CULTURES OF RESILIENCE

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A Project from across
the University of the Arts London

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Ideas

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Preface

This book is the first outcome of Cultures of Resilience (CoR): a two year University of the Arts London (UAL) project the goal of which is to build a 'multiple vision' on the role of culture in creating resilient systems, creating this vision with with a set of narratives, values, ideas and projects.

The CoR project gathers together staff and students from across the University and is coordinated by Ezio Manzini, Chair Professor at the UAL, and President of DESIS Network, and Jeremy Till, Head of Central Saint Martins.

CoR is also the leading project of a larger initiative on the same topic promoted by DESIS Network in several places worldwide.

The first phase of the project, from February to October 2014, was dedicated to building a group of committed CoR members, and to discuss the CoR theme. Doing that, the group found common views and differences, and developed a rich set of keywords that participants found relevant, challenging and provocative.

These CoR group meetings took place five times, with a participation of around 20 teachers and researchers of different disciplines and from different UAL Colleges.

This book is an output of this first phase.

In the second phase, from October 2014 to March 2015, a number of parallel CoR-related projects are being developed. Their outputs are presented in a particular kind of exhibition: a working exhibition intended as an open space in which different concepts and narratives on resilience become visible and tangible. In doing so, they can in turn become the subject for a new round of conversations.

Following the exhibition, the CoR Project second year will be started, using the first year results as building materials for a new set of projects, with the goal of creating, in Spring 2016, an event capable of bringing together wide range of potential actors from both within and outside.

Contents

Introduction

Ezio Manzini and *Jeremy Till*

This book results from a cultural experiment that could be summarized in this way: take the community of academics of a large and prestigious university of arts and design, in this case UAL. Launch a discussion on a socially relevant topic, in this case the 'Cultures of Resilience'. And register the results, in terms of ideas and projects. Propose participants to write a short text: a statement on what, after this discussion, they think of this topic and what they think could be their contribution. And here we are with this book.

In other words, the idea has been to challenge our traditional individuality and give us, UAL academics, a common ground for discussion, giving us some possibilities for interacting, listening to each other and expressing our ideas.

The goal has not been to converge to a common view, but to cultivate the differences, raising the level of the conversation and, at the same time, deepening and enriching it. That is, to create a community of creative actors capable to blend individual initiatives with a common commitment. And, therefore, to help the university to become the cultural critical-constructive agent that, by definition, it should be and that now, more than ever, it must be.

The texts collected in this book, therefore, have to be read as a multiple contribution to a journey that should bring us in this direction. As already said, they are the first results of an on-going experiment. The discussion will continue. And the actions too. More will follow.

The book starts with the *CoR Base Text*: this is the up-graded version of an original text drafted by one of the project coordinators and discussed by the whole group on several occasions. Therefore, this version can be considered as the shared view of the whole CoR Group: the common ground on which an ecosystems of ideas have sprouted up and developed.

The second text is *Keywords*. It presents a number of words that emerged in a workshop specifically dedicated to that: to find the words that the group members considered relevant, challenging and provocative to start a cultural conversation on resilience.

Then we have the section of *Ideas*, which is the main part of the book. It presents the statements of 16 members of the CoR Project group: 16 texts presenting points of view on Cultures of Resilience that authors developed out of their own experiences and through participating in the CoR Group discussions.

Finally, *Afterword* is an overview written by Ezio Manzini. In the spirit of this work, it cannot bring everything to a single conclusion: consistent with the nature of resilience, different and even contrasting ideas must not only exist, but also flourish and compete. And this is what happens in this book too. Nevertheless, these reflections permit one to recognize the characters of a meta-narrative that seems to us to tell a larger story: the story of a new emerging culture in which all the other stories, in their own way, may exist.

The Cultures of Resilience Base Text

This is the upgraded version of an original text drafted by one of the project coordinators and discussed by the whole group on several occasions. Therefore, this version can be considered as the shared view of the whole CoR Group: the common ground on which an ecosystems of ideas have sprouted up and developed.

Resilience, when referred to socio-technical systems, means the system's capacity to cope with stress and failures without collapsing and, more importantly, learning from the experience. Therefore, it should be considered a fundamental characteristic for any potential future society. If in recent times this term has emerged and spread it is because, when having to deal with the crisis and several catastrophic events, the vulnerability of our contemporary societies has appeared in all evidence. Exactly because the use of this term has become so widespread, its meaning must be attentively discussed and understood.

