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Royal Roads University

## **CRC Research Dialogues – Scale**

March 16, 2006

Moderated by Ann Dale

### **Participants**

**Dr Ann Dale**, Trudeau Fellow, Professor, School of Environment and Sustainability, Royal Roads University, Canada Research Chair on Sustainable Community Development

**Dr Levi Waldron**, Post-doctoral fellow, CRC researcher

**Dr. Rob VanWynsberghe**, Professor, School of Environment and Sustainability, Royal Roads University

**Dr. Pille Bunnell**, Associate Faculty, Master of Arts in Environmental Education and Communication and Master of Arts/Master of Science in Environment and Management, Royal Roads University

### **Dialogue**

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#### **Ann Dale**

My Canada Research Chair (CRC) in Sustainable Community Development is interested in how questions of limits, place, scale and diversity impact Canadian communities. Tonight, we are going to be discussing the issue of scale and sustainable community development. I would like to welcome one of the CRC Board members to our discussion tonight, Dr. Pille Bunnell.

Is there an optimum scale for urban and rural development? In other words, can a city be too big? Can a community be too small?

#### **Pille Bunnell**

Thank you for the welcome.

I am interested in considering the notion of "optimum" because, from a systems point of view, that is usually determined with respect to a particular variable, or at best, a few specified variables.

What variable would be right to consider here? Or is does concern in fact encompass many more dimensions that can be distinguished by some measurable variable?

I have not been in one of these dialogues before, so I apologize if I am embarking in an inappropriate manner! Let me know, and I will adapt.

## **Levi Waldron**

It seems to me that human settlements should be ecologically, socially and economically sustainable both in the short term and the long run. And perhaps it is not only a question of scale but design, for example, one can have higher density living coupled with green space, reminds me of our conversation last month on the nature of place and space.

*Ann Dale wrote:*

*Is there an optimum scale for urban and rural development? In other words, can a city be too big? Can a community be too small?*

Hi everyone, I'm Levi Waldron, post-doc under the Canada Research Chair. That's a tough question to tackle, and any answer must be dependent on which "variables," and/or values, one is interested in. Perhaps we should start with a discussion of which variables and values we are interested in?

## **Ann Dale**

I guess by optimum, I mean sustainable? With all its attendant problems of definition and measurement?

## **Pille Bunnell**

One of the notions I like to present is that when we are thinking about change, we could do well by considering not what we want to change, but rather that which we want to conserve. Whenever in a network of relations some configuration begins to be conserved, everything else is free to change around that. Hence the core of change is conservation. If one tries to force change, then one does not leave the system free to change in a manner that is congruent with whatever changing context.

In other words, we come back to sustainable... what are we conserving in a community such that everything else can change around that. What do we wish to conserve!

## **Mike Robinson**

Hi Mike here.

The concept of Appreciative Inquiry leaps to mind when I read your post Pille. What is working, and let's do more of it!

## **Mike Robinson**

Another thought that comes to mind is: "Can any community be sustainable in an unsustainable culture?"

## **Ann Dale**

Let's ground this discussion a little, what works well with big communities and what doesn't work well?

## **Levi Waldron**

*Ann Dale wrote:*

*I guess by optimum, I mean sustainable? With all its attendant problems of definition and measurement?*

I suppose rural and urban areas have fairly different sustainability issues. For a large city it may be transportation, pollution, housing development. In a small town it may be conserving population, employment, diversity. Those are just some example guesses, perhaps showing my biases as much as anything.

## **Pille Bunnell**

I will expand a little on my last comment.

In living systems what is conserved is "living" - i.e. the whole network of molecular productions that continuously composes itself, and "relationship" - i.e. the behaviour of the living system as a whole that maintains its connection with its medium.

I think some of the same things must be considered for a community. A community must conserve its inner relations as a community, and maintain its connection to the medium (biosphere as well as external social systems)

As obvious with living systems, these general dynamics can be conserved in many different ways... hummingbird, algae, whale...etc. So also with communities - and we like some and do not like some.

Hence my question circles around again, what kind of communities do we want to have persist, and then... what scale can THAT happen at.

## **Marilyn Hamilton**

Hi everyone -- I have been looking fwd to participating in this e-dialogue for a couple of months - finally made it :- ) ... I am Adjunct Faculty in RRU School of Leadership. My

work is focusing on the "integral city" -- aligning human systems within the context of the natural environment. I have been thinking about the city and scale for quite a while in terms of natural systems.

