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## Introduction

Transition towards sustainable ways of living requires a balanced approach of bottom-up and top-down initiatives, of push and pull measures, specific to a local places, engaging all stakeholders and the public from the beginning.
This paper will present the hypothesis of a systemic transition process at urban or regions scale based on a network of interrelated localised project, in synergy but self-standing and supported by a design-based approach.
This working hypothesis stands at the crossroads of different contemporary streams of research and concerns about sustainability: finding efficient approach to shift mainstream daily practices towards new and more

Food purchase group_Milan

Milan_biological market

Liu Zhou, China _Agri-Food Association

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sustainable ways of living; exploring social innovation to inspire alternative sustainable solutions for the everyday of households; seeking for synergies between single sustainable solutions towards larger scale systemic changes; focusing an intermediate operating mode balancing large top-down planning and local bottom-up approaches; and finally combining 'pull' measures attracting users participation to free and spontaneous social change towards sustainability and 'push' measures restricting consumption and impact on environment (Jégou & all 2009 and 2008; Manzini 2009, Mulgan 2006 and 2007, Thakara 2005).

The originality of the approach presented hereafter is based on two major challenges: the first is to obtain a systemic change of the place operating only on a reduced number of localised projects. The second is to reach a permanent dynamic of bottom-up transformations stimulating opportunities rather than successive waves of large development programmes. This postures of activating vivid transformation forces of the place and focusing on the maintenance of an healthy situation rather than on the cure of problems reminds of the principles of the practice of acupuncture in traditional Chinese medicine that provides a rich metaphors. This image of acupuncture as already been used by urbanists and architects (Lerner, 2003) to picture a type very localised interventions in a complex system such as a city. We would like here to address a systemic transformation beyond relieving vital energy of single projects. The activation of a reduced number of very specific and localised points as acupuncture does on the body allows to obtain a systemic change and relief for the patient. In our case, these points activated are small scale projects selected for their potential to engage the transition towards sustainability in the region even if the scale were they work seems irrelevant in comparison.

Furthermore, the points in acupuncture are part of the patient body and needles picking them act as an activator of a latent energy self-contained in the body. In the same way, the projects pre-exist disseminated in the urban place or regional land: they have to be identified and activated in order to act in synergy.

The points of acupuncture are very precise points situated on meridian along which life energy is supposed to flow. In our case, not any kind of local projects are suitable for our purpose of transformative change toward a more sustainable region: only the ones that activated in synergy, have a chance to provoke a systemic change. The design of the intervention in a region consists then in identifying these apparently invisible links between projects that prior ignored themselves and could gain in efficiency and visibility through networking and cross-fertilization.

Different examples of on-going programmes focusing sustainable

and social change at urban or regional scale will now be presented to develop the different aspects of our working hypothesis and propose a tentative description of a progressive implementation process.

The approach is based on the progressive interplay between different activities:

• the exploration of the existing fabric of social innovation and potential on-going projects promising in terms of sustainability to start from;

• the identification of a large circle of stakeholders potentially concerned and their engagement for support;

• the construction of a series of tentative strategies aiming at sustainable transformative change in the region based on a reduced number of specific projects;

• the activation of the categories of projects identified through an in-site design approach oriented towards the agreed strategy.

For a purpose of clarity, these four clusters of activities will be presented in order but they are more likely to happen contemporaneously or at least overlapping according the conditions and opportunities offered by the context.

Acheter des produits de qualité et de saison

AMAP

Créer un lien social entre les agriculteurs et leurs Clients

Comment maintenir une agriculture paysanne?

Rencontres et évènements autour du vélo

un vélo
pendant toute l'année scolaire

Vélocampus

Atelier de réparation

Comment promouvoir le vélo en ville?

VÉLOCAMPUS

à disposition de vélo pour les étudiants

contre avec d'autre passionné

Echange de connaissance

Respecter les valeurs du commerce équitable

Comment sensibiliser le grand public sur ce qu'il achète?

