**TAKING INTERNET GOVERNANCE ECOLOGY AT ITS WORD**

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June 10, 2014

The black box phrase, "Internet governance ecosystem," gets dropped into policy forums glibly, without much thought about its implications. I know this because I've questioned senior Internet governance decision-makers about their intentions in using it. I've rarely been encouraged by the answers. Recently, I used remote participation in NETmundial's discussion spaces to see how much I could provoke deeper reflection on the changed meaning of governance the phrase implies, and the Internet's existence as a symptom of its operationalization.

I assume that different ways of doing things, that is to say technologies, result from different ways of seeing things. In essence, the method behind that assumption is archaeological. The detritus it leaves behind reveals a culture's adaptation to its environment. What this means in the present moment is that practices in the use of a technology like the Internet reveal the changed cultural context of its design. In brief summary, digital culture has a relational worldview, and that worldview is reflected in its technologies of governance. Described in terms of complex adaptive systems, neither governance, nor community, nor politics are the same as they used to be.

When we apply ecology as a social system metaphor, as is frequently done in the forums that debate Internet Governance, we need to consider that the functional relationships of an ecosystem are distributed throughout its elements. That is to say it self-organizes through recursion in its internal interdependencies. Biologists describe change in ecosystems by reference to links in food chains. The microorganisms, plants, and the herbivores that browse on them, are at the "bottom." The carnivores that prey on the herbivores are at the "top."

That bottom-top dichotomy is another metaphor, a spatial one that's sloppy. It's too linear to be consistent with the principles of self-organization that govern complex adaptive systems. Linkages in such systems are non-linear, reciprocal, recursive, and lead to emergent and unpredictable equilibriums. So, perhaps even biologists find describing systems in relational terms to be difficult. Mindful of that caveat but intending some mischief, I'm going to apply the idea of food chains in a thought experiment.

In employing the ecology metaphor, and in a corollary to my first assumption, place the individual Internet user as the bottom of the food chain. Place the agencies that shape the protocols and sustain the architectures of the Internet as the herbivores. Then place governments, corporations and civil society as the top predators. The equilibrium the system sustains is the product of the interactions among all three levels (although distributed systems have iterations not levels).

The global conversation on Internet Governance is only fixated on the roles of the predators, not recognizing how changes in behavior of any element will affect the systems equilibrium.  For example, the ISOC "Internet Model of Internet Governance"[1] correctly describes the relationships of a complex web of organizational actors as an ecosystem.  But its flat simplification of users into sectors, as businesses, governments, organizations, devices and content creators, etc., leaves out analysis of how that predator-prey relationship lets the system balance itself.  If the beasts could accept that they are what they eat, how would that change the phase space of possibilities that the Internet Governance ecosystem is exploring?

I have annoyed many Internet Governance forums[2] with ideas like these.  The latest was the NETmundial Global Multistakeholder Meeting on the Future of Internet Governance, Sao Paulo, in May 2014.  What follows here is a semi-coherent synthesis and expansion of several interventions I made remotely into that meeting's conversations.  All of those interventions were intended to use that archaeological assumption in deconstructing the significance of the declaration by the academic discipline of community informatics that "the "global is a federation of locals."[3]  I saw that declaration as revealing one aspect of that change in culture, of that shift toward an understanding of governance grounded in the principles organizing complex adaptive systems.


## Governance isn't what it used to be

There are two key words used in NETmundial's final statement[4] that are mutually exclusive but not acknowledged as such - "universal" and "distributed."  These two words represent structural principles of governance that are incompatible.  But, from the cultural point of view of the global as a federation of locals, the greater of the two words, is "distributed."

You need to know this, because that incompatibility has consequences. While waiting for mindfulness of its nature to emerge, essential agencies in the Internet Governance ecology, like ICANN are rendered schizophrenic.  They have to put one face to the world as they play a finite game of competition for scarce resources, as their antagonists in governments, corporations and civil society understand it.  They have to put a different face to a different world because they attract actors who, consciously or unconsciously, think within the

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[1] http://www.isoc.org/pubpolpillar/docs/internetmodel.pdf

[2] http://stream.elon.edu/stream/predictions/oecd_2008/Garth_Graham.mov

[3] An Internet for the Common Good - Engagement, Empowerment, and Justice for All. http://cirn.wikispaces.com/An+Internet+for+the+Common+Good+-+Engagement%2C+Empowerment%2C+and+Justice+for+All

[4] NETmundial Multistakeholder Statement. April 24, 2014.  http://netmundial.br/wp-content/uploads/2014/04/NETmundial-Multistakeholder-Document.pdf

frame of a relational paradigm. That's an infinite game, "played for the purpose of continuing the play."[5]  This fragmentation of attention unbalances their capacity to ask good questions. They use the word "evolution" to describe the future of Internet Governance but they don't yet mean it.

