

## INSIDE

- 1 In This Issue
- 1 Cooperation & Collaboration: The Stigmergic Kind
- 2 Partnerships: The NRCan Wiki
- 3 Stewardship
- 3 Distributed Governance, Community Building & Democracy: Transition Towns
- 4 Food for Thought: *Collaborative Leadership* by Hank Rubin

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Your stories, insights, understanding are both welcome and encouraged. This newsletter is after all entitled *Together*, and is dedicated to our shared understanding

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Everyone knows that the coordination costs of collaboration with large numbers of people can be high. Stigmergic collaboration, using wikis and web 2.0 tools, can help reduce those costs and help achieve cooperation among large numbers of people.

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## In This Issue

*Together* is an online newsletter directed to those with an interest in the collective behaviour of individuals and organizations. In this edition, we have tried to introduce some ideas regarding collaboration that may not be in common currency.

Stigmergic collaboration, long understood in biology, is only recently gaining a broader profile since its online embodiments, such as wikis, open source software, and web 2.0 tools have received such widespread attention. Understanding the principles of mass collaboration together with the concept of stewardship, can enable employee commitment, innovation, and shared leadership more akin to a culture of partnership than traditional organizational hierarchy.

In this edition, the examples of the *Natural Resources Canada wiki* and the growing *Transition Town* movement both demonstrate how stigmergic collaboration and stewardship when applied together can produce large scale cooperation. We hope this taste will encourage you to explore the concepts and examples further.

## Cooperation & Collaboration: The Stigmergic Kind

Most researchers and practitioners agree that cooperation is more achievable in smaller groups. The "distributed process loss" (Sproull, & Kiesler, 1991), associated with the effort to manage coordination, can be huge in collaborations involving a large number of stakeholders. It has led to an attitude of pursuing collaboration "only when all else fails".

Because collaboration is contingent on its benefits exceeding its costs, collaborators need to establish monitoring mechanisms to reduce the potential uncertainties about net benefits. Yet, according to Lipnack & Stamps (2000), even this is sometimes insufficient to maintain effective cooperation. This is because of the increasing number of cooperative relationships that must be maintained ( $n*[n-1]$ , where  $n$  is the number of co-operators). To evolve a common vision, recognize different contributions, establish mutual trust, engage in joint decision making and appropriately share rewards, the manageable upper limit for effective collaborative relationships on seems to be around 25 (Elliot, 2006). Importantly, much of this relationship building must occur before anything ever gets done.

There is, however, an alternative form of cooperation, called *stigmergic collaboration*, that doesn't require building prior relationships.

Why have you not heard of it? Because it's a notion that was first applied in 1959 by Pierre-Paul Grassé to help describe the collective behaviour of insects not humans and because it involves large numbers of individuals

Please see *Cooperation* on page 2

## Partnerships: The NRCan Wiki

In the latter half of 2006, Natural Resources Canada (NRCan) embarked on an ambitious and creative partnership effort with its employees to implement a departmental wiki as a means to provide more integrated departmental information and new ways for employees to work together.

Wiki's are like an online cross between a conversation and an encyclopedia and NRCan's Wiki 1.01 began in March 2007 as a pathfinder project to establish a more integrated knowledge repository for the department; to improve collaboration among its 5500 employees; to create an environment of innovation that would attract and retain the next generation of digital workers and to contribute to a greener workplace. More succinctly, its initial goal was to engage 101 users to contribute 101 articles in 101 days.

The pathfinder project was strongly supported by senior management and the department's business unit champions but it was its openness to employee direction that gave it lift. Employees were seen as co-developers. In 101 days, the wiki had 260 users and over 600 articles, encouraging a department-wide launch in October 2007. By March 2009, the wiki had over 5400 posted articles, 2300 registered users, over 4.8 million page views and was fast becoming the department's principal information resource.

NRCan's 4-year business plan involves a gradual introduction of web-based tools, such as basic content services, employee blogs, NRTube, Facebook.gc.ca, discussion forums, and more. However, what began as an exercise to stem the loss of organizational memory, has become a powerful process of forward-looking culture change with a continuing emphasis on employee engagement and empowerment.

