditization of digital information and its centrality to our cultural moment call for revised transdisciplinary conceptualizations of this spatial paradigm and the user-interface dyad.

Dissertation Background
Meta-Environment
Human element

“One that uses” something:
- information
- interface

user
• Entropic transmission of data and metadata in binary format that generates communication as a whole.
• Metadata is not only the description of the content but also the description of the structure of the content.
• “A difference that makes a difference”
  Gregory Bateson's definition of a “bit” or “elementary unit” of information.

Weiner, 1948, 1965, p61
Shannon & Weaver, 1959, p100
‘Interface is described in physics as a “surface separating two phases of matter.”’
Encyclopaedia Britannica

**physical machine, hardware**
- computer, cell phone, tablet, refrigerator, door lock etc.

**software, applications and processes** utilized by these machines

**Medium** – hardware + software – that facilitates the interaction between humans and information.
HUMAN PERCEPTION
semiotics

COMPUTER INTERFACE PROCESS
cybernetics, information design, digital media

user
physical
embodied
temporal
perception
meaning

interface
physical & digital
embodied & disembodied
temporal & atemporal
logic

digital
logic
processes
disembodied
atemporal

perception
meaning
information

Perception x Process
SPACE-TIME AESTHETICS
META-ENVIRONMENT
CYBERSEMIOTICS
MEDIATION PROPERTIES + QUESTION
KNOWLEDGE ART
OUTCOMES
“Cybersemiotics is a transdisciplinary theory of Information, Cognition, Meaning, Communication and Consciousness that integrates Cybernetics and Peircean Semiotic paradigms in a common framework.”

Soren Brier, 2008
Meta-Environment

Cybersemiotic Framework

user

information

interface

physical | emotion | meaning
digital | logic | meaning
physical | digital | logic

“Information and meaning, logic and emotion have to be united in new creative ways.” Brier

Meta-Environment
SPACE-TIME AESTHETICS
META-ENVIRONMENT
CYBERSEMIOTICS
MEDIATION PROPERTIES + QUESTION
KNOWLEDGE ART
OUTCOMES
<table>
<thead>
<tr>
<th>USER</th>
<th>INFORMATION</th>
<th>INTERFACE</th>
</tr>
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<tbody>
<tr>
<td>PROPERTY</td>
<td>Physical</td>
<td>Digital</td>
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<tr>
<td>ELEMENT</td>
<td>Atoms</td>
<td>Bits</td>
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<tr>
<td>EMBODIMENT</td>
<td>Embodied</td>
<td>Disembodied</td>
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<tr>
<td>TEMPORALITY</td>
<td>Temporal</td>
<td>Atemporal</td>
</tr>
<tr>
<td>COMPLEXITY</td>
<td>Linear + Nonlinear Dynamics</td>
<td>Nonlinear Dynamics</td>
</tr>
<tr>
<td>COGNITION</td>
<td>Subjective</td>
<td>Objective + Subjective</td>
</tr>
</tbody>
</table>

2001 - Infinite Memory and Bandwidth: Implications for Artificial Intelligent - Raj Reddy

Can new models of space-time aesthetics applied to the meta-environment through cybersemiotic analysis facilitate the development of knowledge art?
SPACE-TIME AESTHETICS
META-ENVIRONMENT
CYBERSEMIOTICS
MEDIATION PROPERTIES + QUESTION
KNOWLEDGE ART
OUTCOMES
• How do you make the normally unseen or unspoken visible?
• Provide ways of seeing what’s actually there but what normally can’t be seen?
• How do you achieve the depth and breadth of insight and representation that art provides, in the face of all the pressures and partiality of organizational life?
• Normally, it’s impossible to spend the time, effort, or focus that art-making requires in most organizational situations.

Knowledge Art seems to hold out some possibilities.

Albert M. Selvin (2003)
Knowledge Art is not a set of techniques or a theory. It more refers to a phenomenon and a potential: something that emerges from particular practices. It involves seeing a problem from multiple perspectives; enabling a kind of multidimensional seeing; matching the representational and dialogic needs of a group at particular moments; expressing, holding, and interrelating multiple meanings; aggregating elements and relationships over time, and enabling insight at any level, time, or slice.

Albert M. Selvin (2003)
Archival Knowledge

1. Data: symbols;
2. Information: data that are processed to be useful; provides answers to "who", "what", "where", and "when" questions;

Structural Knowledge

3. Knowledge: application of data and information; answers "how" questions;
4. Understanding: appreciation of "why"

Knowledge Art

.Wisdom: evaluated understanding.

Russell Ackoff
Journal of Applied Systems Analysis,
Volume 16, 1989 p 3-9
SPACE-TIME AESTHETICS
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OUTCOMES
Meta-Environment

Space-Time Aesthetics

User Interface

Knowledge Art

Information

Cybersemiotic Framework

Generative Dynamic Complex Adaptive System

Outcome
Space-Time Aesthetics

information

user

interface

Space-Time Aesthetics
Integration: Polyhedron
Generative
Dynamic
Complex Adaptive System

Visualization Models
Thank you!
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