Seeking Interaction, Changing Space

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Seeking interaction

A stage is a closed environment. Stage performance is a concentrated situation.
The musician is meant to interact with the audience, but the audience is just beyond the sphere of the stage. So first human interactions happen among musicians onstage. But even before this is a nonhuman interaction taking place between the musician and his instrument. If this haptic interaction surmounts the mechanical, music begins to be made. At which point a second order interaction occupies the attention space of the musician: an interaction with the sound produced. Though realized through the agency of the instrument, the moment arrives in mastery of the instrument where physiological manipulation steps back to the non-conscious and the interaction between musical mind and resulting sound have a directness.

Enter another musician onstage and this intuitive bubble is popped. The musician maintains the mechanically catalyzed sound/spirit interaction while now having to watch out for the psychology of his partner. Figuring what the other "wants" and anticipating where he will go add a social dynamic: a kind of musical co-ontogeny. Success in this domain goes via a delicate give and take whereby each musician keeps his own bubble floating, however now in a dance with the other's, with the ultimate goal of taking the whole further than either of the parts.

This delicate balancing act is what the audience has privy to perceive and drive. The audience presence and reaction become the third order, environmental effect. All these levels of bidirectional filter back via unified and individual channels to each musician, driving his musical input to the system.

The ether of the net

If the stage is a closed system, networks are open. Even if both can take on hierarchical structures, a network is full of holes while a concert hall is relatively hermetic. But does this openness facilitate interaction; does it really take down barriers to create democratic creativity? If we look at the loci of action in participative network activity, we find that this is probably not the correct question.

The ether is the area where various actors' remote actions can be united. Unfortunately, none of these actors are themselves in the ether. They are most commonly just outside the sphere, on the other side of the screen. How do we share in a process we are merely peering into?

If we compare the network situation to the stage situation, we see a kind of inversion.

Onstage, musicians have local interactions that then diffuse outward. In the network, the actors' local interactions are at the remote edges of the system, and diffuse inwards to be collated. What then remains of an act when it passes via the center, enters in relation with another act, and finally ends up to be perceived again out at the perimeter?

The question of perceptual impact is not even at the point of considering transmission, one to another. There is first to be resolved the perceptual consciousness of one's own act within the whole network dynamic.

If the local interaction of a musician onstage is with his instrument, the local interaction for a network actor is probably with a keyboard or mouse. This is not the difference that will result in a quality judgment. Instead the differentiation comes in considering the nature of feedback. With an onstage musician there is immediacy in the relation between instrumentalist and instrument. A mechanical action gives a physical, acoustic reaction. This short turnaround cycle is attuned to our human physioperceptual systems. This perceptual consciousness of agency gives the musician the key to decipher his contribution to the ensemble.

A network interaction has a completely different nature. Local interaction may have an immediacy. But this tight loop interaction is a purely local phenomenon and is counter indicative of the ensemble interaction that will ultimately take place upstream. Eventually the ensemble result will fold back to each actor, but after submitting to a system latency. These network latencies are typically beyond our perceptual thresholds of agency. The keys that exist – closed loop local reaction and the latent ensemble interaction, could be correlated to begin to give the sense to each actor of what his contribution to the whole has been. Agency, then, seems to be a question to be studied before democracy in shared network dynamics.

Space installation
An installation in physical space brings together the space specificity of the stage with the time inspecificity of ethers. An installation can have a direct reaction to each visitor. But should the installation be fair and respond always the same to every visitor, or can the installation have a life of its own and evolve? If the latter, then how to balance the local short-term interaction with the potential perceptibility of long-term evolution? Can we create compelling interaction not based on direct action but on population trends [1]? How can we perceive over time and through experience? The answers to these questions leave the domain of classical evaluation and judgment.

A visitor probably perceives the installation environment alone. To extend the visitor's presence towards others, we must foster communication across architectural space. And the notion of visitors leaving trace means cultivating communication across time.

Capital excitement
Over seventeen years, my use of the network for musical ends has forcibly evolved. From direct modem links to swap code to early BBS (bulletin board service) communities, information exchange was the original dynamic. Email and web created collaborative

workspaces, and P2P brings ad-hoc distribution to interesting nondeterministic ends. I find myself through these moments, interesting questionings of the role of composer [2]. But where does the spectator find himself in these spaces? If I as a composer can find musical satisfaction in these systems, can we discern what the public may find "exciting" [3]? Metcalfe's Law states that the number of potential connections in a growing network outpaces the number of nodes, by a square law [4]. In classical art making, we have been mostly concerned with making objects – nodes – is time to think about the process of creating connections? Francis Fukuyama describes social capital in a democratic economic context [5]. But ultimately he is describing participative dynamic. Can we take the value of the ease of forming associations to a musical end? Through these dimensions I seek to reconsider space/time dynamic and interreactivity and find the anchor of sound in human need.

[1] C. Salter, personal communication, 2002.
[2] A. Tanaka. "Musical implications of media and network infrastructures: Perturbations of traditional artistic roles." In Balpe, J.-P., Leleu-Merveil, S. et al., editor, *Actes de H2PTM'01: Hypertextes hypermédias, nouvelles écritures, nouveaux langages*, Hermes Science Publications, Paris, pp. 241–250, 2001.
[3] F. Pachet, personal communication, 2001.
[4] A-L. Barabasi. *Linked: The New Science of Networks*, Perseus Publishing, Cambridge MA, 2002.
[5] F. Fukuyama. "Social Capital and Development: The Coming Agenda." *SAIS Review* (12)1, Washington D.C., pp. 23–37, 2002.