Le panier du Pilat

Proposer des produit biologique

Valoriser la fabrication artisanale

Eviter les contraintes

Agriculture biologique

Au Terroi

Comment faire de la vente direct?

# Highlight potentials

This first cluster of activities focuses the exploration of initiatives, projects, good practices promising in terms of sustainability already existing on in the area of the city or part of region considered.

Aiming at transformative change towards more sustainable living, the intention of this activity is to identify and connect existing single initiatives that already invented and implemented sustainability sounds daily living solutions in the place.

The Creative Communities for Sustainable Living project (CCSL) is an on-going attempt to constitute a catalogue of such social innovations promising in terms of sustainability. Started in 2004 in Europe and developing since in Brazil, China, India and Africa, the collection process is structured as a design exercise run locally by a design school. Students are requested to search for and document cases showing grassroots social innovations emerging from creative local communities and likely to inspire and support sustainable living.

CCSL main goal is to progressively complete an horizontal an possibly worldwide mapping of social innovations promising in terms of sustainability resulting in a vast catalogue of existing ways of doing , a repository of innovative solutions recurrent in different part of the world and describing all together what a new and more sustainable living could look like.

Beyond this purpose of CCSL at a global level, the approach of each single school at a local level represents the same potential to map existing social initiatives at a local scale. In Saint-Etienne for instance, a middle size town in France, a group of design students involves in mapping all possible social initiative that could show a

◀ Figure 1:During a design exercise we organised with design students of Saint-Etienne together with the Cité du Design, more than 20 cases of social innovation promising in terms of sustainability were identified. These and more initiatives in the area of short food networks, alternative mobility, care of water... were exhibited in the City Eco Lab exhibition simulating how Saint-Etienne could be turned into a sustainable city (Photos F. Jégou, P. Moussier).

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potential for reducing daily living environmental impact and refurbishing social fabric around. Figure 1 shows part of their findings revealing for instance different types of short food networks such as food purchase groups, organic street markets, restaurants and catering based on local production, urban vegetable plots and community gardens... This scanning activity allows to detect and to give visibility to dynamic sectors where transformative change is more likely to happen. During the 10th International Design Biennale in the same city, the City Eco Lab exhibition built on these and more preliminary researches present to the public from Saint-Etienne and beyond what are the local strengths on which the city could built on to kick-off a transition social movement towards sustainability.

The value of such design approach of social innovation by students involved in collecting cases or through the design of a local exhibition showing these cases should be found more in its potential to inspire social change and empowerment rather than as a robust piece of sociological investigation. Designers highlight especially how single localised cases could be deployed and adapted to the different socio-cultural contexts around and made adoptable by larger circles of users. As shown in Figure 2 on the left, different social initiatives in Brussels are promoting networks of urban hitchhiking to both improve local mobility in neighbourhoods lacking of public transports while intensifying the use of cars. eStop on the right shows how such a service could be extended and made more reliable and efficient if connectivity between drivers and pedestrian is enhanced through some digital brokering system. An enhanced design of the solution eventually supported by improved technologies reveals the effective potential of adoption of a local sustainable solution.

Coming back to the metaphors of acupuncture, the systematic identification of the social initiatives from at a neighbourhood, urban or regional level allows to set the map of local resources and suggest how they could be activated through design-based approach.

Figure 2: Examples of social innovation promising in terms of sustainability collected throughout the Creative Community for Sustainable Living project (top) and used as a basis to inspire new and more sustainable collaborative service (down) (Photos F. Jégou).

what if....?

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# Engage stakeholders

Contemporaneously to this exploration of local potentials, the systematic mapping and engagement of a critical mass of stakeholders is necessary to build convergence on a sustainable vision of the place.

Whereas the first cluster of activities intends to build on the social capital of the place and to design de transformative change from a bottom-up movement, a complementary approach is necessary to engage all potential player from civil society, public authorities and private sector that could facilitate and support the transformation process (or secure that they may not represent a potential obstacle to it).

