A bottom-up way of building a system and changing perceptions – urban pioneers as a model for transformation for sustainability

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Abstract: The perceptions of the system of itself and of its environment affect the way the system acts, and change in these perceptions can have a paradigmatic effect in the behavior of the system. The study of urban pioneers shows how this kind of transformation is possible from bottom-up. The success of the urban pioneering movement grows from the ability to develop efficient and effective patterns over time from repeated trial-and-error type action, supported by "lets just do it" -kind of attitude. For the urban pioneers, the patterns have become strong especially in creating urban cultural events. The systemic action of the urban pioneers has also affected the larger panarchic cycle of the city, especially the rules, or the negative feedback loops, that maintain many of the perceptions of the system of itself. Assessing the successes of the urban pionering movement reveals that the underlying causes behind the growth of the movement include understanding the law of attraction and the importance of creating connections, but also, and in a way that has become evident over time for system formation, the many benefits of having to negotiate with the governing systems. One of the main aims of the study is to find if the lessons learned from the urban pioneers could help as a systemic model in formation of what could become a system-changing movement in sustainability. Many of the system forming behaviors and patterns of the urban pioneers were found to be worth considering for the sustainability pioneers. However, the model cannot be copied directly, as there are some differences among these two partly joined movements, and also because the sustainability movement is and will be, as it evolves, an open, dynamically emerging complex adaptive system that will create a model of its own.

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The perceptions of the system of itself and of its environment, or the larger system that it is nested in, affect the way the system acts. This study of urban pioneers explores how a newer, smaller, emerging system in a nested panarchy (Gunderson & Holling, 2002; Holling 2004) of a city manages to affect the perception of the larger system of itself. The urban pioneering movement in Helsinki is an example of an emergent system formation that has bottom-up influence on the city and its governance. The aim of the movement is to renew and transform the urban culture through citizen-initiated activities that generate a more tolerant and open city with appreciation to citizen demoracy (Pulkkinen, 2013; Hernberg, 2012).

The research is linked to transition to sustainability through the notion that one of the main aims of the sustainability movement is to reach a transformative change in the way people perceive their environment. We should be able to understand our role as co-producers in the regeneration of the life supporting systems of the planet (Reed, 2007) - the planet's carrying capacity has already been exceeded (Rockström et al., 2009; Wackernagel et al., 2002). The aim of this research is to study whether the urban pioneering movement as successful perception changer could contribute to building a systemic model for the sustainability movement to make transformative bottom-up changes. The urban pioneering movement is studied as a dynamic emerging system in a panarchic setting (Gunderson & Holling, 2002; Holling 2004).

1 The urban pioneers

The urban pioneering movement in Helsinki, shortly, comprises of many separate "pioneer projects" that have happened over time (in the research from 1989 to the current). The movement is a complex, adaptive and open system of several independent groups of people. These people are producing new ideas, behaviors and structures to the cultural scene of the city, mostly some kind of events, or activation of places and spaces (Hernberg, 2012; Krivy, 2012; Pulkkinen, 2013). Over time, the separate projects have formed into a movement that is recognized by the city governance, the public media and of course also by the pioneers themselves.

Describing the urban pioneer projects as dynamic processes, the movement is aiming at creating positive feedback loops – a snowball effect – by producing urban events that create demand for more of the similar kind of action, while it has to work with the negative feedback loops of restrictions and rules that inhibit such initiatives (Pulkkinen, 2013). Over time, the movement has become increasingly successful and the pioneers have created increasing demand for the culture that they do and also diminished the amount of resistance caused by negative feedback loops.

There are some features that explain how the perceptions are transferred during the system formation and action. These features include the action-oriented attitude, the iterative learning process and the formation of patterns that accumulate into a system.

1.1 Let's just do it -attitude

A basic setting that has been essential in all of the pioneer projects studied is that the pioneers do not accept their systemic environment as such, but they perceive it as something problematic that needs change. Further, they reckon themselves to be the actors who can make the changes that they want to see. The pioneers seem to possess a kind of a

"let's just do it" attitude. That attitude, and the action that comes with, it is what makes them pioneers in the first place; they are the ones that cause change to the system from within.