Diversity, redundancy, experimentation

What are the characteristics of a resilient system? Complex systems theory and several practical examples suggest that, for adaptive systems such as socio-technical ones, the ability to withstand the test of time in turbulent environments (that is their tolerance of breakdown and their adaptation capacity) results from a particular system architecture and internal dynamics: resilient systems may be characterized by diversity, redundancy, feedbacks and continuous experimentation; they are built up with a multiplicity of largely independent and very diverse sub-systems, and are the ground on which new and alternative solutions constantly appear. In this way, even when one or more of these sub-systems break down, and one or more solutions (*ie* strategies to get a result) become impracticable, the whole

system does not collapse; other solutions (*ie* other ways to get that result) are still available and, thanks to the existing feedbacks, the system can learn from the experience.

A disruptive concept

How far are our societies from this profile of a complex, resilient system? This question has no single, simple, answer. In effect, there is a double trend in contemporary society: on one hand we can see the big mainstream players of the 20th century promoting large production plants, hierarchical system architectures, process simplification and standardization. Resilience here is often interpreted as the reinforcement of the socio-economic status quo. The result is the reduction of biological and socio-technical diversity and a consequent increase in the overall fragility of the system. On the other hand, we can see a growing wave of socio-technical innovation moving in the opposite direction, with small and connected actors experimenting with agile flexible, context-related, highly diversified systems.

   This second trend makes the viability of resilient socio-technical systems visible and tangible. At the same time, it clearly indicates a kind of paradox: to make our societies more resilient we must change them by moving away from the dominant ways of thinking and doing. In other words: against a background of mainstream models, resilience is quite a disruptive concept: one that calls for radical transformations.

An emerging scenario

Until now, the notion of resilience in all its interpretations, including the most radical ones, has been used in the framework of a defensive discourse. Confronted by crises and catastrophic events, and because the likelihood of them occurring will increase in the future, the common reaction is one of survival: we have to re-organize our society and make it more resilient on current terms. This way of looking at resilience has, of course, very strong motivations, but is potentially negative and limiting. But we can look at it also in a different, more positive and interesting way. If, technically, resilience means diversity, redundancy and

continuous experimentation, it also means that the corresponding society must be a diversified, creative one. In other words, taking seriously the meaning of resilience, this compelling and deeply human image of society becomes much more than just a wish. It indicates the direction in which, very practically, we need to go if our society is to have any hope of lasting. In short: in a resilient society cultural diversity and creativity must flourish. Indeed, cultural diversity and creativity must be an integral part of any scenarios of resilient societies.

The cultural side of resilience

Until now, the discussion on resilience has mainly adopted technical, economic, and functional points of view, and the main questions have been: how to solve problems in a resilient way? How to make these solutions more viable? What could their economic model be? It is important and necessary to raise these questions, and to search for their answers, but it is not enough. If resilience must be a characterizing feature of every potential future society, its cultural dimension, with its implications in terms of diversity and creativity, must be considered too. Therefore, new questions arise: what, in a resilient society, do we mean by development? How does the idea of democracy evolve? What is the relationship between the local and the global? And, more in depth: what about work, skill and creativity? What about trust? What about the very general ideas of time and space? A cultural approach to these questions would not attempt to solve 'problems' per se, but open up new possibilities in order to feed and support a social conversation on them.

Cultures of resilience: a UAL project

Art and design communities can bring an original blend of creativity and reflection to the quest for more resilient societies. In this framework, and with this perspective, UAL can do a lot too. UAL is already contributing significantly through the multiplicity of projects and initiatives in which it is involved and which are, de facto, going in this same general direction. Nevertheless,

today, there is the need, and hopefully the possibility, to take a step forwards and define a project capable of aligning existing activities and, on this basis, to realize a bold initiative: a 'second level project' that is a co-design process capable of involving several teams in the university, of capitalising on-going projects, of extending their reach, of involving other external actors and, in this way, of enlarging UAL's contribution in the transition towards more sustainable ways of being and doing.

This project, named the Culture of Resilience Project, is a two year UAL-wide initiative, the goal of which is to build a 'multiple vision' on the cultural side of resilience by putting together a set of narratives, values, ideas and projects that are coherent in that they are all based on resilient systems, but in many other aspects they are very diverse. A multiplicity of images that, like the stones of a mosaic, may generate a larger one: a mobile, dynamic, colourful vision of a resilient, sustainable civilization.

