

Interface Ecology: An Open Systems Approach to Analyzing and Making Culture

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Interface ecology forms an interdisciplinary core of key concepts and essential vocabulary for media-makers, analysts, and theorists. Blending approaches is the stock of this endeavor --interface ecology intensifies interdisciplinary work. In setting up interface ecology, I generalize and extend the transgressions of boundaries and integration of conceptual frameworks which characterize earlier developments by Bateson, Schechner, Dada, and many others.

To catalyze the fire of this metadisciplinary initiative, the flint, or source of spark, comes from expanding the scope of *interface*. The oxygen, which inspires the reaction, breathes through *ecology*. The tinder – the first fuel to catch – comes from *culture*. An *open systems* approach gives the reaction a flexible structure for shape shifting. The fire burns with the integration of form and function in theory and practice. After laying out the theoretical ground for interface ecology in the first part of this talk, I'll spend the second portion discussing and demonstrating interactive media environments: Collage Machine, and the Interface Ecology Web.

Interface Ecology – Interface

Interface originally referred to a boundary layer between reacting chemicals. With McLuhan, the scope expanded to data exchanges in information systems. Now, expanding scope again in interface ecology, interfaces -- places and processes where people and ideas meet -- make the spark. An interface functions as

- a means of contact;
- a border zone;
- a layer hosting exchange;

- a nexus where resources -- such as information -- and power are circulated and transformed; or
- a channel through which interactors communicate.

The messages may be formed in a specific language or semiotic code. The interface may form the basis for the language development, or the language may be the product of other levels of the open system, which then constrain the communication.

Interfaces provide interactors with methods for accessing each other, with entrances to a shared territory and a means to engage in the process of interaction. For example, a market forms an interface between producers and consumers. The exchange of messages in the language of negotiable currency assigns values to products. This is equivalent to Baudrillard's logic of the commodity. Baudrillard identifies as a *sign* a term in some other level of interface language which is determined by the multinational exchange of capital.

We see this process over and over on the Internet. Notice how language, conventions, sign values frame the interactions of the WWWAC-list subjects whom Melissa Lang documented. The meanings produced in their discussion and their work are bound to the structure of their workplace, their employers, and their clients – advertising agencies, and corporate brands and identities.

Recursion – a term from computer science -- is the process of self-reference – the same thing happening on different levels at once. Through recursion, an interface within an ecosystem may itself constitute an ecosystem. The languages on different levels may interact.

Then, let me apply this analysis, again, recursively, to myself – theorist, researcher, consultant, mediamaker. I work in that same interactive industry, producing sign value as members of the WWWAC do. As I am developing this interface ecology framework for thinking about and making media, so, immediately, in vivo, I engage in a process of self-appropriation. Melissa also mentioned site ecology, our business philosophy.

Aside: In the larger ecology of this time, "the arts" are no longer funded significantly. The interactive industry – a pinnacle of the sign value machine – seems to offer some creative refuge. This is a myth, as defined by Barthes, a signification which depends on the backdrop of prevailing economic conditions for its meaning. "Interactive production" seems to offer a creative refuge, in comparison, say, with accounting.

Self-appropriation. I adapt my ideas into marketing pitches, as fast as I can, trying to "make it" like everyone else. Everyone at this conference does or has done the same, playing one game or another. I pursue parallel strategies – theorist, researcher, consultant, mediamaker. Indeed, until the NEA cuts, I was pursuing performance, as a composer and director of performance ecologies – multimedia operas – which feature human beings more prominently than machines.

Message passing through hard currency via the interfaces of the economy structures the production of meanings in this world.

The definition of interfaces, and their languages for message exchange, may be the site of struggle. The inclusion or exclusion of cultural modes in an interface may be explicit or implicit, intentional or accidental, systemic or incidental. bell hooks raises "...the voice of resistance [in] a counter language, [which] ... may resemble ... the colonizer's tongue ... [to form] an intervention. A message from that space in the margin that is a site of creativity and power, that inclusive space where we recover ourselves, where we move in solidarity to erase the category colonized/colonizer." [Out There: 342-3] Counter languages of this kind can form the basis of interfaces of resistance to the center.

Interface Ecology – Ecology

O.K. We've seen interface, the flint. Now for the *inspiration*. Breathing through ecology. The textbook definition by Francis Evans reads:

An *ecosystem* involves

- the circulation, transformation, and accumulation of energy .. through the medium of living things and their activities.. [From an interface ecology perspective, this circulation and transformation happens through interfaces.]
- the processes responsible for the transport and storage of materials and energy, and the interactions of the organisms engaged in these activities.
[Performance/performativity function as such in interface/cultural ecologies. Interaction refers me to human computer interfaces.]
- the kinds of organisms that are present and the roles that they occupy in its structure and organization.

An emphasis on relationships is implied. The whole of context. Interdependence. Where Evans refers to organisms, I want to substitute entities / factors / components. At the same time, I want to retain an echo of the sensibility of life forms, to emphasize the role of human beings in all human initiated assemblages. I build <the event / action / performance / artifact> as part of a larger environment.