Regarding scale and sustainability I am curious what a city wants to sustain (you could use AI to find that out). But how do we know what we WANT to sustain is sustainable within our natural world?

## **Ann Dale**

I would argue that in large cities, that there are islands of more sustainable cultures, there is no longer one culture in the highly pluralistic Canadian society, but many cultures, and I would hesitate to define one as more sustainable than another, rather, we may have in the aggregate very unsustainable transportation infrastructure, consumption patterns, and so forth

*Mike Robinson wrote:*

*Another thought that comes to mind is: "Can any community be sustainable in an unsustainable culture?"*

## **Ann Dale**

Pille, critical critical questions, especially with respect to network and relationships, in communities do we not want to conserve and enhance relationships and networks of relationships, between human and non-human?

*Pille Bunnell wrote:*

*In living systems what is conserved is "living" - i.e. the whole network of molecular productions that continuously composes itself, and "relationship" - i.e. the behaviour of the living system as a whole that maintains its connection with its medium.*

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*Hence my question circles around again, what kind of communities do we want to have persist, and then... what scale can THAT happen at.*

## **Pille Bunnell**

*Marilyn Hamilton wrote:*

*Regarding scale and sustainability I am curious what a city wants to sustain (you could use AI to find that out). But how do we know what we WANT to sustain is sustainable within our natural world?*

So... your comment echoes the two domains of a system, the inner (compositional) one and the outer (relational) one. When we talk of "what we want" we are often speaking only of the inner one - oblivious to the sustainability of that in the biosphere/homosphere.

## **Mike Robinson**

Ivan Illich writes about "Tools for Conviviality", subways, communication systems, recreation centers, etc... Some products or services raise the quality of life for everyone. Some serve narrow interests. These tools offer clues on how to create larger and more sustainable communities, but are we learning the lessons?

I think you are correct about multiple cultures Ann. I tarred everyone in our complex society with the same brush. Guilty!

## **Pille Bunnell**

*Ann Dale wrote:*

*I would argue that in large cities, that there are islands of more sustainable cultures, there is no longer one culture in the highly pluralistic Canadian society, but many cultures, and I would hesitate to define one as more sustainable than another, rather, we may have in the aggregate very unsustainable transportation infrastructure, consumption patterns, and so forth?*

What it appears to me as here, is that a city is not a community, but an ecosystem of intersecting communities. Interesting implications!

## **Ann Dale**

Mike, life is too short for guilt, we are simply exploring. Another key question is how to reconcile between large, medium and small communities. If our other post doc was here, she would be arguing that only large communities, in particular, cities are sustainable, because of their scale, access to better health care, improved infrastructure, more diverse cultures and so forth. Pille just raised an interesting point to my question, perhaps it is really all about an ecosystem of intersecting communities?

*Mike Robinson wrote:*

*Ivan Illich writes about "Tools for Conviviality", subways, communication systems, recreation centers, etc... Some products or services raise the quality of life for everyone. Some serve narrow interests. These tools offer clues on how to create larger and more sustainable communities, but are we learning the lessons?*

*I think you are correct about multiple cultures Ann. I tarred everyone in our complex society with the same brush. Guilty!*

## **Marilyn Hamilton**

*Pille Bunnell wrote:*

*So... your comment echoes the two domains of a system, the inner (compositional) one and the outer (relational) one. When we talk of "what we want" we are often speaking only of the inner one - oblivious to the sustainability of that in the biosphere/homosphere.*

Yes, Pille the inner and the outer are certainly two domains to consider. I see that Mike has brought in the other consideration of scale -- the inner and the outer at multiple levels of "fractals" i.e. individual, family, organizations (work, health, ed), community, city. -- that's where scalar ecology comes in.

## **Rob VanWynsberghe**

Dear all: I am aboard now and wanted to introduce myself. I am a new core professor at Royal Roads in the School of Environment and Sustainability. I am going to catch up and contribute as soon as possible, but only if I can be constructive. Sorry for the delay.