1.2 Iterative trial-and-error-type action

The way that the pioneers act towards the change that they want to see is not pre-designed, but rather an accumulation of learning through trial-and-error - an iterative way of doing things. Of course, some system design is present in e.g. organizing events, but the general approach is open to changes and iterations. There is a magnetic vision of the future that guides the action: the perception of what the environment – the larger panarchic cycle - should be like. It could be said that the movement proceeds forward in an unfamiliar territory…"feeling" and learning its way forward. This adaptive learning system also changes the environment, as it does not happen without leaving marks that change the environment.

1.3 Patterns forming over time – building a new system

As the magnetic vision remains persistent, the repetition of trial and error – or the forward-negotiating way – results into emergence of patterns over time. Success stories are more or less mimicked in new projects, and the communication of stories makes the patterns available for those who join later. The repetition of patterns of action starts to create an emergence of a system: trial-and-error and pattern formation are the way the movement gains momentum, creating an expanding series of positive feedback loops.

Patterns also ensure that the new system becomes resilient over time. In the early days, however, the pattern formation has been very much about individual people, the torchbearers or urban mediators (Krivy, 2012), who were personally resilient enough to iterate with the process as needed. Later, the patterns support those who are willing to participate the movement, giving individuals more energy to concentrate on the variations of cultural forms.

2 The transfer of perception from pioneers to the city

Over time, the pioneer projects have influenced the larger, slower cycle in the panarchy. The formation of a system has happened through repeated patterns that have become more effective and efficient over time, and the perception of what the city should be has been transferred through action. What was considered originally as a rule-braking behavior of the citizens, has now been adopted and even promoted by the city.

The city now actively engages itself to make it easier for the citizens to be use the city in an urban pioneering way. For example, in a television interview in November 2013, the mayor of Helsinki laments that there are still "too many forms to fill" if a citizen wants to organize an event (www.tosielamandiili.fi/startup.shtml/1825046/ravintolapaiva). Also, the city currently (February 2014) used pioneer-created events in its marketing (www.visithelsinki.fi/en) and in June 2013, the the main event of the annual Helsinki day celebrations was ordered from a group of urban pioneers (www.helsingintaivaanalla.fi).

2.1 The events – more than catalysts

The urban pioneering movement has lately concentrated a lot around the idea of creating events – many of the tested patterns of the movement support this. When creating an event, the negotiation processes with the municipality of Helsinki as well as other actors, such as possible sponsors from the business world, have an influence on the mindsets and also on the behaviors of these organizations (Pulkkinen, 2013). Also, the negotiation processes enhance the formation of a system within the pioneers themselves. As they have to make agreements and share tasks both about the negotiations, and also about the organizing of the event itself, they are simultaneously creating rules and behaviors. These, added with the explicit and implicit ways of sharing values and goals, are in fact institutionalizing the group of pioneers themselves. The events are more than just catalysts of urban pioneering change processes as they seem to be the almost like a key to the success of the whole movement.

The appearance of those events on the annual calendar of cultural Helsinki is a sign of the movement going mainstream. The memories of the past events and shared stories as well as the anticipation of the next ones keep the movement active also in the meantime. All new events, that are many, have now to bring something new to the smorgasbord - but these newcomers are welcomed. There is even a guide book written by some of the activists (Prototype Helsinki, 2014), making it easier for new people or groups to enter the scene. This can be seen as a re-innovation of the concept, clearly aimed at more mainstream than most enthusiastic pioneers themselves (Rogers, 2003). To account the significance of events in the system formation of urban pioneering movement, it can be said that events:

1. Create a time limit and schedule to action, creating internal pressure to the pioneer groups;
2. Are often recurring, creating continuity;
3. Open the ideas, experiences and thus the movement to wider audience, bringing in more people;
4. Create a possibility of learning and evolving, as the organizers either bring more of what the people want - or give them something entirely new;
5. Get more media publicity than ongoing activities, as media often focuses on events;
6. Bring a break to everyday for the citizens – events are often celebrations that make the day special.