Environmental theater expanded the location of performance beyond the stage. Interface Ecology locates <what you make, where you make it> in society. Making should not be stuck within any preset boundaries. Going from the stage to the whole theater was an important step. Why not continue and build in the perspective of the larger context? I suppose I'm violating the rules for the formation of discourses -- recall Jon McKenzie's citation of Foucault. <<what did you say Foucault said, Jon?>> Discipline. Interdiscipline. Indiscipline. I suppose I'm treating disciplines with irreverence. I find it easier to make sense out of these ideas, then to situate them. All I need now is four walls and a dean. Then I'll be set, right?

Recurring, again, to consider this context, I must mention that the separation of creative and technological in the interactive industry, and the separation of theory and practice in performance studies are equivalent reflections of bureaucratic structure.

Interface Ecology – Open System

Interface ecology builds work as an open system of relationships across disciplines. An open system is a flexible structure, receptive to outside influences. Bateson's characterization of feedback systems as, "always open," acknowledges the incompleteness inherent in the process of system design, as manifested, for example, by the failures in error handling which were responsible for the partial meltdown of the Three Mile Island nuclear reactor.

Open systems can be composed of fragments, assemblages of bits. Their constitution may change and evolve. The philosophy of plural subjectivity requires deferential acknowledgment of the validity of different points of view -- multiple representations -- an open set of concurrent conceptual interfaces that different people may construct to the same phenomena.

An interface ecology is an open system, rooted in multivocality; one of Deleuze and Guatari's rhizomes: always branching, with no root, no central point and many interfaces,

some consistent and some conflicting. Interface ecologies are open systems because participants may have different perceptions of the same events. People with different political positions and cultural perspectives may build different valid conceptual and practical interfaces to the same phenomena.

Interface Ecology – Culture

So an open systems approach makes interface ecology fluid, lets it encompass <whatever>, without trying to be monolithic. As I mentioned in my preamble, culture, then, is the tinder, the fuel, the signified *stuff* which gets circulated and transformed in an interface ecology. Culture is the way we individually and collectively think, feel, and act, in relation to tangible places, objects, and events. By culture, I somehow mean the fundamentally human essence of all human processes and products. I include, for example, technoscientific practices -- contextualized as expressive, creative processes in larger cultural fabrics. The ivory tower isolation of concepts, formulae, and inventions is another myth, in Barthes' sense.

Taking an open systems approach to culture, I again allow for multiple perspectives, shifting cultural formations, micro-cultures and subcultures, and even private languages to coexist with ethnic, national, religious and corporate formations. In our postmodern, multinational world, each individual may carry an open set of cultural shards which together form a distinct identity.

The modus operandi of interface ecology is to

- Analyze cultural interfaces.
- Build interfaces as culture.
- Transcend disciplinary boundaries.

Transition

Now that I've developed the theory, the form, of interface ecology's flame -- sketched the sparking of the fuel of culture by the flint of interface, which flows with the air of ecology -- now, lets burn baby, burn. I want to move to the substance, to tangibles. I'll raise historical precedents, and the quickly move to a demo of some interface ecology in action.

Collage Machine Historical Precedents

Indeterminacy and Found Objects

- Before Interface Ecology, the Dada Multimedia Movement also freely assembled work from different disciplines. For example, the "Cinema Calendar of the Abstract Heart Houses" combined poetry by Tristan Tzara with woodcuts by Arp..
 - Dada artists developed the techniques of indeterminacy and found objects.

- John Cage "Imaginary Landscapes No. 4"

Collage Machine

- CollageMachine – cultural approach to the Human Computer Interface-- blends thinking from Dada with computer science to produce an interface which is conceptual and practical.
- Uses indeterminacy.
- Pulls media from WWW and relational databases instead of radio.
- Like "Imaginary Landscapes" in that composition mechanism includes a computational process. Different in that a machine "performs" the work.

Collage Machine

- Temporality
 - development over time (e.g. "Push" media)
 - Usually, even in fancy 3D visualization, presented information is splatted out at once.
 - Work with space and time together in data presentation.

How Collage Machine Works

Collage Machine User Interface

Collage Machine

- Interactive Collage as Tool -- Concepts

Cultural approach to concept.

Interdisciplinary development process.

Expanded notion of interface.

CollageMachine blends cultural methods from Dada with computer science to produce an interface which is conceptual and practical.

Collage Machine

- Interactive Collage as Tool -- Principles

- extend collage art form to an interactive tool

- support emergence of ideas through visual recombination

- browsing paradigm – enable links to original context

- navigable information space as collage geography

- malleable, steerable

Interface Ecology Web

"Quoting on the Internet" – The Web site which comments on the web can pull material directly from the Web, and is part of the Web.

CHAINS

Interface Ecology

Conclusion

Not only is there no reason, other than huge institutional precedent, for separating disciplines and separating theory and practice, in fact it can prove a great barrier to much creative work. The inherently interdisciplinary nature of interactive digital media, builds pressure on the system to reform. This is not to question the value of specialization, but only to raise the value of blending. Many mixes are possible. Some of

these are satisfying. Some are useful. Interface ecology develops a framework for intensifying interdisciplinary work with an open systems approach to analyzing and making culture.