Keywords

This section presents a number of words that emerged in a seminar (the CoR Seminar of the 3rd July 2014) the aim of which was to lay the foundations of a common language on resilience. That is, to highlight some terms recognized by participants as relevant and, at the same time, challenging and provocative. Out of this came possible keywords for a richer conversation on resilience.

The process through which these terms have been generated was structured in two steps: different working groups freely generated a set of words, one for each group. These words coming from the different working groups were then clustered in six groups on the basis of a commonly recognized degree of affinity. The groups are not mutually exclusive – a resilient system may share attributes across them – but suggest particular cultural and organisational qualities as a way of understanding how resilience might be achieved.

Resilience can be discussed in its technical characteristics utilizing terms that are already universally recognized: diversity, redundancy and effective feedbacks. Even though these terms and implications have to be better-understood, their technical meaning is already clear and coherent solutions have been conceived and partially implemented.

Today, in order to extend and deepen the consciousness on the role of resilience in our lives and make resilient solutions possible, another set of words must be proposed: the ones needed to build the narratives thanks to which resilience will enter in our imaginary and into our social and cultural conversations. Through this cultural dimension, resilient solutions might acquire a stronger meaning and so will have more potential to spread.

Before moving on in this discussion, one point must be clearly stated: whereas the technical words with which we can talk about resilience are basically the same world-wide, the ones needed on the cultural side are deeply rooted in the local contexts in which they are to be used and, before that, in which they may have been generated.

Therefore, the keywords we are presenting here have this local character too. Having been produced by a situated group of people (in this case academics working at UAL, in London), they are the words of a possible new *local language*: a language that could be used for new, deeper discussions and activities in the context in which it has been created. But not only for that: by its same nature, the narratives of resilience must be told in a multiplicity of stories and languages. In this perspective, the keywords we are presenting here can be seen as a local contribution to this broad and diversified dynamic mosaic on the basis of which, hopefully, a new meta-narrative will emerge.

Risk taking and chaos embracing

(*ref*. error-friendly systems)

Risk	**Serendipity**
Uncertainty	**Daring**
Failures	**Risk taking**
Making mistakes	**Embracing chaos**
Collisions	**Error-friendliness**
Randomness	

These words refer to our condition of human beings living in a risk society and, most importantly, being well aware of this risky condition.

As a whole, they tell us a story of both consciousness (of risks, complexity, cognitive limits and human tendency to make mistakes) and daring (to take risks). They suggest, against normal expectations, that failure and accident are to be embraced as conditions to learn from rather than negatives to be avoided. They also tell us of the possibility of blending consciousness and daring in error-friendly strategies: ways of doing conceived to increase the freedom of experimenting and reduce the risks of generating irreparable catastrophes.

Disrupting and regenerating

(*ref*. transitional systems)

Creativity	**Adaptive**
Disruptiveness	**Reflexive practices**
Regenerational	**Exemplarity**
Transitional	**Inventiveness**

These words relate to the human specificity of being creative, reflexive, and capable to combine them in different ways.

They tell us how disruptive creativity (aiming at radical local changes in the state of things) and regenerative reflexivity (aiming to consolidate local results) are combined. They suggest that transformation arises in the feedback loops of the existing.

They also indicate that these activities are performed by individuals and communities (their authors) involved in larger social forms (their context), and that each individual authorship participates to the building of a common good: the social conversation on what to do and where to go.

Trusting and collaborating

(ref. auto-organizing systems)

Trust	**Rewards**
Generosity	**Participation**
Care	**Exchange**
Empathy	**Reciprocity**
Investment	**Complementarity**
Motivations	**Collaboration**

These words deal with our being social animals, capable and willing to socialize and, if the conditions are given, to collaborate.

The story they propose tells us why and how these social interactions happen. How they depend on the interplay between individual action and social recognition. How they permit us to learn, evaluate and reflect. How, in present time, collaboration is not a given but must be consciously built thanks to a variable mix of generosity, empathy, mutual interests and moral and economic rewards. They are words that suggest that resilience is found through a care for others, and thus brings an ethic with it.