## **Pille Bunnell**

*Ann Dale wrote:*

*Pille, critical critical questions, especially with respect to network and relationships, in communities do we not want to conserve and enhance relationships and networks of relationships, between human and non-human?*

Your question about non-human relationships in a city resonates with what I have to admit is an opinion, as I have no proof. Namely I think the relationship with other-than-human living beings, in love, respect, and wonder, is necessary for us humans to have the vision that enables us to see that we are part of a larger system, and not an isolated island. I could go on with this at some length....

## **Ann Dale**

Welcome, Rob and Marilyn, delighted you have joined us. This concept of inner and outer, perhaps we need to expand the inner construct to encompass the outer, but that is probably beyond the scope of this particular conversation. It seems to be our 'hard' language sets up polar oppositions, of large versus small, when really, it is about a distributed network of human settlements that have lost connectivity?

## **Ann Dale**

What is our inability to not see ourselves as part of a larger, living system?

*Pille Bunnell wrote:*

*Your question about non-human relationships in a city resonates with what I have to admit is an opinion, as I have no proof. Namely I think the relationship with other-than-human living beings, in love, respect, and wonder, is necessary for us humans to have the vision that enables us to see that we are part of a larger system, and not an isolated island. I could go on with this at some length....*

### **Mike Robinson**

Are there communities within cities that are sustainable; who makes up these communities? Are they generational? sub-cultural? Sector-related, economically differentiated?

Is a street person living a more sustainable life than a CEO? What can we learn from marginalized communities? The dominant ones seem to be reinforcing shortsighted paradigms.

How do we learn the best lessons of each paradigm and encourage the various communities to embrace the best practices?

### **Levi Waldron**

Perhaps a measure of a sustainable city could how "scale-free" it is, that is an aggregation of smaller communities where people can generally do what they need within human-scale distances of where they live. That may address community on an individual level as well as sustainability at least with respect to daily transportation. I'm having a hard time fully forming that thought, so I'll just put it out as an idea.

### **Pille Bunnell**

Anyway, the notion of fractals is evocative, but what it misses is that there are rather different compositional dynamics at each scale. The health care system in the family level is entirely different than the small community, v/s large community. This is in part because the individual humans are intersecting through all the levels, and their relational dynamics play out differently at the different scales.

### **Marilyn Hamilton**

Ann could you say some more about " the relationship with other-than-human living beings, in love, respect, and wonder, is necessary for us humans to have the vision that enables us to see that we are part of a larger system, and not an isolated island. "

... are you thinking of these as energetic feedback systems that contribute to both the inner and outer richness of our distributed networks (human and otherwise?). I think such considerations have much to do with scalar sustainability.

## **Ann Dale**

Mike, the street person may be living more sustainable in terms of their consumption patterns, but at a terrible cost to their own self, through addiction, mental illness and so forth. Their psychological pain is often overwhelming, sustainability is as both Marilyn and Pille have pointed out, a reconciliation of the inner and the outer. Again, what is it we want to sustain, relationships and being in relationship with others?

*Mike Robinson wrote:*

*Are there communities within cities that are sustainable; who makes up these communities? Are they generational? sub-cultural? Sector-related, economically differentiated?*

*Is a street person living a more sustainable life than a CEO? What can we learn from marginalized communities? The dominant ones seem to be reinforcing shortsighted paradigms.*

*How do we learn the best lessons of each paradigm and encourage the various communities to embrace the best practices?*

## **Pille Bunnell**

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This is great! What you are saying that no larger scale system is adequate if it does not conserve the small scale one, the core. Same as no ecosystem is sustainable that does not conserve the component species niche relations!

## **Ann Dale**

Actually, these are Pille's words, do you want to reply?

*Marilyn Hamilton wrote:*

*Ann could you say some more about " the relationship with other-than-human living beings, in love, respect, and wonder, is necessarily for us humans to have the vision that enables us to see that we are part of a larger system, and not an isolated island. "*

*... are you thinking of these as energetic feedback systems that contribute to both the inner and outer richness of our distributed networks (human and otherwise?). I think such considerations have much to do with scalar sustainability.*

## **Rob VanWynsberghe**

Hi: I am lost to be honest. Could someone outline the inner/outer distinction.



## **Mike Robinson**

Sorry Rob. I type slowly

Some theorists, Wilber, Beck etc. suggest that we (individuals and cultures) grow or evolve along a hierarchical path where emerging worldviews transcend and embrace traditional paradigms. If some of us, or some communities are at "higher" levels, how can their lessons learned be shared with individuals or communities that simply cannot see or understand the perspective. A global worldview is very different from an ethno-centric one.