Here again the first move consists in a process of identification of the key stakeholders, ensuring mutual understanding between them and the construction of social connections and trust.

Sustainable Victoria, the development agency of the Australian State of Victoria starts for that purpose an on-going event called Sustainable Victoria Round Tables. Every 2 weeks in Melbourne 20 stakeholders engaged in any kind of sustainable initiative have 3 mins to present themselves in front of a large audience (Figure 3). Further connections between initiatives, projects, institutions go on around a glass of wine and on the Internet. The process seems rather informal and open following a natural propagation among a community of interest. Well known stakeholders meet anonymous ones; big players get in contact with informal initiatives; secondary actors emerges around core ones; dynamic good wills that never had a chance to met discuss possible collaborations or simply socialise, raise mutual interests and trust. The constitution of such a social background is vital to generate a positive environment to the development of a transformation project in a place.

Beyond appropriate general conditions and identification of new stakeholders, the engagement of key player is required to enable the take-off of the transformation project, get institutional support, overpass current rules and practise, obtain kick-off subsidies, etc.

Figure 3. Sustainable Victoria Round Table, a networking initiative among any kind of stakeholders involved in sustainability issues in Melbourne and aiming at building supportive social environment (Photos F. Jégou).

**Sustainable living local chains**

One Planet Mobility Cities is a project promoted by WWF with the five European cities of Barcelona, Freiburg, Lille, Malmö and Sofia. In the Swedish city of Malmö, we organised with the Design University of Malmö, WWF Sweden a design exercise through a series of workshops aiming at a progressive creative engagement of stakeholders in a participative construction of a common vision of the sustainable mobility in the city. Public authorities of the City are already in a leading position in terms of sustainable mobility with for example the largest network of bicycle lanes in Europe. As every leader they are seeking for next steps, which generally means to question deeper the current practices and tackle with large systemic changes.

A user centred approach and the generation of a series of innovative and challenging solutions by a group of the design students from Malmö was used as teaser to start the strategic conversation with the City. In particular, a recent workshop involve politicians and civil servants from both Streets and park and Sustainable departments of Malmö and external partners into a co-design process. Exploratory scenarios were developed on for instance how to turn Malmö into a experimental place for new services and support for bikes and build on it to raise the identity of the city in Sweden and abroad (Figure 4); how to develop 'car prevention services' providing advice and supports at critical moment such as marriage, birth of children or moving into a new house, well known for car acquisition; or how to rethink public transports exploring on-demand, personalized or premium solutions...

The engagement process is still going-on towards the definition of a series of concrete actions to be experimented by the City of Malmö with the support of the Design University.

The identification and after involvement of different circles of stakholders related to the transformation process is initiated through first informal and progressively more engaging participative activities. This cluster of activities related to the constitution of the enabling framework for the transformative change. Coming back again to our metaphors, it corresponds to the framework of the acupuncture medicine: getting the knowledge about the system; accessing a diagnose; securing the convergence of the forces in actions...

Figure 4. Creative stakeholder engagement workshop organised to involve politicians and civil servants form the City of Malmö into a participative process towards the identification of a programme of project towards sustainable mobility (photos F. Jégou).

Mobilité de proximité...

# Transformative visions

In our working hypothesis, the transformative change of a place toward sustainability is based on the articulation of a network of localised projects which contemporaneous activation is likely to induce beyond each single project a systemic effect.
A third cluster of activities should thus address strategic level through: the identification of which local projects or on-going initiatives have a potential in terms of sustainability; how they relate to each other and what kind of synergies could increase their respective potential; which strategy is likely to trigger an effect beyond each single project and produce a significant transformation towards sustainability in the neighbourhood, urban or regional area considered.
These activities elaborate from the two previous clusters of fieldwork and require a creative construction in terms of strategic design.
A one week seminar was held at ENSCI Les Ateliers design school in Paris in collaboration with the French Nord-Pas-de-Calais region and in particular its Direction for Sustainable Development, Foresight and Assessment . The topic tackled with difficult problems of transformative change towards sustainable ways of living in growing blurred zones between cities and countryside. The workshop is the first step of this process, exploring first in vitro what kind of local projects could emerge in different places, how they can cluster into coherent possible strategies to trigger a significant change of sustainable ways of living of this typical suburban area.