Universality is an absolute or mechanistic concept that stands in opposition to a relational worldview.  It speaks from the world of management control and zero-sum competition among national and "stakeholder" interests.  In that world, systems are closed and rules and absolute scales of value are imposed on them from outside.  The imperative of control reflects a conventional belief that the future can and should be rendered more predictable and social order can only be imposed.

But there is no reason to assume that the fitness of a system to the context it inhabits is only a function of dominance hierarchies.  "The only thing you can create top down is a hole."[6]

When we say, ""Universal," in the context of documents like the NETmundial Statement and the Universal Declaration of Human Rights, we refer to something "applied" to everybody.  But that universality of application assumes that the correctness of the applications can be measured by some external and absolute scale.  I believe it's exactly that centralizing context of universal application measured by an absolute scale that discounts the possibility of emergence; an essential quality for describing the Internet's "distributed" reality and the particularity of  its end-to-end principle.  In other words the appearance of the word is symbolic of an orthodox way of framing Internet Governance issues.

Distributed describes a functional principle of complex adaptive systems, i.e. the world of ecosystems, where self-organizing structures are open and rules emerge from internal relationships.  The future of such systems cannot be known from their initial conditions.  The centre will never hold, because there is no centre.[7]  The thingness of such systems is never very clear because every thing is described in terms of its relation to everything else.

By pointing to these words as opposites, I'm trying to get at something about the nature of rules (i.e. of governance).  Do they exist absolutely, imposed from outside the framework where they are applied (i.e. that there are objective standards of evaluation)?  Or are they

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[5] James B. Carse. Finite and Infinite Games. Free Press edition, 2012.

[6] Gene Youngblood. **Secession From The Broadcast: The Internet And The Crisis Of Social Control.** October 29, 2013.
http://www.secessionfromthebroadcast.org/blog/2013/10/29/secession-broadcast-internet-crisis-social-control/#fn1

[7] For example, "The Internet is for everyone – there is no central authority that designates or permits different classes of Internet activities."  Internet Invariants: What Really Matters. ISOC, February 3, 2013. http://www.internetsociety.org/internet-invariants-what-really-matters.

relational and a function of internal self-reference and recursion?  I believe that the existence of the Internet and its technologies is a symptom of the distributed systems worldview in action.  It took a particular way of seeing the possibility of a different order of things for an Internet to appear.  Once it appeared, it served to reinforce the power of the worldview that imagined it.  We have made our Internet and now it is making us, except that the way we are deciding on its governance is at odds with its nature.

I am not alone in this view.  Wolfgang Kleinwächter has made a distinction in rule making between processes that are "within the system,"[8] and processes that are imposed from outside the system.  That distinction is fundamental to understanding the principles governing the organization of complex adaptive systems.  In effect, the processes of rule making in the IETF, and the processes of policy making in ICANN that mirror them, are "governed" by internal self-organization.  The correct way to view them is as a beta test of the direction that rule making is taking in digital culture.

Here are quotes from two other relational thinkers:
> *"When we unquestioningly accept the strictures, habits, and bureaucracies of our various communities and organizations as if they had an absolute reason to be there, we're trapped outside time.  We reenter time when we realize that every feature of a human organization is a result of history, so that everything about them is negotiable and subject to improvement by the invention of new ways of doing things."[9]*
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> *"Change changes change, and it does so either continuously or discontinuously, that is to say, in ways that are themselves subject to change … To understand something is to imagine it changed, by seeing how and when it might change and into what.  However, every such change may result in a change in the ways in which things influence one another: it may change the laws."[10]*

The use within NETmundial's "Roadmap for the Future Evolution of Internet Governance" of the phrase, "a distributed and coordinated ecosystem," ought to be a symptom of a shift in social attitudes toward relational understandings of structure.  It should be seen as a