## **Marilyn Hamilton**

*Pille Bunnell wrote:*

*Anyway, the notion of fractals is evocative, but what it misses is that there are rather different compositional dynamics at each scale. The health care system in the family level is entirely different than the small community, v/s large community. This is in part because the individual humans are intersecting through all the levels, and their relational dynamics play out differently at the different scales.*

Yeah, I don't disagree -- this is where I use a bit of squinty fuzzy logic :- ) ... and look for the sub-systems that individual human systems participate in and how they contribute to the sustainability of the whole. This is where the bits (big and small that don't fit -- like Ann's aforementioned transportation systems) show up as not being sustainable; eg. sprawl.

## **Ann Dale**

Rob, to paraphrase, there are two domains of a system, the inner (compositional) one and the outer (relational) one. When we talk of "what we want" we are often speaking only of the inner one--oblivious to the sustainability of that in the biosphere. So often, we humans see ourselves as the centre of the universe, and not a part of a larger system.

*Rob VanWynsberghe wrote:*

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## **Pille Bunnell**

*Rob VanWynsberghe wrote:*

*Hi: I am lost to be honest. Could someone outline the inner/outer distinction.*

Guess that's up to me since I brought it in. I don't know if I can refer to biology as a grounding for you, it is a general systems concept but easiest to speak in terms of living systems.

A living system remains viable as long as it conserves both autopoiesis and adaptation. This is to say that it only exists as long as it continues to have all the "inner" physiological (molecular) relations that make it a self-composing system, AND at the same time as long as it continues to keep its outer relations in an appropriate fluid manner (intelligent, I could say) so that a flow of material and energy is available to the inner system. Physiology and behaviour. Composition and Relationship. Inner and Outer.

The physiology exists as a composite unity (i.e. it exists in the bits and pieces working together) but the behaviour exists as a whole.

When we discuss community we usually look at it from the "inside" - and no wonder, the boundaries are not so obvious as for a living being!

## **Mike Robinson**

*Ann Dale wrote:*

*the street person may be living more sustainable in terms of their consumption patterns, but at a terrible cost to their own self, through addiction, mental illness and so forth. Their psychological pain is often overwhelming*

Impossible to disagree Ann, but I do know some happy street people and some miserable government employees.....

The sense of immediacy and survival in a street person may be lessons we will all need in a decade or two.

## **Ann Dale**

This is a critical thought, that a small component of a sub system may actually contribute to unsustainability at a higher level, which again argues for systems theory and thinking, which Pille started our conversation with. It is the lack of connectivity of the parts, lack of communication between sub-components of the system that contribute to greater and greater degrees of unsustainability. Interestingly, cancer grows as a result of those cells communicating with other cells, it then grows outside the system boundary.

*Marilyn Hamilton wrote:*

*"Anyway, the notion of fractals is evocative, but what it misses is that there are rather different compositional dynamics at each scale. The health care system in the family level is entirely different than the small community, v/s large community. This is in part because the individual humans are intersecting through all the levels, and their relational dynamics play out differently at the different scales." [quote Pille]*

*yeah, I don't disagree -- this is where I use a bit of squinty fuzzy logic :-) ... and look for the sub-systems that individual human systems participate in and how they contribute to the sustainability of the whole. This is where the bits (big and small that don't fit -- like Ann's aforementioned transportation systems) show up as not being sustainable; eg. sprawl.*

## **Pille Bunnell**

Oops missed this thread...

When we get caught up in our social world, our human niche of language, we live as if this were "the real world" --- in whatever variant we claim is "real"

When we are in the emotion of pleasure and wonder and even mystery with respect to something that is outside of this, then we begin to want to look, to see, to interact with, and even see ourselves as part of that.

I think this can come about with a simple start of wonder regarding the tree outside one's city apartment, or the sparrow that comes uninvited.

Of course, if the emotion is one of "messy decoration, better get an artificial one that does not shed... then the tree or sparrow does not help at all. Yet, without them, how would one see outside the human system?

