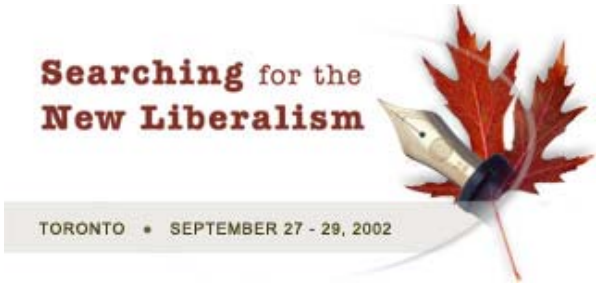

Some Structures to Think With: Interconnectivity and Network Possibilities

Roundtable on "Connectivity, Culture, Cohesion"

By Candis Callison

Rather than talk about connectivity as I have been assigned to do, I would like to raise the idea of interconnectivity – conceptually, this implies bi-directional and multi-dimensional links and overlaps between issues, objects, individuals, and groups. This conceptual structure has been applied by Theorist Manuel Castells, notably and others to describe what is being hailed as the rise of a network society.[1] By its hybrid nature, a network society has the potential to redefine notions of cohesion, cultural interactions, identity and representations.

To adequately describe what I mean by interconnectivity and networks, imagine if you will, something like the root system of a persistent set of weeds in the garden.[2] The way these roots connect, sprout, extend, branch, and persist matches a structure very much like a rhizome. It is fragmented, and conjoined unpredictably through nodes of access that lead to yet more nodes and branches of access. This is essentially the description of a rhizomatic network that contains overlapping structures, and that unlike the weed system, invites all kinds of connections regardless of type or form as long as they heed basic and sometimes, shifting protocols for connection.

Interconnectivity within a rhizomatic network is not merely the joining of individual boxes by lines in a kind of line or staff hierarchical vision. Rather, substitute a finite box with many small boxes, and groups of boxes with multiple lines crossing and cris-crossing one another coalescing at various points, dispersing at others. Interconnectivity is not a constant, but rather a fluid notion of cohesion involving movement, varying momentums, and moments of stability. It also allows elements and connection between elements to shift in terms of allegiances and connections creating a sense of temporary equilibrium.

This model of social interaction and cultural development permeates and interconnects every aspect of society reflecting a much more rich and diverse assemblage version of reality. Yet, our modern state functions by way of separating lines of connectivity and

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[1] Manuel Castells, *The Rise of the Network Society,* 2nd Ed., (Oxford: Blackwell Publishers, 2000). Also see related theories put forth in Gilles Deleuze and Felix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia*, trans. Brian Massumi,(Minneapolis: University of Minnesota Press, 1987); Bruno Latour, *We Were Never Modern*, trans. Catherine Porter, (Cambridge, MA: Harvard University Press, 1993); Michael Hardt and Antonio Negri, *Empire* (Cambridge, MA: Harvard University Press, 2000).

[2] Deleuze and Guattari use this metaphor to describe the properties of a rhizome in chapter one of *A Thousand Plateaus*.

stabilizing or formalizing elements.[3] Our institutions rely on the ability to represent and disseminate legibility and stability. More clearly, our institutions rely on what Theorist Alberto Melucci calls a "reduction of complexity" to maintain order and secure the tenants of a political system.[4] In other words, the convenience of the state attempts to determine the capacity of our productivity, efficiency, and mobility. Network society has effected a quiet succession from this mode of organization by employing interconnectivity and rhizomatic structures that include formalized lines of communication and control, but often augment, twist and generally complexify to the point of slippery non-compliance.

Networked information technology has been posited as the materiality of this networked society, a society we as Canadians are fast becoming and joining.[5] It could and is being argued that we have always been a society of networks that span the globe.[6] What's different about developments in the past century is that we have watched as information technology and media have insinuated themselves into many aspects of our life. The telegraph, radio, television, and now the Internet – being the most recent -- came with all the hype of a cultural revolution. Particularly, in recent memory regarding the Internet, a whole body of rhetoric sprang up promising more connection, new community, exciting culture. The Internet both subsumed and exploded the singular direction of older broadcast media making interactivity an assumption rather than a passing fancy. It is actually not so different than the previous media in this respect (radio started out as a two-way ideal as well), but the Internet's capacity to combine, envelop and mimic the other forms of media as well as its individuation and inherent bi-directional capabilities invite a broad realm of networking possibilities.