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[8] "[The IETF's Requests for Comments (RFCs)] are not legally binding. Everybody can disregard RFC Standards (and to build an alternative root) but it is in the self-interests of the provider and user of services to follow RFCs to be "as interoperable as possible". So the checks and balances are *within the system*, not in external oversight bodies. And yes it would make sense if Members of the European Parliament understand the RFC culture. It could be a source of inspiration how to innovate rule making in the Internet Age."
From:  Kleinwächter, Wolfgang wolfgang.kleinwaechter@medienkomm.uni-halle.de  To: Internet Governance governance@lists.igcaucus.org  Subject: AW: [governance] RE: PINGO.  Date:     12 May, 2014 4:15:33 AM PDT

[9] Lee Smolin, Time reborn, xvi

[10] Roberto Unger.  The self awakened. p96.

change that changes change. But it's not clear that it is. The claim of nation states to special status is grounded in the imperatives of geography and culture. Rather than framing issues in terms of ecosystems, that leads them to perpetuate the conventional classification of participation in Internet Governance in terms of national, regional and global interests. But the Internet has altered humanity's relationship to, and understanding of, geography. And, after all, ecosystems "coordinate" themselves.

When we define the global in distributed terms as a federation of locals, rather than as a universalizing principle, we insure that what we commit to is a process where the rules structuring relational interdependencies evolve from within systems through common practice.

When we define global as a federation of locals then the "global multistakeholder community" and accountability take on a different perspective. Whether you define "global" in non-linear terms (i.e local/ community), or in linear terms (i.e. regional/national/international) affects the strategies used to achieve "global acceptability." For example in ICANN's current mantra, "accountability to the global community," the sub-phrase "global community" makes sense in a linear definition of global but is an oxymoron in the non-linear sense of defining global as a federation of locals.

It is clear to me that anyone getting between ICANN and its achievement of "global acceptability," would be screwing up the resilience of an open Internet. But I don't believe that advocacy for changing the definition of "global" is a threat to that achievement. I believe that the shift in epistemology towards awareness of the implications of culture change in a digital society is essential to that survival. May the herbivores whose architectural browsing shapes the terrain of the Internet governance ecosystem safely graze.

The transition between the old worldview and the new one is not without tensions. To the degree that we've begun to supply a "roadmap" that increases awareness of how such open processes of Internet rule making work, it is perfectly natural for governments to resist them. After all, there are no governments that work that way now. In keeping with Tim Berners Lee's reference to the emergence of 'non-national society,'[11] and consistent with the concepts and operating principles of open and distributed ecosystems, there ought to be greater recognition that a reframing of the global as a federation of locals is happening.

## Community isn't what it used to be

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[11] TIM BERNERS-LEE: "But Internet was technically -- is a nationless thing. So in a non-national environment, the Web growing up, it has been a non-national society which has grown up around it. " http://netmundial.br/wp-content/uploads/2014/04/NETMundial-23April2014-Opening-Ceremony-en.pdf

*Stepping out, everyone can see my face*
*All the things I can't erase from my life*
*Everybody knows.* (Dixie Chicks).

In a recent post to the Internet Governance Caucus list on the voices of individuals versus stakeholders, Karl Auerbach noted that, "the models of technical governance as expressed via bodies such as the IETF, do not scale."[12] So then, what does scale? Because scale in distributed structure has become fractal, not absolute, I'm pretty sure that the aggregated "we" isn't society any longer. It's community. The uses of the Internet for the emergence of community reveal a shift towards the individual and the local in our assumptions about how society is structured.

For example, a community that owns an open broadband network as a public utility will be operating within the framework of digital culture. While their original intentions will likely be economic, the major impact of putting themselves in that position will be on their perceptions of governance practices. They will come to understand governance as distributed among a range of complex adaptive systems, the most complex of which is the individual.

In terms of the local, I remain committed to community networking. The capacity of individuals to make choices is fundamental to the formation of community and to the interdependent trust that the existence of community implies. In the framework of exploring what happens to community when we are all online, I see that local issues of adapting the uses of the Internet for community development actually represent issues of governance. Local governance and Internet Governance are now entangled. I see that community is a critical structural element of the changing "distributed" nature of the societies that are emerging.