The Pévele area between Lille, Douais and Valencienne is highly characteristic: strong request for urbanisation; villages developing along the roads and new lodging compound popping-up; destruction of agricultural land; difficulties to maintain social mix and balance between generations; heavy commuting traffic... all these phenomena tend to generate a sort of 'dormitory-countryside'. In this context, possible key issues emerged as promising to enable change toward sustainability including: the concentration of services and shops around the local train stations to fluidify the

Figure 5: Design seminar hold at ENSCI Les Ateliers design school in Paris in collaboration with the Nord-Pas-de-Calais region to co-design possible strategies of sustainable change of suburban areas and discuss their best possible chances of success (Photos F. Jégou).

# they organises part of their lives...

**Emma,**
**34 years old,**
**health**
**economist**

**Gabriel,**
**84 years old,**
**retired**

**Margot,**
**26 years old,**
**actress**

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jeune célibataire active
Emma et la mère de famille
quadragénaire Marie. Tous
racontent quelques instan-
tanés de leur quotidien et
se projettent dans une vie
plus durable.
Ces visions montrent des
solutions qui existent déjà à
Saint-Étienne, des projets
imminents ou des solutions
qui existent ailleurs. Ensem-
ble, elles forment des «réa-
lités hybrides» suffisamment
vraisemblables pour interro-
ger sur les modes de vie de
chacun mais encore ouver-
tes pour permettre de se les
approprier, de les adapter, de
les rendre plus simple d'accès
avec une stratégie autour du
design.

Le Bruxellois François Jégou construit des

Professeur associé à la Faculté de
du Politecnico de Milan et La Cambre
Visuels à Bruxelles, François Jégou dir
depuis dix-huit ans Stratégic De
narios basé à Bruxelles. Dans son age
avec quatre collaborateurs, ils constru
des scénarios pour un quotidien
Si la Cité du Design de Saint-Étienne fait r

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life of commuters; the development of short food networks and opportunities of local tourism fostering qualitative exchanges with the cities nearby; the stimulation of local digital social networks to give better visibility and access to socio-cultural activities in these low density suburban areas... Figure 5 shows how these tentative strategies emerged from a participative process have been visualised through a series of video-sketches organised along the different strategies on a local map. This communication effort intends to prompt the strategic conversation at a local level: does it represent an attractive alternative to mainstream ways of living in the suburban areas? Which are the most feasible and should be implemented first? What is more likely to make a significant transformation towards sustainability at a systemic level in the region? etc.

The debate is important to prepare the stream of field activations of projects and pre-test, so to say, the acceptability of the transformative change foreseen. The local vision should therefore be disseminated. The envisioning of expected output of change process should be disseminated in a highly visual format and as widely as possible to enlarge the social conversation to secondary circles of stakeholders and involve directly the population. The visualisation supports should be as near as possible to a real scale simulation and show how sustainable life in this region would look like in order to stimulate the dialogue.

In the previously presented City-Eco-Lab exhibition a series of families from Saint Etienne were involved in a participative process to imagine how their own life could look like in a more sustainable Saint-Etienne and show it through a set of photo-stories. Figure 6 shows scenarios around short food networks, alternative mobility, water and energy care that were exhibited and for some published in the local newspaper.

This third cluster of activities focuses the construction of the meta level combining different typologies of projects identified in the two first clusters above; simulating their possible synergies and prompting a large dialogue assessing resilience and anticipating threats and opportunities. The aim is to prompt convergence of views between stakeholders and decision making on implementation about which points should be activated, with which needles and for which systemic effect.

Figure 6: Set of photo-stories co-design with 6 families in Saint-Etienne to show how their life could look like in a more sustainable city and prompt the social conversation about transformative change towards sustainability (Photos F Jégou).