3 Urban pioneers and the sustainability grassroots

Urban pioneering and sustainability pioneering are not two separate movements. If, as we here do for the sake of observation, we want to see them as two distinct systems, we still have to admit that both of them are not only open, but also highly adaptive and also transformable systems. In reality, they are also linked in many levels. Sometimes same people are active in both movements, and sometimes aims of a certain group or a project include both urban cultural and sustainability ideas. Also, one of the aims of the urban pioneering movement is to make the city scene more tolerable of grassroots activity - this, in turn, is essential for the sustainability movements to flourish in cities. Only in some very extreme cases they could be seen as something totally separate: for example, if the urban

pioneering was only about hedonistic individual urban experiences, or if sustainability movement was only about withdrawing from all of the current systems of the society to reclusive solitude or small like-minded communities.

The main commonalities between sustainability grassroots movement and the urban pioneering movement are the bottom-up action, with the top-down thinking, combined with the aim taking more responsibility of the desired change on individual level, like in e.g. in permaculture, a pioneering sustainability movement (Holmgren, 2002). The most obvious differences lie in the way space and time are used. Many sustainability actions are something that are repeated in the everyday - like recycling, using bicycle instead of car and buying less stuff. Many urban pioneering projects are about special events that occur just to give a break to the everyday. This difference is a bit simplified; for example the Cleaning Day in Helsinki is not only a popular open flea market festival but also a way to spread ideas of recycling, which aim to change people's everyday behaviors (siivouspaiva.com/en_EN/). However, as the growth processes of urban pioneer movement show, organizing an event creates pressure and energizes the movement. Slower everyday processes without special highlights do not have that chance.

Another difference in the use of time and space can be seen in urban gardening. Tending a garden is a repeated action in the everyday, like recycling and choices in commuting behavior. But gardening also takes up space for a long time, whereas event-based urban pioneering processes reserve the city space for a shorter time only. There are exceptions, such as the Cable Factory, which transformed as a whole building and is now permanently occupied in the way the urban pioneers intended (Krivy, 2012, http://www.kaapelitehdas.fi/en). Also, the Fish Harbor project reserved the space for a longer period of time as an intermediate use of the city space (http://www.hellahernberg.com/urbanism/kalasatama/). But in both of these cases, Cable Factory and Fish Harbor, a lot of the momentum of making them a part of the cultural scene of the city was based in frequently occurring events. The urban gardening projects rarely organize events e.g. on a weekly basis – the old tradition of celebration in the end of the growing season is still strong.

4 Learning from urban pioneers – the underlying causes

In the light of the successes of the urban pioneering movement it seems that the sustainability movement should think of ways of turning its action into events. This requires caution, though. Too many events on calendars are just too many, and to organize an event that does not attract people can be counterproductive on many levels. What is so special about the successful urban pioneering events is that they are the cause in itself; it is in the core of the movement is to be able to get together and create something that people want, together. These small sparks in the course of time and space, with all of the background work needed for them, start to form a system in an emergent way. The connections between them through stories, and the models and expectations that are repeated and evolved over time in a way weave the new system into the existing urban canvas, changing the big picture just by becoming a part of it.

4.1 The law of attraction

In the underlying dynamics of their successful emergence is, as self-help as it sounds, the fact that the urban pioneers are individually and collectively "true to their hearts". They aim to make real of their dreams. They do their work in the Gandhi way, being the change they want to see in the world. The interesting dimension of their case is that they are not giving up things to be that change, instead, they just create an alternative to what they do not want. Instead of resistance and protesting, they create new layers to reality that can evolve from subculture into the mainstream.

Also in the sustainability movement, of course, there have been events all along. Many organic farms open up their doors to the people every now and then, and there are others who organize recycling events, and bicycling events, etc. Many of these have been successful and attracted people, sharing knowledge and changing attitudes. However, just organizing "the annual open doors event" to showcase something isn't enough, and there are probably more than enough examples of sustainability events that only attracted the most devoted fans of the cause. The key of the success of the urban pioneers is that they are so well tuned to receive weak signals and give "what the people want".