Please see [Partnerships](#) on page 4

### [Cooperation](#) from page 1

acting independently yet producing coordinated outcomes.

Further, stigmergic collaboration occurs subsequent to action. An individual acts and alters their environment. Another comes along and perceiving the change either accepts it, rejects it or modifies it. In this way, simple insects can construct rather complex engineering feats like the anthill depicted left.

As the Internet has given humans an ability to interact with one another on a scale never before possible, we have begun using stigmergic collaboration, albeit unknowingly, as a tool for large scale cooperation. We see this in the development of *open source* software, in the creation of things like *Wikipedia*, and in many of the web 2.0 tools that now allow us to build on the efforts of others. An important distinction here is that this form of cooperation *does not require any upfront relationship* to be established. The co-operators can be, and usually are, complete strangers!

The Achilles heal of stigmergic collaboration is its need for large numbers of contributors to be effective -- like the 1000s involved in the departmental wiki at Natural Resources Canada described above, the tens of 1000s often involved in *open source* developments or the millions involved in *Wikipedia*.

So if you're a member of a cooperative enterprise that requires the participation of large numbers of people, then don't be deterred by the potential coordination costs. You might want to take a lesson from those clever little ants and try stigmergic collaboration. Engage people broadly with a wiki and then use that collective learning to augment the work of your core team.

*"If we are serious about renewing the public service, we need to be bold and take risks to create ways of working that attract and retain talent. The Wiki is important to delivering on our renewal of NRCan. We are leading in the use of collaborative tools within this department and leading the way for the government of Canada."*

- Cassie Doyle, DM,  
Natural Resources Canada



*Ant hill in Ghana, Africa produced by stigmergic collaboration of many ants acting independently.*

## Stewardship

A good steward holds in trust and acts responsibly for the interests of someone else. In collaborative entities where no one is really in-charge, it falls to each stakeholder to act as an owner and assume a degree of being in-charge. While a good steward acts to satisfy all these interests, each owner must nevertheless assume part of this mantle of stewardship.

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*“The task of the steward is to keep the conversation going but not to coerce behaviour or to shield outcomes from partners.”*

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The task of the steward is to keep the conversation going but not to coerce behaviour or to shield outcomes from partners. Coercion and protection may be good parenting strategies but they do not represent good stewardship. They re-affirm patriarchy and dependence because they presume our responsibility for the choices of others. The use of threats, protection from the truth, and ‘spin’ only serve to limit learning and skew the risk-reward assessment of partners that is the foundation of their ongoing commitment.

Good stewards are bridge builders, they are relationship mangers and they help to sustain the commitment that each partner or collaborator may have to the work. The good steward, like a good conductor, does not appropriate power from others, but, as Benjamin Zander conductor of the Boston Philharmonic has described, “depends for his power on making other people powerful.”

## Distributed Governance, Community Building & Democracy: Transition Towns

Amongst the many examples of community partnerships, *The Transition Town Movement* is attracting great attention. It is an international network of communities in the process of re-imagining and re-creating for themselves a different future from the one currently dependent on diminishing oil and gas supplies and accelerating climate change. Through their collaborative, bottom-up process, they are evolving the kind of communities we all want to be part of.

Transition Towns are community-led responses to these twin challenges that tend emerge organically in the context of clear principles and guidelines that foster self-organization and innovation. The central purpose of the Transition movement is “to support community-led responses to peak oil and climate change, building resilience and happiness.” They begin by building local ownership in the problem as a means to secure commitment to any solution.

They distinguish themselves from other environmental movements by their dedication towards discovering new community *possibilities* instead of campaigning *against* this or that. Community leaders make no claims about having all the answers, only about engaging in what amounts to be a large social experiment. “We truly don’t know if this will work” but “what we are convinced of is this:

- if we wait for the governments, it’ll be too little, too late
- if we act as individuals, it’ll be too little
- but if we act as communities, it might just be enough, just in time”.