While a revolution may or may not have occurred in your living room or office cubicle, information technology in many forms including the Internet has arrived and affects how we connect to the bigger world beyond our everyday lived experience. I want to be clear that I am not upholding the hype of "information technology as wunderkind", merely that it is present and here to stay much like the television, refrigerator, motorized engine – technologies that were earlier heralded as revolutionary.

In our highly developed country, we have created a playground for culture and technology to collide, interact, and nurture growth. But what do we hope to create with this technology? Cities devoted to the technological elite enabling the growth of enterprise? A break with the stranglehold of broadcast/corporate media geared to the lowest common denominator? Cultural destinations online? Wider access to wireless Internet? All possible, but not probable unless there is some active coalescence from both Canadians and Canadian institutions towards this common goal. We, at this

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[3] James Scott, *Seeing Like a State* (New Haven and London: Yale University Press, 1998); Michel Foucault, *Discipline and Punish: The Birth of the Prison,* trans. Alan Sheridan, (New York: Random House, 1977); Jonathan Crary, *Suspensions of Perception* (Cambridge, MA: MIT Press, 1999).
[4] Alberto Melucci, *Challenging Codes: Collective Action in the Information Age, (*Cambridge, UK: Cambridge University Press, 1996), p. 177.
[5] Manuel Castells, *The Rise of the Network Society,* 2nd Ed.
[6] Ulrich Beck, *What is Globalization?* Trans. Patrick Camiller, (Cambridge, UK and Malden, MA: Polity Press and Blackwell Publishers, 2000).

juncture, where the dot-com economic bust has intersected with what some fear to be the erosion of faith in technology, have an opportunity to consider reflexively our relationship with technology and our growing status as and in a networked society.

Thinking with the Internet

Technology, culture, politics, and economics determine the development and indeed, the materials of each other. The interconnectivity between these elements can be framed this way: our values are as important as, and a determinant of technological invention and the use of technology. As Dutch theorist Wiebe Bijker, Bruno Latour and others have posited: we are shaped by our tools, AND they are shaped by us.[7] The Internet is not the network society I am referring to – rather, it is the materiality in the sense that is a powerful object to think with and about, embedded and situated in a society that itself is a network. The Internet, then, is a reflection of the transformations inherent in the combination of our cultural, political, technological, and economic aspirations and entrenchments.

Perhaps this is why the US debate about Napster remains such a contentious moral issue. Napster is a peer-to-peer network that connects individual computers in a rhizomatic pattern for the purpose of sharing media files. The debate about its abilities and existence can be framed as (1) a betrayal of artists, (2) the rise of militant consumers, (3) theft from the recording industry, and (4) depending on which side of the value-laden fence you're on: a poor or brilliant use of networked technology. If you don't download music online, then you probably aren't aware that clones exist everywhere and the legacy of Napster continues without front-page coverage. And importantly, the reach of peer-to-peer networking extends far beyond the domain of music to include all forms of media and software. If something can be digitally recorded or transferred to a digital format, there is a very good chance it already exists online.

This kind of system defies institutionalization in many ways. Certainly as a construct for thinking about culture, there is no gatekeeper or control mechanism like a Canadian Radio-television and Telecommunications Commission (CRTC). The overlaps and individual ability to shape and reshape the network defy borders and adherence to ideology. Some countries have tried to set up virtual walls, but these values do not line up with Canadian principles of freedom and democracy. More important for Canadian institutions is the fact that networks invite evasion of some of the sacredness of modernity. There are no strict lines of division for organization, instead there are fragments connected by points of bi-directional contact. Identity is defined in terms of multiples rather than singularity. There is little cohesion except in the fact that the possibility for more interconnection exists. In a world where enterprise is based on profit and the state on a certain amount of control, these aspects of networked society threaten to destabilize and remake the fabric of our Westphalian society.

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[7] Wiebe E. Bijker, Thomas P. Hughes, and Trevor Pinch, eds., *The Social Construction of Technological Systems: New directions in the sociology and history of technology,* (Cambridge, MA: MIT Press, 1987); Bruno Latour, *We Were Never Modern*.

