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LOOPS OF PERCEPTION

SAMPLING, MEMORY, AND THE SEMANTIC WEB

by Paul Miller, aka DJ Spooky

> "free content fuels innovation"
> - Lawrence Lessig, *The Future of Ideas*

I get asked what I think about sampling a lot, and I've always wanted to have a short term to describe the process. Stuff like "collective ownership", "systems of memory", and "database logics" never really seem to cut it on the lecture circuit, so I guess you can think of this essay as a soundbite for the sonically-perplexed. This is an essay about memory as a vast playhouse where any sound can be you. Press "play" and this essay says "here goes":

I n s i d e t h e o u t - s i d e

Think. Search a moment in the everyday density of what's going on around you and look for blankness in the flow. Pull back from that thought and think of the exercise as a kind of mini-meditation on mediated life. Pause, repeat. There's always a rhythm to the space between things. A word passes by to define the scenario. Your mind picks up on it, and places it in context. Next thought, next scenario - the same process happens over and over again. It's an internal process that doesn't even need to leave the comfortable confines of your mind: A poem of yourself written in synaptic reverie, a chemical soup filled with electric pulses, it loops around and brings a lot of baggage with it. At heart, the process is an abstract machine made to search in the right place for the right codes. The information in your mind looks for structures to give it context. The word you have thought about is only a placeholder for a larger system. It's a neural map unfolding in syntaxes, linked right into the electrochemical processes that make up not only what you can think, but how you can think.

Inside, we use our minds for so many different things that we can only guess at how complex the process of thinking is. Outside, it's a different scenario. Each human act, each human expression, has to be translated into some kind of information for other people to understand it: Some call it the "mind/brain" interface, and others, like Descartes, call it a kind of perceptual (and perpetual) illusion. In our day and age, the basic idea of how we create content in our minds is so conditioned by media that we are in a position unlike any other culture in human history: Today, this interior rhythm of words, this inside conversation, expresses itself in a way that can be changed once it enters the "real" world. When recorded, adapted, remixed, and uploaded, expression becomes a stream unit of

...nd remixed currency that is traded via the ever shifting ...nation moving through the networks we use to talk with ...asn't for nothing that Marx said so long ago that "all that ...o air" - perhaps he was anticipating the economy of ideas that drives the network systems we live and breathe in today. In different eras, the invocation of a deity, or prayers, or mantras, were all common forms, shared through cultural affinities and affirmed by people who spoke the code - the language of the people sharing the story.

Today, it's that gap between the interior and exterior perceptual worlds that entire media philosophies have been written about, filmed, shot, uploaded, re-sequenced, spliced and diced. And within the context of that interstitial place where thoughts can be media (whether they are familiar to you or not), the kinds of thoughts don't necessarily matter: It's the structure of the perceptions and the texts and the memories that are conditioned by your thought-process that will echo and configure the way that texts you're familiar with rise into prominence when you think. We live in an era where quotation and sampling operate on such a deep level that the archaeology of what can be called knowledge floats in a murky realm between the real and unreal. Look at the *Matrix* as a parable for Plato's cave, a section of his "Republic" written several thousand years ago, but resonant with the idea of living in a world of illusion.

The soundbite fetish

Another permutation: In his 1938 essay On the *Fetish-Character in Music*, the theoretician Theodor Adorno bemoaned the fact that European classical music was becoming more and more of a recorded experience. He had already written an essay entitled *The Opera and The Long Playing Record* a couple of years before, and the *Fetish* essay was a continuation of the same theme. People were being exposed to music that they barely had time to remember, because the huge volume of recordings and the small amount of time to absorb them presented to the proto-modernist listener a kind of soundbite mentality (one we in the era of the Web are becoming all too familiar with). He wrote that "the new listeners resemble the mechanics who are simultaneously specialized and capable of applying their special skills to unexpected places outside their skilled trades. But this despecialization only seems to help them out of the system." [1]

When Tim Berners Lee wrote some of the original source code for the World Wide Web, it was little more than a professors' club - but it echoed that same sense of abbreviation that Adorno mentioned. I tend to think of sampling and uploading files as the same thing, just in a different format. To paraphrase John Cage, sound is just information in a different form. Think of DJ culture as a kind of archival impulse put to a kind of hunter-gatherer milieu - textual poaching, becomes zero-paid, becomes no-logo, becomes brand X. It's that interface thing rising again - but this time around, mind/brain interface becomes emergent system of large scale economies of expression.

The loop of perception

As the World Wide Web continues to expand, it's becoming increasingly difficult for users to obtain information efficiently. This has nothing to do with the volume of information out in the world, or even who has access to it - it's a kind of search engine function that's undergoing a crisis of

...etaphor holds: the poem invokes the next line, word leads ...ck again. Repeat. The scenario: internal becomes ...involution. The loop of perception is a relentless hall of ...nd. You can think of sampling as a story you are telling yourself - one made of the world as you can hear it, and the theatre of sounds that you invoke with those fragments is all one story made up of many. Think of it as the act of memory moving from word to word as a remix: complex becomes multiplex becomes omniplex.