## **Ann Dale**

Mike, after three years working in the Downtown Eastside of Vancouver, I have not seen any happy street people. What I have observed, however, is an organization (United We Can) that has created agency, and then by building a place where street people could come together, around recycling and a meaningful economic livelihood, built social capital, instilling a sense of community. I think we all search for meaning, individually and then collectively, as a community.

*Mike Robinson wrote:*

*"the street person may be living more sustainable in terms of their consumption patterns, but at a terrible cost to their own self, through addiction, mental illness and so forth. Their psychological pain is often overwhelming"*

*Impossible to disagree Ann, but I do know some happy street people and some miserable government employees.....*

*The sense of immediacy and survival in a street person may be lessons we will all need in a decade or two.*

## **Rob VanWynsberghe**

In systems thinking, there seems to be the assumption that human beings are rational in the biological sense. Is it true that humans are seen to act like other species?

## **Ann Dale**

I find it impossible at this time of night for us in the East and at my advanced age, to even begin to summarize the richness of thought. Could we move on to the next question--"Is there a scale at which important ecological and social constraints are reached, before the special characteristics of place are undermined and changed irretrievably?"

## **Pille Bunnell**

*Rob VanWynsberghe wrote:*

*In systems thinking, there seems to be the assumption that human beings are rational in the biological sense. Is it true that humans are seen to act like other species?*

Please enlarge on your question! (and note, there are many different brands of system's thinking, I can't, nor do I want to, speak for all of them!)

## **Mike Robinson**

The tension, or connection between the inner and outer worlds is fascinating. I call it the microworld and the macroworld.

They are distinct yet intrinsically bound together. I like to think that when they intersect harmoniously a state of "enlightened self-interest (ESI)" emerges.

This state is challenging to maintain as an individual, and I wonder how it applies at the larger scale. Would a nation or community that embraced ESI be able to compete or exist next to a typically competitive neighbour? Can it exist in a world that displays a broad range of personal and societal behaviour? Is a global worldview a prerequisite to "ESI" on a global scale?

## **Ann Dale**

I just thought of something, given Pille and Marilyn's comments on the inner and the outer, and Mike's observations, if a community does not live in the tension of the inner and the outer, then it will tend towards unsustainability, and ultimately, wither and die?

## **Mike Robinson**

I like that Ann. Call it tension, balance or awareness, some exchange between the two seem vital.

*Rob VanWynsberghe wrote:*

*In systems thinking, there seems to be the assumption that human beings are rational in the biological sense. Is it true that humans are seen to act like other species?*

In most ways we do. It is important to recognize that there remain cultures that live in complete harmony with the natural world. We tend to regard them as primitive, but it is we who are fouling our nest. I would suggest that only some cultures are out of synch with an earthly reality.

## **Levi Waldron**

*Ann Dale wrote:*

*I find it impossible at this time of night for us in the East and at my advanced age, to even begin to summarize the richness of thought. Could we move on to the next question--"Is there a scale at which important ecological and social constraints are reached, before the special characteristics of place are undermined and changed irretrievably?"*

Perhaps I can use that question to expand on my previous thought. If a city expands in such a way as to require continuously greater travel, then yes such constraints are eventually reached. However it is possible to grow a city while maintaining the characteristics of the smaller community, and perhaps this could even be self-organizing under the right conditions. That is, that people would choose to organize much of their community nearby given the opportunity.

## **Pille Bunnell**

*Ann Dale wrote:*

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Me too! I mean, advanced age - and I live on Eastern time anyway.

I think we have overstepped the scale of ecological constraints some time back. Our city footprint is something that we are in general insensitive to. We do not see the actual constraints as they have enormous lag times, enormous capacitance, which is slowly eroded.

Yet, we adapt our world such that the ecological systems are bent to enable greater proportion of energy/materials to flow to our species.

This means that we always have, and always will change the medium directly around us. How wide and big is that change? How big will we let it get? Or will we be swept along -- accepting incremental change?

This isn't much of a useful comment. I suppose the core of what I wanted to say is that the "special characters of place" are special always with respect to some distinction we make, in whatever era we live. What was special in Vancouver in my youth is no longer here. Yet Vancouver does have special character of place, now! So is it the same character? Some, yes. Spanish Banks has not gone away. Other... no. I could wander around anywhere downtown as a girl child and adolescent without any concern.