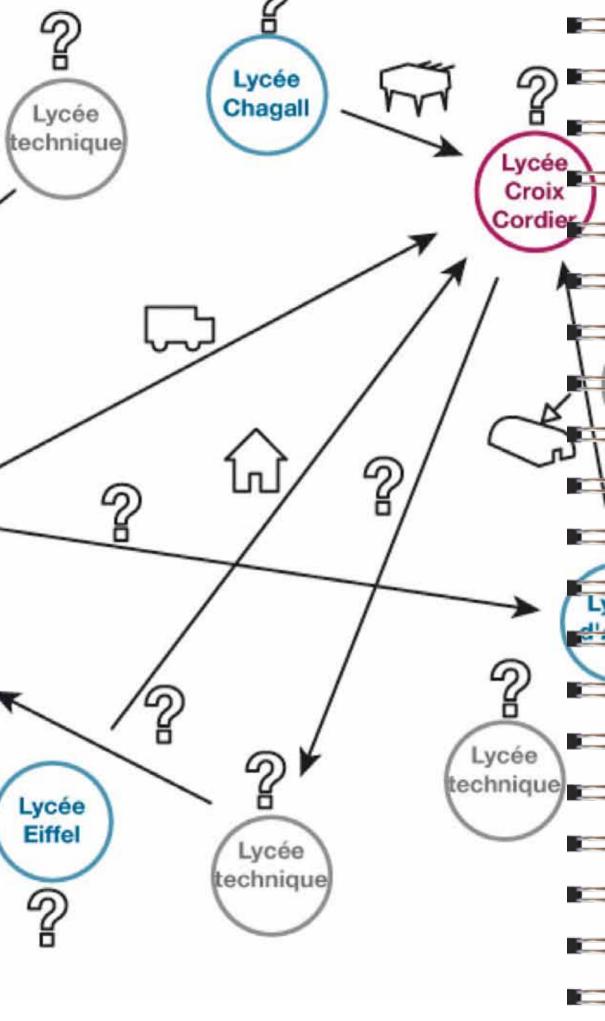centre de rééducation fonctionnelle

# Networks projects

Implementation of the transformative change in a city or in a region is based on the interplay and virtuous synergy between a strategic vision and specific types of local projects. Projects are each of relatively small size compared to the scale of the transformative change expected. But on the one hand projects from the same type are replicated more time in the city of the region and should deploy to reach a certain critical mass, and, on the other hand, the type of projects focused are carefully chosen to reinforce mutually their single effect and produce a change in an area of visibility and expectation for all the stakeholders and for the citizens in particular. Coming back to the example of the suburban area in Nord-Pas-de-Calais described before, decades of car-oriented development and policies vicious circles generate a diluted sprawl of shopping malls, extended parking, single houses compounds, ever congested motorways consuming always more agricultural land and producing non-lieux (Augé, 1992), places without qualities, that defines themselves only in contrast to the city nearby: cheaper housing, less urban, etc. The tentative transformative visions sketched during the ENSCI Les Ateliers workshop suggests interesting areas of investigation to regenerate forms of quality in suburban places: local train stations as hubs of services for commuters; farms providing local quality food supply in short networks around; development of infrastructures for local tourism; car-free housing near the stations...

All these categories of projects have a clear potential to generate the emergence of a suburban way of living with both better quality of life (less car dependant; better neighbourhood dynamic, more social connectivity...) and less environmental impacts (less transport intensive, reduced food miles...). They are based on existing place or on-going initiatives that needs to be activated in the direction of the transformative vision. The systemic change of the place is not based on a large scale infrastructural project but on a network of small scale self-standing initiatives that works in synergy. They should develop independently keeping an experimental dimension, adapting the

Figure 7: Territoires en Résidences is a programme fostering innovation and sustainability based on 3 weeks immersive sessions of small design-driven creative team co-designing transformative change with the population of the place (photos La 27e Région).