Search engine civilization

As more and more people joined the Web, it took on a more expanded role, and I look to this expansion as a parallel with the co-evolution of recorded media. Lexical space became cultural space. Search engines took on a greater and greater role as the Web expanded, because people needed to be able to quickly access the vast amount of varying results that would be yielded. Search engines look for what they've been told to look for, and then end up bringing back a lot of conflicting results: metadata that breaks down Web sites' contents into easy to search for "meta-tags" that flag the attention of the search engines' distant glances. The process is essentially like a huge rolodex whose tabs are blue, and whose cards are for the most part hidden.

So too with sound. I'm writing an essay on sampling and memory using search engines and the Web as a metaphor because I see the Net as a kind of inheritor to the way that DJs look for information: It's a shareware world on the Web, and the migration of cultural values from one street to another is what this essay is all about.

Think of city streets as routes of movement in a landscape made of roads and manifolds. These roads convey people, goods, and so on through a densely inhabited urban landscape held together by consensus. It's like James Howard Kunstler said in his book *The City in Mind* (Free Press, 2002): these streets, like the cities he loves to write about, are "as broad as civilization itself". Look at the role of the search engine in Web culture as a new kind of thoroughfare, and that role is expanded a million-fold. The information and goods are out there, but you stay in one place; the civilization comes to you.

Today, when we browse and search, we invoke a series of chance operations - we use interfaces, icons, and text as a flexible set of languages and tools. Our semantic web is a remix of all available information - display elements, metadata, services, images, and especially content - made immediately accessible. The result is an immense repository - an archive of almost anything that has ever been recorded.

Think of the semantic webs that hold together contemporary info culture, and of the disconnect between how we speak, and how the machines that process this culture speak to one another, thanks to our efforts to have anything and everything represented and available to anyone everywhere. It's that archive fervor that makes the info world go around, and as an artist you're only as good as your archive - it's that minimalist, and that simple. That's what makes it deeply complex.

Think then of search engines as scouts or guides for the semantic web; a category that also includes (among other things) software agents that can

...lect information, markup languages that can tag many ...ormation in a document, and knowledge systems that ...to read Web pages and determine their reliability. But it ...the truly interdisciplinary semantic web guide combines aspects of artificial intelligence, markup languages, natural language processing, information retrieval, knowledge representation, intelligent agents, and databases. Taken together, it all resembles a good DJ, who has a lot of records and files, and knows exactly where to filter the mix. They don't call the process online "collaborative filtering" for nothing.

Software swing

Again and again, one of the main things I hear people asking when I travel is: "What software do you use?"

Today's computer networks are built on software protocols that are fundamentally textual. Paradoxically, this linguistic medium of software isn't only nearly undecipherable to the layperson, but it has created radical, material transformations through these linguistic means (eg, computers and networks as forces of globalization). As Henri Lefebvre said so long ago in his classic 1974 essay *The Production of Space*: "The body's inventiveness needs no demonstration, for the body itself reveals it, and deploys it in space. Rhythms in all their multiplicity interpenetrate one another. In the body and around it, as on the surface of a body of water, rhythms are forever crossing and recrossing, superimposing themselves upon each other, always bound to space."[2]

The semantic web is an intangible sculptural body that exists only in the virtual space between you and the information you perceive. It's all in continuous transformation, and to look for anything to really stay the same is to be caught in a time warp to another era, another place when things stood still and didn't change so much. But if this essay has done one thing, then I hope it has been to move us to think as the objects move: to make us remember that we are warm-blooded mammals, and that the cold information we generate is a product of our desires, and manifests some deep elements of our being.

The point of all this? To remind us that, like Duke Ellington and so many other musicians said so long ago, "It don't mean a thing if it ain't got that swing." As the information age moves into full gear, it would be wise to remember the cautionary tales of shades and shadows; to recall and remix the tale of a bored billionaire living in a dream world in Don Delillo's *Cosmopolis*, who said:

> It was shallow thinking to maintain that numbers and charts were the cold compression of unruly human energies, every sort of yearning and midnight sweat reduced to lucid units in the financial markets. In fact data itself was soulful and glowing, a dynamic aspect of the life process. This was the eloquence of alphabets and numeric systems, now fully realized in electronic form, in the zero-oneness of the world, the digital imperative that defined every breath of the planet's living billions. Here was the heave of the biosphere. Our bodies and oceans were here, knowable and whole.[3]

Sample away!

... conceptual artist writer and musician woring in ew ... wor has appeared in *The Village Voice, Artforum,* ... t of other pulications. He is co pulisher of the multicultural magazine *A Gathering of the Tribes* and has ust started the online new media magazine *www.21cmagazine.com*. Miller is perhaps est nown under the monier of his "constructed persona" poo that uliminal id whose recent aural efforts hae included the cds "ptometr" and "Modern Mantra" and "ot in ur ame" a remix collaoration with aul illiams and oldcut. His most recent art proect is *Errata Erratum* created for ..s Museum of ontemporar rt. his is a et ased remix of Marcel uchamps artwors *errata musical* and *sculpture musical*.

N o t e s :

1. Theodor W. Adorno, *Essays on Music*, with notes and commentary by Richard Leppert, translated by Susan H. Gillespie and others (University of California Press, 2002).

2. Henri Lefebvre, *The Production of Space*, translated by Donald Nicholson Smith (Blackwell Publishing, 1974).

3. Don Delillo, *Cosmopolis: A Novel* (Scribner, 2003).

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