## **Ann Dale**

Levi, another key point, a provocative question--if the density of human population in a community is so great that it has to import its sustenance from greater and greater distances or conversely, export its wastes, can such a community ever be sustainable?

*Levi Waldron wrote:*

*Perhaps I can use that question to expand on my previous thought. If a city expands in such a way as to require continuously greater travel, then yes such constraints are eventually reached. However it is possible to grow a city while maintaining the characteristics of the smaller community, and perhaps this could even be self-organizing under the right conditions. That is, that people would choose to organize much of their community nearby given the opportunity.*

## **Marilyn Hamilton**

*Ann Dale wrote:*

*I just thought of something, given Pille and Marilyn's comments on the inner and the outer, and Mike's observations, if a community does not live in the tension of the inner and the outer, then it will tend towards unsustainability, and ultimately, wither and die?*

Anyway, I like this tension -- the edge -- and I want to throw in another consideration of inner and outer than what Pille addressed. Since Mike is in the conversation, with Wilber/Beck's four quadrant thinking, they (and moi) would say inner = subjective (individual) and intersubjective (group). Outer = objective (bio-physical) and interobjective (infrastructure, systems).

The tension from the inner arises with "intention" (or not). The inner in this sense is just as scalable as the outer -- in terms of complexity of thinking i.e. greater complexity transcends and includes.

So coming back to scale and sustainability, I wonder, how does our lack of sustainability relate to our lack of attention to our intention?? Maybe once we lose our intention for place we lose our attention to its sustainability (sorry it's not so late here in the West coast :-)

## **Ann Dale**

Pille, I have started to think lately, and especially given my beloved Father's death due to a super bug picked up in a hospital, that the real constraints on human activity may not be ecological or economic, but they are social. Social in that we have finite human capital limits, time lags in innovation diffusion, technological lock in, failure to learn from our history of boom and bust cycles, but more critically, our inability to see ourselves as part of a larger system upon which we are wholly dependent, and to which we are dynamically interrelated? Marilyn has just contributed to this idea, with the idea of attention.

## **Levi Waldron**

*Ann Dale wrote:*

*Levi, another key point, a provocative question--if the density of human population in a community is so great that it has to import its sustenance from greater and greater distances or conversely, export its wastes, can such a community ever be sustainable?*

I'm not sure that the proximity of sustenance or waste destination is necessarily connected to size. Food and goods travel distance in Canada at least is probably not further to cities than to rural areas. Waste is often sent far away from cities, but only because no one wants it in their backyards. But that doesn't always happen: Toronto until recently sent its garbage just about 20km to the north; Tokyo incinerates its garbage. Food production could be integrated into the city structure, in an ideal world.

## **Pille Bunnell**

Whenever we make a distinction, we reveal some regularity in the dynamics we are regarding - that is what is useful about distinctions. At the same time, we obscure other regularities. A distinction always reveals and obscures. So the Wilber-based quadrant distinction reveals something, but at the same time it obscures the two domains of any system. In particular the four quadrants have to do with how we relate in different ways to different orthogonal distinctions. That serves to guide what we pay attention to (attention/intention indeed!)

## **Mike Robinson**

orthogonal?

Can you elaborate a wee bit?

## **Marilyn Hamilton**

*Levi Waldron wrote:*

*I'm not sure that the proximity of sustenance or waste destination is necessarily connected to size. Food and goods travel distance in Canada at least is probably not further to cities than to rural areas. Waste is often sent far away from cities, but only because no one wants it in their backyards. But that doesn't always happen: Toronto until recently sent its garbage just about 20km to the north; Tokyo incinerates its garbage. Food production could be integrated into the city structure, in an ideal world.*

Maybe it's proximity AND density. I live in Abbotsford where the density of the poultry industry within city limits is the highest in North America!! This is the location where 17 million birds were culled in 2004 to "scale down" the threat of avian flu to humans. This built-up industry sustains the city to the tune of \$20mm a week, but it's a threat to human health. The private industry and the government don't seem very attuned to the problem of scale and sustainability - maybe humans have to die and not just chickens for the point to be made? It seems that we are on the cusp of unsustainability -- but for me the great opportunity is can we find a new frame for sustainable human food production - considering both the inner and the outer. This requires the engagement of scale at very complex levels (in a relatively small community).