This is not to say that a network society is without its own limiting sets of controls and inhibiting standardizations. Coding and algorithms, as well as, representational capacities determine and direct content in an online environment. Similarly, a networked society introduces new protocols for control, information, and connection on an ad hoc basis – most of which are never formalized, and most of which react or act in relation to our prevailing values. For example, Napster created what MIT Professor Joe Dumit calls "anonymous on-the-fly alliances for sharing information outside any known channels" and in the process of this creation, embedded its own terms of engagement that range from sharing to fanatical control of mini-domains in the electronic environment.[8] Rather, than strict lines of modernity bisecting at regular intervals, rules and capacities rest on the user preference combined with technological abilities, cutting across authoritarian inscribed homogeneity and stability.

Enabled by information technology, inter-institutional forays are doing much the same crossing cultural, governmental, corporate institutional lines.[9] Theorist Bruno Latour posits that the way things are studied in a scientific or academic setting do not stem from the actual problem to be solved, but more closely reflect entrenched relations between disciplines, subject areas and data.[10] This same kind of analysis could be applied to government and corporate departments, as well as cultural institutions. It is these kinds of entrenchments that prevent issue or data oriented coalescence, erecting boundaries that risk making those groups irrelevant by design. Entities whether created inside or outside an institution that challenge this organization around administrative function have the potential to effect change in both process and issue resolution.

And yet, our post-911 world, especially on this continent, has seen the rise in importance of physical borders running counter to the idea of a network society. Importantly, this touches on issues of surveillance or what I like to call the 'soft underbelly' of the network society. When alleged terrorist Richard Reed's email from a public Internet terminal in Paris was recovered within minutes or hours of him being discovered on a plane to Miami with a bomb in his shoes, which part did you focus on? His shoes, or the ability to track down the contents of his email outbox so quickly and precisely? A little closer to home, there are more parallels still: how did Canada send or share its immigration and other internal files with the Americans? Did we send a large crate of paper files or easily indexable electronic files that allowed the FBI -- or whichever agency investigates Canadians -- to find, link and trace identities and movement of individuals?

We live in a postcolonial reality where colonialism as the standard bearer of modernity constructed boundaries for nationhood and identity concealing the fragmentary nature of our existence.[11] And importantly in Canada, we live with the constant presence of another pseudo-empire whose network in terms of media and policy influence could

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[8] Joseph Dumit,"Re:draft cdn conf," Email to the author, 26 Sept. 2002.
[9] Ibid.
[10] Bruno Latour, *Science in Action*, (Cambridge: Harvard University Press, 1987), p. 16.
[11] Benedict Anderson, *Imagined communities: reflections on the origin and spread of nationalism* (London and New York: Verson, 1983).

constrain the boundaries of our imagination. Now more than ever as members of a global network society, our existing institutions are incapable of barricading us against the onslaught of these transborder influences, nor can they easily adapt to fragmented rhizomatic interconnectivities. Individuals and movements of fluid coalesced individuals construct identities and form allegiances that are multiple, often temporary. One only has to look at the emerging social movements around the world to see these kinds of allegiances being formed and translated into action.[12]

Social movements, however, have not always had the corner on these kinds of formations and transformations. Regardless of what institutions are created or adapted, individuals will and do develop strategies and tactics for dealing with constraining order in everyday life. This process of what Theorist Michel deCerteau calls "making do" becomes another mode of interconnectivity outside the realm of the state.[13] Many cultural and governance institutions exist as emminent repositories with inhibiting systems of rules and parameters of usage geared to an imaginary homogenized public.[14] The processes individuals face of often struggling and finally making do with imposed systems are not acknowledged or captured within the precepts we substantiate through policy-making. Yet, the rise of the Internet has made avail of entities like Indymedia.org, an organization devoted to "open-publishing," styling itself as a "decentralized autonomous network" formed as a result of what has been characterized as the unbalanced media coverage of the 1999 World Trade Organization protests in Seattle.[15] In this mode of analysis, Indymedia.org can be framed as a process of making do that has become both an externalized public reality and a social movement making it difficult to ignore the constraints of media institutions, and the ability to create another network.

A conceptual shift: Canada in and as a (global) network

To concretize what I am describing and in the spirit of using objects and issues to think with, I will advance several examples of how we might effect a conceptual shift in approaching distinctly Canadian issues. Beginning with the most prominent: we might reframe the "brain drain" to the United States as an extension of network and an example of flows between nodes within the network which may in turn lead to unexpected

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[12] Melucci, *Challenging Codes: Collective Action in the Information Age.*

[13] Michel de Certeau, *The Practice of Everyday Life,* trans. Steve Rendall (Berkley and Los Angeles: University of California Press, 1984), pp. 29-31.