To effectively increase the resilience of the Internet Governance Ecosystem, it is not enough to reference open systems. The processes of rules formation and future anticipation should be trending towards that word distributed and its internal relational implications. It seems to me that both moral absolutism and moral universalism inhibit the possibility of understanding of how relationally connecting through community online changes the nature and role of community. Community and its relationships are self-determined.

Before it can get to addressing social justice, isn't Community Informatics about understanding a particular aspect of social change - the changed nature of community in digital society? The primary consequence I see is that the structures of governance that result from that redefinition still aren't being taken into account (or where they are being taken into account, are being reactively opposed). In spite of the framing of the future in terms of ecosystems which sounds positive, I did not find acceptance of the consequence

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[12] Karl Auerbach. Subject: Re: NETmundial documents online for comment. IGC, April 18, 2014. http://lists.igcaucus.org/arc/governance/2014-04/msg00245.html

that the global is becoming a federation of locals reflected in the NETmundial final document.

Downstream from NETmundial, there's some feeling in civil society that "Establishing and protecting the balance between the rights of the group and the rights of the individual," is a foundational question that's being ignored.  But for me, the reason it's foundational (and also the reason it's being ignored) is because the Internet is a symptom of a shift away from a society where individual must "surrender some of their freedoms to the needs of the group," to act within the framework of a group.

Consider the question raised in Jean-Luc Nancy's "Inoperative Community,"[13] how to create "being together" without a "being as one?"
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> *"The community that becomes a single thing (body, mind, fatherland, Leader...) ...necessarily loses the in of being-in-common.  Or, it loses the with or the together that defines it.  It yields its being-together to a being of togetherness.  The truth of community, on the contrary, resides in the retreat of such a being."*

As an example of that retreat from submergence into the collective, consider also Ursula Franklin's definition of the good society as a "potluck supper,"[14] a with, a being-together, that is an emergent situational consequence of autonomous individual decisions and trust.

Briefly, because the subject is vast, community, and particularly community online, is becoming defined differently because identity is defined differently.  A community is not a thing, a noun.  A community is what you get when individuals bundle themselves together in a certain way.  It's a dynamic verbalization of relational possibilities, choices, and practices.  It's an epistemic structural realization.  It's a net of relations.  A community emerges purely on the basis of relations among individuals, not on the basis of the particulars of individuals.  Those particulars remain in the individuals themselves.  The individuals who inform the bundle can change, and an individual within the bundle can change through awareness of the information.  But, as long as the relations remain structurally the same, the way of bundling into community continues over time.[15]

Individuals now expect to have a greater degree of control over the dimensions of their personal support systems.  Their identity remains shaped by their social context, by the

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[13] Jean-Luc Nancy. La Communauté désœuvrée (The Inoperative Community), Preface, 1986, xxxix.

[14] Ursula Franklin. "The dream of the peaceful society to me is still the dream of the potluck supper – a society in which all can contribute and all can find friendship, that those who bring things bring things they do well, but that we create conditions under which a potluck is possible." CBC. The Current, May 7, 2010. Activist, educator Ursula Franklin discusses the democratic deficit and introduces us to a new verb: "Scrupling".

[15] This description of community borrows phrasing about the relational nature of reality from: Meinard Kuhlmann.  What is real?  Scientific American, August 2013, pp 40-47

fact that "everybody knows."  But instead of society imposing identity upon them, they have gained access to society by design.  They are "stepping out," to an open conversation between society and the self.  But that self is itself a complex adaptive system, representing the fundamental unit of society's fractal scale.  On that scale, the individual is the subject and object of webs of relationships, but is never mobilized, submerged, or absorbed into the greater good.   If the global is a federation of locals then the individual is as local as it gets.  The prey are attempting to digest a meal that's indigestible.

## Politics isn't what it used to be

As you would expect, the politics of distributed governance are not the same as the politics of centralizing authority. I can argue the difference best with a Canadian example because it's the basis of my personal experience of the impact of the Internet on political life.

Canadian political parties all have their own flavour of ideological tension over **public policy engagement processes**.  They intend different outcomes for the role of engagement in enhancing their respective effectiveness in the space of political possibility.  But **t**hey all view the problem of deciding how to approach external public and internal party "grassroots" involvement in policy processes as a major challenge.  They think that citizens aren't hearing their message.  And, oh the horror, if engagement meant losing control of the message.