Hybrid and distributed

(*ref*. distributed systems)

Hybrid materiality	**Intermediate structures**
Digital-physical systems	**Local knowledge**
Fluidity	**Vernacular know-how**
Protocols	**Cosmopolitan localism**
Distributed systems	

These words refer to physical characteristics of a resilient system. That is, how they might be made and how they are shaped in the space.

They tell the story of distributed entities, endowed by a hybrid materiality (physical and digital), by a new sense of place (local and global), and supported by an original enabling ecosystem (of technological and normative infrastructures). In parallel to that, they also tell how these distributed systems give space to local and indigenous knowledge, making possible a cosmopolitan localism in which different cultures can live and flourish. They suggest systems always in a state of emergence.

Diversified and tolerant

(*ref.* diversified systems)

Tolerance

Democracy

Redundancy

Equity

Transgression

Radical neutrality

Counter values

These words refer to the organizational characteristics of resilient systems. That is, how they work and what they permit to do.

They tell the story of tolerant systems and the way they permit and cultivate diversity. Systems that are seen as ecosystems, the richness of which is given by the abundance of ideas and social forms, by their possibility to cooperate or compete. They tell the story of agonistic spaces where new visions of the public realm can be implemented and where new forms of democracy can be experimented.

Open and reactive

(*ref*. self-learning systems)

Openness	**Reflexivity**
Porosity	**Reactiveness**
Accessibility	**Feedback**
Evaluative	**Self-Learning**

These words refer to the resilient systems' learning capability. That is, how these systems receive and elaborate signals and how they learn from them.

They tell the story of systems coping with a changing environment, adapting to the new circumstances and learning from these experiences. That is, they are systems that improve themselves. In order to do that, they are to be open, to receive signals from their environment; sensitive, to recognize these signals; intelligent, to give these signals a meaning; flexible, to transform their nature and re-orient their evolution on the basis of this new information.

Ideas

This central chapter of the book presents 16 statements on resilience. They are short texts written during the Summer 2014 by CoR seminar participants, blending their personal experiences with the CoR seminars, discussions and, in particular, keeping in consideration the constellation of resilience-related keywords proposed in the previous chapter.

The statements are very diverse and could be read and interpreted in different ways. To give them a light order, they have been organized in four sub-chapters capturing for each of them a dimension that appears to be, in some way, predominant. These sub-chapters are: general statements; resilience and places; resilience and specific topics; resilience and specific disciplines.

General Statements

History in the Making
Resilience in structure and agency

Jeremy Till

I have returned to a favela in Belo Horizonte with my friends from MOM. If I focus my attention downwards to the scale of the streets and dwellings, I can mentally check what I see against the Cultures of Resilience keywords:

Chaos Embracing. Transitional. Auto-organising. Collaboration. Indigenous. Diversity and Democracy.

Check yes to all of these. On the face of it, therefore, it would appear that the favela has all the characteristics of a resilient system.

But then I look up, and overhead a line of electricity pylons marches straight through the favela. The justification is that they are needed to bring power to the new housing scheme at the bottom of the valley, and I would bet that somewhere in that rationale the word resilience is used ('…the need to deliver a resilient infrastructure to deliver improvements and growth to the area.') But the pylons leave a trail of destruction in their wake. Safety legislation states there must be 20 metres clear around each pylon, and so to erect them the municipality has compulsorily purchased a number of favela dwellings, displacing families with a recompense that sounds initially attractive, but one which will run out within months, and with it render people homeless. Worse still is that the pylons are placed every 400 metres, and the regular clearances around them disrupt the delicate socio-material ecosystem of the favela, the blight of void spreading like a contagion. It is anticipated that unless action is taken, within a year the favela might collapse, or be laid bare to the offers of developers. To add insult to injury, the housing scheme that the pylons are serving is being built on land expropriated from a former favela. This small example illustrates some of the pitfalls of the notion of resilience but also provides pointers as to how to avoid them.

'*At heart what we see being played out is the classic tension between structure and agency.*'

First the identification of resilience with the favela is misplaced, and indeed comes close to the uncritical assimilation of a poverty-induced system from the global south as an acceptable exemplar for the north. Although the immediate evidence might accord with our keywords, the operations that are found in the favela are primarily reactive: they are necessitated as a form of survival but do not transform the structural issues of inequality that have created the conditions that require basic survival. Resilience here is framed negatively, whereas the thrust of *Cultures of Resilience* is for a productive reading of resilience. The second pitfall is to attach notions of resilience to large-scale operations such as the electricity pylons simply because they are delivering a more robust technical and economic infrastructure. Such techno-economic interventions can only be resilient if they are sensitive to social systems at every scale.