## **Pille Bunnell**

The major reason I turned from straight Environmental Management to the Biology of Cognition was my conviction that the problem lies more in our human emotion than in our rational capability. Whatever we do, if done in the desire of power, prestige, even "success" has no success in terms of offering viability. The quality, nature, awareness of our actions are bent accordingly, and the result, no matter how well intentioned the rationale is, is not adequate. This is so even in the promoting of "values" when these are used in terms of compelling arguments to do as "I think is right".

## **Pille Bunnell**

*Mike Robinson wrote:  
orthogonal?*

*Can you elaborate a wee bit?*

Orthogonal; not in the same dimension. Usually we think of them as right angles, (as the x and y coordinates of a standard graph, or as in a quadrant) but there is no underlying topology that makes one distinction from a complex system at right angles to another. Just a different view, from a different perspective or dimension.

Want more?



## **Pille Bunnell**

Ann, how are we doing? with just a little time left, is there perhaps a point in posting what we feel we learned in this discussion?

## **Ann Dale**

Marilyn, key point. Animals and humans, I believe, have an optimal scale of habitat, some of which can be more plastic, but ultimately, I believe these issues of place, scale, diversity and limits are dynamically interconnected. For example, brilliant technology kept my father alive, however, hospitals have become breeding grounds for more virulent bacteria, why, because we are putting more and more sick people together in closer and closer proximity. And mad cow disease, and other diseases, how many are a function of increasing intensive and close animal operations?

*Marilyn Hamilton wrote:*

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## **Mike Robinson**

Always, but I'll find it elsewhere. Thanks you Pille

Marilyn you bring up crisis, and active experimentation. Inevitable and worthy. Read on...

Finally, thank you for this illuminating dialogue everyone. You are very busy I am sure, however I want to invite your participation, and that of your colleagues, on the RRU sponsored public forum on "Energy and Moving towards a Post-carbon Society".

Dr. Ann Dale is the moderator and we are asking intelligent and aware individuals that may have interesting perspectives to contribute to the conversation. The dialogue we are having has many correlations to Energy and all it's facets.

Bookmark this URL!

Please check out: [www.postcarbonsociety.com](http://www.postcarbonsociety.com)

You will see the words e-Dialogue/Public Forum. Click on Public Forum and you will enter the site. It is necessary to log in with a username and password, but this only takes a minute.

If you visited and commented just once, you would be helping out tremendously by offering your thoughts and by encouraging others to weigh in. Thank you.

### **Ann Dale**

Yes, five minutes left, anyone who has any energy left, could you please post what was your critical learning point from this dialogue? And thank you, for your energy, your commitment and your passion.

### **Pille Bunnell**

With 3 minutes to go, its difficult to refer to WHO inspired me, I would have to review the material. But clearly it was most or all of you, as the ideas I appreciate having had here did not exist before the dialogue.

Density does not equal proximity - proximity enables intimacy. Density enables some emergent systems, some of which are desirable and others not.

Cities are ecologies of communities, with some dynamics (transport) etc. only attendant to some scales, other dynamics throughout.

Intention/attention fundamental... and what determines that is emotion. Passion, ethical care.

... oh more.... my head actually aches with the fullness of this !!!

THANK YOU! all of you, thank you!

### **Rob VanWynsberghe**

Dear all: I am blown away and I need to think and read and think and read....Bye

### **Ann Dale**

What I have learned, and I hope this is articulate, is that human population is now at a stage in its evolution, that our communities need to think of themselves as a dynamically interconnected ecosystem, and that in the long run, what happens to one will happen to all?

**Levi Waldron**

I've learned that scale is a broad and complex subject, which can be addressed on a number of different frameworks. Not easy to start and finish in an hour and a half!

Thanks, everyone.

**Marilyn Hamilton**

It was just very rewarding to be with people who have been thinking of scale in many ways. It's often a tough "sell" in leadership/organization environments. Many threads I would love to pursue: biology of cognition (keen interest); optimal conditions between human and animal systems; intention/attention to place.

Thanks everyone for your insights and energies. Thanks Mike for the invitation to Energy e-dialogue.

cheers

Marilyn

PS very sorry to hear about the death of your father Ann.

**Ann Dale**

Thank you, one and all for your participation, my father will be sorely missed, may he be eating ice cream on the other side of the Rainbow Bridge with my beloved Danny.

**Mike Robinson**

Blessings