A part of the law of attraction is also that people rather want to get solutions to their existing problems than to change into new way of doing things that might bring unexpected new difficulties in their everyday. Moore (2002) has described this as a need for a "whole product": as we purchase e.g. technological equipment to help with some everyday need that we have, we usually want something that comes with peer experience and acceptance, as well as user support, and possibility to connect the new thing with something that we already have. We especially do not want something that requires us to change all of our existing equipment so that they would be compatible with the new thing we just got (apart from the innovators and pioneer type people, who don't mind). The case is the same with sustainability: we are not easily willing to invest in new behaviors that force us to change everything about our life at the same time. Incremental change is accepted more easily, especially if most steps are attractive and lead to an improvement from the previous step. – This may sound counterintuitive in the context of the sustainability movement, but in fact it is not. The more there is attraction, the easier it is to change. This might mean that in the early steps, the sustainability movement should use almost the same drivers that the consumerist lifestyle now does. David Holmgren, one of the founders of the permaculture movement, puts it well in an interview:

> "When you do something for yourself that you benefit from, that reflects the ethics and design principles of permaculture, you're doing something for yourself and you're also reducing your adverse impact on the world. But by doing something that you benefit from, that is potentially attractive to other people to say: "Ah!, I'll do that, too!" (…) most people want to get something out of that, and especially, get something directly. So, the permaculture strategies benefit the early adopters, and on top of that they're simple, low-key things that other people can copy."

Getting something beneficial for yourself is one of the strongest leverages in changing your own behavior - and on top of that, it also attracts others. And if, like in permaculture, that something is also easy to copy and evolve, then the movement can be said to be well on the way of using the law of attraction.

4.2 Connecting people

While appreciation of the law of attraction is crucial in organizing either events or other ways of engaging people in various sustainability groups, another systemic driver for growth in the

movement is the connectedness among different groups. In urban pioneering movement, this connectedness is very special. Some individuals or groups have had connections that cross borders both in terms of nations and of social groups. Some early hubs of the movement, like Berlin, have been essential in connecting people from around the world. Simultaneously, it may have been possible that urban pioneers in e.g. Helsinki have not been well aware of each others work.

The case of the Fish Harbor showed to the facilitators that there indeed is a lot of grassroots action happening in the city (Hernberg, 2012). Without this kind of facilitation, many of the separate actors may remain unaware of each other's work and lack the benefits of cross-polluting ideas, even if they would be ready for it. This inability to see near is typical - partly it is because the more luminescent cases get a lot of attention from the media, while the smaller, local actors, especially if they are not into mass-moving events, get less attention. But the more the separate actors and groups connect, the more the movement as a whole gains from it.

The urban pioneering movement is very much about hanging out with people, having fun - an embedded element of expanding socializing is there. In sustainability movement, especially in some more exclusive pioneer groups, it might sometimes be seen as more valuable to connect with the right-minded people; with those who already hold the right set of values, or who represent just that certain approach to sustainability. Creating connections is only possible when the pioneers themselves are willing to do it.

4.3 Challenging the resilient larger cycle in the panarchy

The third part of the systemic model is working with resilience of the governing system. This is linked to the other two factors in many ways. If you only build a movement with the law of attraction and the connectedness, the result would probably be something a bit similar to a fashion. There would be a lot of people interested in it, and it might also change behaviors of people. However, the existing larger cycle in a panarchy would still accommodate the changes without necessarily changing much itself. In the urban pioneering movement, this is what makes the movement something else than just partying around the city.

In Helsinki, the urban pioneers have found themselves, with their aims and event plans, in situations where they have had to negotiate with the city officials, local businesses, residents and so forth, as described in the pioneer process phase "germination" (Pulkkinen, 2013). This part of the process, often seen as an annoyance by the pioneers themselves, has in fact been crucial in the systemic development of the movement. Working with the existing balancing feedback loops - the rules - they find people from within the organizations who also hold the seeds for change. The negotiation process enables transfer of ideals and ideas, and creation of new connections. It is also dependent on the law of attraction: it is hard to negotiate if you cannot offer anything that the other party wants.