Because of its capacity to open up closed systems and disintermediate gatekeepers, the Internet plays a big role in reframing the context for that challenge.  The crisis of citizen engagement as it plays out online has NOTHING to do with action words political strategists typically use, like foster, support, facilitate, motivate, mobilize or maximize.  All of those imply that some gate-keeping mechanism can be found to do those things to or for somebody.  But people are "stepping out."  They are doing it for themselves.  They know that engagement is reciprocal, that it runs both ways.

In general, all political parties resist that reframing.  They still frame the forces at play in terms of a need "to expand communications and outreach."  They expect that the evidence you have engaged with their message will flow from the degree of your buy-in.  But we aren't in a broadcast world.  Communications media are interactive. How can they expect to engage with you when their opening move needs to express the possibility of empathetic reciprocity but instead suggests they view you as a threat?

The problem is not defining new methods for controlled participation in the context of commitment to an ideology.  The problem is to recognize that engagement in relational terms implies dynamic reciprocity in opposition to absolute commitment.  In the art of the possible, the possible has moved on to somewhere else.  They are trying to find a way for representation to hold back a tide of self-actualization.

It's folly to judge citizens as unengaged.  People are fully engaged, but only in the systems of engagement as they are now emerging.  There are good reasons to note the explosion of

participation in social networking sites. Those sites extend capacity to self-determine, to express identity experimentally, and to participate in social system design in new and very popular ways. People's commitments will be conditional and situational; otherwise the condition of reciprocity (of protecting self-actualization and sustaining the possibility of non-zero sum outcomes) ceases to exist.

The problem is to find ways for political process to be there for people in the context of engagement (in the present moment of being together) as they define it, not in terms of some process external to their attention. Citizens are not consumers of politics or government services. They will not be "there" for you if it remains clear to them that you don't know where they are! The problem is to directly experience the nature of what is shifting in the means and modes of engagement enough to achieve a conscious and authentic alteration of political social networking practices. It's not a matter of getting everyone inside and then closing the door. The door must stay ajar.

From the beginnings of my own engagement with community networking, it has been my privilege to work with a small and deeply committed Canadian community of practice in the politics of online citizen engagement. Its members are turned off by that fact that local politics and policy formulation remain largely ideological and adversarial. When processes of "engagement" in conventional political processes remain defined by those qualities, they turn their attention to areas where the freedom to move forward is greater than it is in Canada. They tend to be fully engaged in addressing effective development as social change, but mostly outside of Canada. Community development in Canada suffers as a consequence.

There are patterns in their pre-occupations. They are:
- Fluent and autonomous in the use of new media to express themselves and connect with others. They are "network weavers."
- Hugely influential via networked communities of practice that are global, and therefore having relatively little patience with particular national processes of adaptation except as they provide examples of case studies.
- Committed to and experienced with collaborative and inclusive action, and community-based peer production, in the context of open systems and processes.
- Conscious of and comfortable with the Internet's impact on socio-economic and political change and on change in governance.
- Conscious of development, and the uses of ICTs in development, as a question of altering complex systems of emergent behaviours and outcomes, not as a question of achieving results in the manipulation of cause and effect.

Wired Magazine once asked Brian Eno, "What effect has Internet technology and culture had on art and artists?" Accept for the moment that politics is an art. Then we can apply what Brian Eno says on changes in the arts and artists to changes in political practice. Here's Eno's reply:

*Ideas are put out into the public sphere much earlier, and less completely formed, than they would have been in the past. This is an invitation for other people to cherry-pick those ideas and finish them in various different ways. I think this makes culture a more widespread **conversation**, the result of a host of untraceable contributions webbing together to produce new things. It erodes the image of the artist as a lonely genius and puts us into a more "folk music" situation, where anyone can have a go and ideas spread out in all directions.*

*That doesn't mean there's no difference between the participants. It means that every participant is different, and it's almost impossible to know which participants are going to turn out to be the critical ones. The whole field now is characterized by what Per Bak called "self-organizing criticality": You have no way of knowing which particular grain of sand is going to start the avalanche, and no way of knowing whether that grain was intrinsically more important than all the others.[16]*