They work through the principles of inclusion and networking, of trial-and-error and social learning, and of subsidiarity, in order to produce an adaptive capacity and community resilience capable of co-creating futures less dependent on oil. In the process of re-imagining what their communities could be, the Transition Town groups have shown they are not simply about reducing oil consumption and runaway consumerism, but the inner changes associated with shared engagement, a passion for community and ultimately enhanced democracy.



*Transition Town meeting in Totnes, UK. Totnes is the UK’s first Transition Initiative and the first of hundreds worldwide.*

### *Partnerships from page 2*

To implement the pathfinder project rules were set at minimum, what were called “guard rails”, but otherwise user trends were allowed to emerge organically. With no applicable federal policies, NRCan adopted a ‘learn as we go’ approach and trusted to the professionalism of its employees to guide wiki development through uncharted waters.

This encouraged strong employee ownership of the wiki both in areas of content production and in usage. This employee engagement proved also to be a crucial factor in linking knowledge management, departmental events and processes, and communications along with the promotion of employee social networks. Pictures, for instance, from an employee trip to a park, could easily find their way into NRCan’s digital library.

As the Wiki demonstrated success, new technologies and growing employee awareness created a strong appetite for more tools and new ways for people to work together. And while oversight of wiki content was an early requirement, NRCan’s Director of

Enterprise IM, Peter Cowan, has commented that “now the wiki seems to have a life of its own and is entirely self-monitoring and self-correcting”.

Interestingly, *no additional funds were sought or required* to develop it. Employee contributions to the wiki were voluntary, off-the-corner-of-the-desk types that were offered because people felt they had something to say or to contribute.

“In the end this was not a technology project” says Marj Akerley, NRCan’s CIO, “but an exercise in culture change, one that will require consistent messaging over time but one that will change fundamentally the way we work at NRCan.”

Some of the big lessons NRCan has learned so far:

- ◆ Learning to work directly on the Wiki
- ◆ Don’t over-structure or over-control
- ◆ Let the Wiki be ‘messy’
- ◆ Be bold and take chances
- ◆ Celebrate success - be visible - be different
- ◆ Engage employees - they have the best ideas!

## Food for Thought

### *Collaborative Leadership: Developing Effective Partnerships in Communities and Schools* by Hank Rubin

For those interested in a primer for collaboration and partnership, Hank Rubin’s *Collaborative Leadership* represents a succinct, easy to read, overview of the collaborative practice. For Rubin, collaboration is primarily relationship-based and his collaborative models, frameworks and techniques are relevant to any collaborative venture whether it be a private-public-partnership or neighbourhood renewal project -- even though he writes mainly for an educational audience. His collaboration life cycle, for instance, provides a useful starting point for the sometimes daunting task of pulling partners together.

He observes that organizational leaders today have become little more than *influencers with little actual power*. To achieve their goals, they must develop their collaborative skills. According to Rubin, the key challenge of collaborative leadership is learning how to build, sustain and direct relationships amongst the people and organizations with whom they must work to achieve their goals.

He underscores this saying that even in the context of organizations, “institutions do not collaborate except through individuals” and the contracts to which individuals agree and implement.

Collaborative leaders succeed by aligning their

relational skills with the systems and assets of partners to produce *cooperation that is by design* rather than by chance.

Since a collaboration exists only so long as a shared possibility and willingness to contribute exist, collaborative leaders, unlike institutional leaders, must work continually to reinforce the group’s purpose and commitment. “When no one person is responsible for managing and building the collaboration, the collaboration falls under the weight of its universally second-priority status.”

*Collaborative Leadership* is both a practitioner’s guide and a call to more meaningful action.

#### *“Forging Better Results Through Collaboration”*

**“Christopher Wilson & Associates”**  
"PO Box 62024" "Ottawa, ON K1C 7H8"

Phone / Fax: 613-569-0100

E-mail: [info@christopherwilson.ca](mailto:info@christopherwilson.ca)

URL: [www.christopherwilson.ca](http://www.christopherwilson.ca)

*Your stories or insights would be welcomed.  
Submissions should be kept to 500 words.*