[14] Henry Jenkins, *Textual Poachers* (New York and London: Routledge, 1992). Jenkins uses de Certeau's theory to look at the way fan communities adapt and use fictional narratives like *Star Trek* that are disseminated through broadcast media. There are arguments to be made about copyright issues and authorial inscription that pertain to Napster and other phenomena based on this analysis of creative work. It is incumbent on us to ask what fair use is in a digital world of reproducibility, layered imagery, artistic and hobbyist works related to popular culture that find an audience and community online – how much are we willing to curtail creativity in the interest of corporate profitability, copyright protection, and eminent relations of production?

[15] "About Indymedia," 30 April 2000, Independent Media Center, 14 Oct 2002 <http://www.indymedia.org/about.php3>. For more on the media coverage of 1999 WTO protests, see: Jill Freidberg and Rick Rowley, dir.,*This is what Democracy looks like*, Seattle Independent Media Center and Big Noise Films, <http://www.thisisdemocracy.org>.

networking eventualities and probabilities.[16] And maybe in some respects, we should look at these types of cultural phenomena as a measure and criteria for adaptability in areas like taxation, education, health, media, and culture. More importantly, can we not find a way to foster and support mobility without it threatening our identities, which are hardly singular anyways?[17] Is it just possible that international experience is essential to the various networks, we as individual Canadians, find ourselves a part of in terms of work, familial ties, belief associations, and other areas of our lives?

A second example lies even closer to home. It is abundantly obvious that the stories we tell ourselves as Canadians often do not take into account the complex realities of our networked history: Aboriginal, French, and Anglo-Canadians can barely settle on the ontology or epistemology of our shared history let alone complexify the unrealistic solidity of these artificially amassed groups. Certainly the stories we hear from our grandparents, embedded as they are with Canada's development and policies, differ based on our individual heritage. And indeed, we know ourselves to be a diverse lot, whether we hail from one of over 600 Indian Reserves, thousands of rural communities, or several of the urban environs. Yet, somehow we must settle for a sanitized nostalgia of a glorious past or some other kind of binding narrative. Is it any wonder our identity as Canadians seems to constantly be in flux or at least, under scrutiny and question? We would do well to imitate a rhizomatic pattern seeing areas where we connect and coalesce around these in all our complexities, or at the very least, aim for an agreement about our taught history that is decidedly un-American in its lack of nostalgia, heterogeneous narratives, and sense of veracity. Is this not what a liberal commitment to a multicultural agenda, past and present, entails?[18]

Thirdly, our environmental policies do not take into account the synthesis of human and organic actions and relations, nor the constriction of artificial boundaries enforced by nation-states. Information about environmental issues coming from institutions is purposely streamlined rather than being cross-linked and overlapped, preferring standardization rather than a messy mix of the reality surrounding natural resources we know to exist. Standardization often comes part and parcel with mini-domains within governmental divisions and departments who resist combining information and decision-making. Outside of governmental information dockets lie further realms of corporate information, community perspectives, and organized environmental movements each

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[16] Anna Lee Saxenian, "Brain Circulation: How High-Skill Immigration Makes Everyone Better Off," *The Brookings Review* v.20 (1), Winter 2002, pp. 28-31. What I am describing is not dissimilar to the 'brain circulation' ideas espoused in this article, and other current discussions surrounding India's diaspora.

[17] Scott, *Seeing Like a State,* details the ways in which the mobility of individuals has been oppressed through state regimes.

[18] Elizabeth A. Povinelli, *The Cunning of Recognition: Indigenous Alterities and the Making of Australian Multiculturalism*, (Durham and London: Duke, 2002). Povinelli's study of Australian liberalism has striking parallels for Canada and liberal ideology in exploring questions like: "… how a state and public leans on a multicultural imaginary to defer the problems that capital, (post) colonialism, and human diasporas pose to national identity in the late twentieth century and early twenty-first centuries… how they recreate a superordinate monocultural referent, chase a transcultural if not transcendental desire, a flickering *something* beyond our differences, even as they purport to be recognizing the cultural subjects standing before them…," pp. 29.

with there own modes of gathering, sifting, and presenting data. Is there a way to account for and combine oral histories, alternative views of land, land usage and values outside of the statistically precise metrics enforced through agencies often dedicated to administrative efficiency rather than overall efficacy? For example: if there was a way to understand the rhizomatic existence of a transborder watershed -- its inhabitants' connections to each other and the land -- how would that change our policies regarding that watershed?[19]