Eno's reference to that word "**conversation**" also showed up in the previous Australian Government's consultation process for the design and use of a national plan for a real open broadband network.  They asked Australians fundamental questions about how being in the headspace of "open networks" alters the nature of governance.  And here's the way they pose the critical problem:

*If one is of the view that the purpose of Government is to shape society into some kind of ideal, where everyone is on the same page working to some kind of utopian goal, then Web2.0 has very little to offer. In that world view, the Government has already worked out what it's going to do and the job of the citizen is to either help it get there (usually by means of constructive "submissions", but only when "consulted") or get out of the way and let the Government do its thing.*

*If one is of the view that the role of the Government is to act as a kind of social lubricant to enable citizens to employ their own ideals in furtherance of their own goals, then that's where Web2.0 is strong. Enabling that outcome requires the Government to be part of the **conversation**, so that it can see where obstacles are and apply its resources appropriately to smoothing the way for citizens without creating more problems than it solves. ........[17]*

So political dysfunction follows from the loss of conversation.  And political effectiveness follows from enlarging the spaces for conversations and self-organizing criticality to occur. So far, getting "Government to be part of the conversation" is just not on in Canada.  How can we get the technologies that support open conversations to a point where it becomes

[16] From: 15th Anniversary: The Brian Eno Evolution. By Steven Leckar
http://archive.wired.com/techbiz/media/magazine/16-06/st_15th_eno?currentPage=all

[17] TOWARDS GOVERNMENT 2.0: AN ISSUES PAPER [final]. Australian Government:
http://gov2.net.au/consultation/2009/07/23/towards-government-2-0-an-issues-paper-final/

apparent that anyone aspiring to a broader social role can and should use or enhance them?  If we can, that would be a significant achievement in applying governance online in support of the essential self-referencing functions of society as a federation of open local networks.

## The meek will inherit the Earth's distributed systems

There is a rush to define global mechanisms of Internet Governance that address global public goods and global public interests.  To me, achieving that goal would create a dangerous centralization, obscuring the reality that human trust only scales to the level of community and not much farther.  Individuals aren't surrendering their freedoms to anything they can't touch.  That's why I've been pushing the Community Informatics Declaration's observation that the global is a federation of locals.

Billions of people have recently gained a new way of reaching and finding one another.  And now they face incredible reactionary pressure to turn that off and to give authority to some abstract global mechanisms that will channel that capacity according to some vague and arbitrary premises about what their common values might be.  To me, the question is – if they knew that was happening, if they knew that their choices as to the appropriate pathways to essential interdependences was about to be circumscribed, why would they acquiesce?  And, after the fact, when their interdependencies have been circumscribed, how will they respond?

A fast scan of the meaning of stakeholder implicit in the NETmundial document shows that stakeholders are not anyone who self-identifies as such. They are qualified into collective categories of organizations that are then "represented."  The assumptions about structure that follow from that categorization are consistent with an implicit assumption to aggregate individuals into "hubs" (or as ICANN does, to submerge individuals into internal "communities" in the old sense).  But it's not good "Internet" if the choice to connect, and to converse, and to be together doesn't rest at the level of the individual.

Community, Internet, Internet Governance, and federations of locals are instances of complex adaptive systems thinking.  In effect, my working hypothesis remains that the changing nature of community is in the process of replacing the existing normative social order, the social order that contains the normative structure called civil society.[18]  The use of the words "ecosystem" and "distributed" in all IG forums, and the redefinition of "global" by Community Informatics, would seem to be evidence of some slight recognition of this.  However, I note that the word "community" was number 45 on a graph comparing the

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[18] Rachel Botsman, Connected Communities: The Institutions Of The 21st Century? https://www.youtube.com/watch?v=K6FXZJU2-w8

appearance of the fifty most frequent words used in contributions to NETmundial.[19]  At least it's still on the list!

When the prey evolve within the framework of a different sense of social order, many of the niches in the ecosystem that feed the predators at the "top" of the food chain disappear. Let us remember that the meek WILL inherit the Earth's distributed systems and are much less likely to screw them up.

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[19] < http://cis-india.org/internet-governance/blog/net-mundial-comparing-appearance-of-fifty-most-frequent-words>