In the case of urban pioneers there are organizations that the pioneers can negotiate with. But in sustainability movement, the situation is different. If the aim is to create a mind shift in how we see ourselves on the planet, as co-producers of the natural environment instead of exploiters of it, then who is there to negotiate with? This is a complex question, and the answer naturally depends on the type of action the sustainability pioneers are willing to create. The counterpart could still be a city - or it could be a corporation, or a group of residents, or something else. The main thing is that in the light of the experiences from the urban pioneers, this need for negotiation should be seen as a possibility for finding allies in unexpected places, and also a platform for evolving and diversifying ideas. If seen as a nuisance and skipped, the movement can end up facing even more resistance.

5 Conclusions – building a systemic model

If the sustainability movement is to grow, it will be necessarily an open and emergent complex adaptive system. This means that we cannot yet say how exactly it will work, just as it would have been impossible to describe the urban pioneering system before it had formed. The growth and flourishing will take their own ways, but as with the urban pioneers, what is constantly needed is good soil and a lot of seeds with growing power.

However, the consideration in this study can be concluded into certain activities and actors – into interactions of parts of the system in formation. These interactions include the following actions, with the most important group to influence (and of course, as we are dealing with open complex adaptive systems, it is necessary to point that there can also be other systemic links between these actions and actors):

1. Attract the audience (the citizens)
2. Connect the pioneers (peers)
3. Negotiate with the governing organizations (larger cycles in the panarchies)

First, the Attract – Audience coupling: Learning from the urban pioneers, the most important thing in the creation of a movement is to attract people from outside the circles of the pioneers themselves. This means that the movement has to offer something attractive – and to offer it consistently. A movement that excludes the men and women of the street remains small. As the aim of the sustainability pioneers is to change the perception of the environment of the majority of people, this law of attraction is crucial.

Secondly, the Connect – Pioneers coupling: Just as the urban pioneering movement consists of many different actors, so does the sustainability movement. The diversity of different actors in the field of sustainability pioneering might be even greater, as there are no such limitations as "the urban" fot the urban pioneers. Some of these sustainability pioneering groups may have differing perceptions of how to reach the goal, and some of the groups may be more or less exclusive. However, the example of the urban pioneers show that connecting forces enables the growth of the movement in many ways: cross-pollinating ideas, sharing successful patterns and even just joining forces in negotiation processes.

And thirdly, the Negotiate – Governing organizations coupling has proved to be of great importance for the urban pioneers in reaching their aims. Whereas attracting and connecting have mostly helped the pioneers to develop growth – the snowball effect - in their intended action, the negotiation processes has helped them to diminish the forces of the balancing negative feedback loops that prevent the growth. If the growth indeed is the snowball rolling down a hill, the rules are the obstacles that stop the snowball before it gets big. If the rules are not worked with, the existing larger cycle in the panarchy is not changing, and the growth may remain at its best a bypassing fashionable phenomenon in time, replaced by something else that just attracts the crowds.

As we cannot easily point out who exactly are the negotiating partners for the sustainability movement, it can be claimed that the sustainability pioneering might be still in its early phases. Only organizing behavior-changing events – or other ways to attract and connect people – can reveal who the possible counterparts are. In other words, action reveals where the negative feedback loops, preventing the change, are situated.

Without action that both attracts and connects, it is difficult to predict success for the sustainability movement in changing the perceptions of the consumerist masses. Without active "prototyping" with trial-and-error method and the "let's just do it" attitude, there will be

no pattern formation that supports the movement in its endeavours. The perception of the system of itself is what guides its behavior. In the case of urban pioneers, the movement has succeeded in participating to steer the city away from its role of regulator and controller into that of facilitator and enabler. In the sustainability movement, even if the movement knows where it wants to head – away from the behaviors that are harmful to the life supporting systems of the planet – it may well be that it still has to discover itself as a system that has power to became the new mainstream. Lessons from urban pioneers might be a good way to boost the process.

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