Importantly in this view of the environment, we can begin to think beyond Canadian borders to what is harming the global and importantly for us, continental environment. Rather than merely signing the UN Kyoto Protocol, what about using our position in the global network to lead climate change concerns towards inventing a new mechanism for enforcement of environmental treaties?[20] The Canadian legacy in establishing peace keeping as viable international security solution stands as a testament to this kind of innovative thinking – now that the threat involves global climate change, our attention may need to shift from past glories to present danger. In this case, it is not just the idea that we are a network but a situated knowledge of our existence in larger global networks. These concepts move beyond what is embodied in the Internet and embrace that of social movements where individuals coalesce around ideas and beliefs – in this case, the idea and belief in Canada as a unit through which we can interact on a world stage to protect what is of great shared importance to us all: ensuring the sustainability of our global ecosystem.

Finally, I touched on the issue of surveillance earlier. US policy is setting the pace for discussions, boundaries, and themes in this area and many others related to information technology (most notably, copyright infringement). Not only official policy and bills before the US Congress, but US-based multi-national corporations are poised to dictate world standards based on their bottom line needs and the needs of the US government.[21] These issues affect Canadians in many realms: how we do business, how we govern, how we create and make works of art and production, how we communicate on email and mobile phones. Our presence in a network of shifting alliances and developing technologies is not a felt one in terms of our influence over US corporate or political developments, yet we are often direct recipients of the results of these decisions. How can we address the flows of information technology policy, software, and products that follow network protocols and lines of access? If traditional forms of nation-state intervention are not adequate or adaptive enough, what other forms of intervention will

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[19] Candis Callison, "A Digital Assemblage: Diagramming the Social Realities of the Stikine Watershed" Master's Thesis, Program in Comparative Media Studies, Massachusetts Institute of Technology 2002. This thesis looked at combining standardized and non-standardized information regarding the environment, specifically a transborder watershed, to reveal a complex and wholistic perspective of cultural and communal values, resource extraction, land use planning, and historical developments.

[20] Lawrence Susskind, *Environmental diplomacy: negotiating more effective global agreements (*New York: Oxford University Press, 1994); Babiker, Mustafa H., et al., "The evolution of a climate regime: Kyoto to Marrakech and beyond" (Report No. 82, February 2002, MIT Join Program on the Science and Policy of Global Change, <http://web.mit.edu/globalchange/www/MITJPSPGC_Rpt82.pdf>).

[21] For US discussions on the subject, see the Center for Democracy and Technology website at .<http://www.cdt.org/wiretap>.

work to ensure a free flowing stream of information that ultimately benefits Canada as a network society?

Conclusion

The rhizomatic concept I am forwarding here stretches across the standardization of information and relations. It is radical in its suggestion of what lies outside the bounds of institutionalization and control, but perhaps it is not so far from the way we relate to one another outside the modes of officialdom – certainly the lesson of Napster as an alternative mode relies on this kind of connection exterior to official channels, but goes further in its inherent anonymity, lack of centrality, and constant flux. What a networked society, as I am proposing it here, necessitates is a shift in our ways of conceptualizing what is shared, connected, central, and cohesive, and where boundaries matter and/or cease to exist. It is also a challenge to how information is disseminated, structured, and used by individuals who are mobile, and multiple in allegiances. The resulting interconnectivity envelops all forms of connectivity, going beyond, above, outside, and through the formalized hierarchy of structured relations to create a rhizomatic whole in a constant mode of adaptation – a series of temporary equilibriums.

The challenge for policy makers is to think not in terms of departments, provinces, or even Canada, but to utilize a rhizomatic structure to think with -- a structure that acknowledges the fact that installing new institutions, protecting or ensuring the survival of elusive and sometimes non-existent cultural boundaries, investing in the development and use of new technology are interventions into an existing network of buzzing interconnectivity. The fluidity of a network redefines some of our static ideals of identity, cohesion, and even security or privacy, but it is also these ideals that will define our use and placement of networked technology. Adaptability and frameworks for adaptability that take into account mobility and unpredictability are the skills and goals defined by a network society. And it is this resulting co-production of technology, culture, and politics that is and will continue to define Canadians' future relationship with each other and our role in a global network society.

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