Lycée technique

Lycée Chagall

Lycée Croix Cordier

Lycée Eiffel

Lycée technique

Lycée technique

general transformative vision to their very local contexts, learning from each other. And single failures don't compromise the progress of the whole transformative process.

The fourth cluster of activity consists then to activate the focused localised projects. The approach is deliberately hands-on and bottom-up starting from the already existing places or initiatives and developing collaboratively towards the transition vision with the local population already involved.

Territoires en Résidences is a programme initiated by the French public innovation lab La 27e Région experimenting for one and half year now the activation of places or initiatives through residences. Residences are series of in vivo in¬novation sessions settled in public institutions in French regions. The core idea is inspired by long-term artist residencies in a particular context for the purpose of generating new projects in collaboration with the local population. As shown in Figure 7, multidisciplinary teams of Territoires en Résidences settle for three separate weeks over a four-month period in a in a college, an health centre, a station, a neighbourhood digital services places or the regional council administration itself. Immersion, it appears, is one way of starting a healthy dialogue and encouraging stakeholders' capacity-building, development through ongoing experimentation and rapid prototyping of new public services.

Beyond the focus of La 27e Région on public policies and institutions, residences represent a light and flexible format of innovation addressing an intermediate level mediating between macro top-down development programmes and bottom-up micro social innovations (Durance & all, 2008; Jouen, 2009; Jégou & Vincent, 2010). In the Nord-Pas-de-Calais region, a programme of residences is currently under discussion between the Regional Council authorities and La 27e Région to activate over next year key-points of the suburban areas described before, check their consistency and eventually modify or adapt them. The overall goals of this process for the Direction of Sustainable Development, Foresight and Assessment promoting it are to explore ways to ensure quality of life and sustainability in these zones of growing social tensions and structural misbalance as

◄ Figure 8: Different residences conducted by La 27e Région in colleges in France: a clear idea seems to emerge showing a new vision beyond formal education institutions and to appear as dynamic resources open to the population and socio-economic actors of the place (scheme O. Bedu, G. Farage)

they investigate with Foresight approaches. At each residence level, the aim is to understand how to stimulate innovation and catalysing change in a particular category of places or initiatives. Figure 8 shows images from the different residences conducted by the 27e Région in different colleges in Revin, Tinqueux and Annecy in different places in France. A learning process allows to gain experience beyond the specificity of each places, transfer successful practices and avoid mistakes. Clear patterns of change and opportunities emerge from the residences showing how colleges beyond carrying on formal education of teenagers can become structuring resources for the region around; behave as connecting hubs for the local population; involving the pupils and staff in more projects and team work; make their infrastructures available for companies and NGOs of the area; organise in active network of colleges exchanging bilaterally and finally getting a substantial feedback to better connect formal education in real life.

This last example shows how the residence format is very promising to activate on-going projects through design-based activities, enable each of them to develop towards the transformative vision for the region through the construction of a community of practice and the sharing of a toolbox of methods.

## Conclusion

Through the different on-going cases presented as example along the paper, it is possible to define a structured methodological approach of regional transformation towards sustainability based on a network of projects. More than steps the 4 clusters of activities have to be understood as 4 streams that blurs and combines following local opportunities and constraints. It is also possible to outline what are the possible roles design could play to support this approach. Furthermore, it shows the key role that design schools and universities have to play as laboratory and agent for social sustainable change:
• investigating social innovation and mapping local bottom-up dynamics promising in terms of sustainability;
• identifying local stakeholders and engaging them in a collaborative dialogue on transformative change;
• co-developing visions based on a framework strategy and a network of localised projects in synergy;
• implementing progressively a transformation process based on a permanent experimental activation of local places.
The image of an acupuncture of places summarises the working hypothesis of approach we would like to propose: a careful investigation of places; a light activation of sensitive points; a transformative systemic change with low entropy and highest respect of the integrity of the places. Only, this acupuncture is developing on ever changing contexts and cannot be simply learned and applied: for each new place the sensitive points have to be searched, the life energy meridians have to be discovered and the sustainability acupuncture partially reinvented...

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