Both cases – that of resilience as survival and of resilience as technocratic fix – are, as Ezio Manzini makes clear in the base

document, defensive versions of resilience that we need to move away from, to the extent that some feel we should abandon the term altogether. However, sticking with the word requires us to take a critical stance, and one that uses resilience not as term to describe the amelioration of present systems but rather one to reimagine the potential of future ones. Lessons as to how move from a 'less bad' version of resilience bound to the present to one that is radically open to the future might be found in the favela example.

At heart what we see being played out is the classic tension between structure and agency. At the scale of the favela, local agency is in full swing. It is not to romanticise the conditions to understand the extraordinary vernacular intelligence that goes into the shaping of the favela. The matching of our resilience keywords to the systems of the favela is not coincidental, and lessons can be learnt from the tools and techniques of such agency. But this is all for nothing in the face of the overriding structures, which are oblivious to the dynamics of agency and so obliterate them. The mistake revealed here is, as Anthony Giddens notes, to consider structure and agency as an either / or dialectic: 'The basic shortcoming of most discussions of agency and structure ... is to suppose that either the individual has a primacy over society (modes of production / social formation) or the reverse.... We should resist this dualism and instead understand it as a duality – the "duality of structure"'.

> *'Resilient systems cannot straddle these differences and implied oppositions on two legs and in two ways, but need to dissolve the gaps so that the founding assumptions of structure and agency are challenged.'*

Following Giddens' idea of a duality, it is easier to understand the concurrent failure of resilience within both the agency of the favela and the municipal structures. Unless both are considered together, each will fail in the formation of a truly resilient system. Thus, even the notion of duality might be restrictive in that it still holds to a hierarchy of structure and agency: big versus small, collective versus individual, static versus dynamic, and so on. My hunch is that resilient systems cannot straddle these differences and implied oppositions on two legs and in two ways, but need to dissolve the gaps so that the founding assumptions of structure and agency are challenged. To achieve this any analysis or design

of a resilient system has to be multi-scalar (*ie* able to operate at a number of scales) and trans-scalar (*ie* able to situate itself in relation to operations at other scales).

Only then will can the brilliantly chaotic but super-dangerous wiring (as emblem of the agency of the favela) merge graciously with the order of the pylons (as emblem of controlling structure).

And only then can the favela graffiti artists' slogan of 'historia em construçao' ('history in the making') be turned from a threat to an opportunity.

Designing Conditions for 'Active' Redundancy

Or, the difference between people and phone boxes

Adam Thorpe

It is rumoured that the public phone boxes that remain on our streets post mobile communications, whilst appearing redundant, are there because they provide redundancy. The story goes that if all mobile network coverage where to fail in some future emergency scenario then the hard-wired communications of the old phone box system is accessible to emergency services via a secret four-digit pin, offering alternative ways and means of communication.

For the system to have redundancy some of the 'actors' within it must be redundant.

A note from the US Federal Communications Commission on the subject of maintaining public safety communications in the context of an attack on homeland security calls for 'diversity, redundancy and resilience – in that order'. That means: you cannot have resilience without redundancy nor redundancy without diversity.

It considers a scenario where communications (in particular, public safety answering points' or PSAPs) may be threatened and suggests an approach to building the resilience of the system 'its ability to maintain its core purpose and integrity' (Zolli and Healy, 2012) as a communication system) through redundancy. It concludes that:

'The alternate routing characteristics provided by diversity contribute directly to the fundamental public safety precepts of redundancy and resiliency. By providing an alternative means of connectivity through diversity routing, redundant means of connection between the PSAP and the local exchange are accomplished.' The note also acknowledges that redundancy entails neccessary costs, stating that 'the costs of diversity must be considered in the overall vulnerability assessment of the facility and the need for route diversity'.

> '*This suggests a role for local government in brokering interactions, unlocking community resources and increasing the diversity of how Citizens interact with local government and each other.*'

The above scenario discusses characteristics of resilience as they relate to a technical system organisation. In this case a communication system. It considers *diversity* as the existence of alternative ways and means, *connectivity* as having access to alternative ways and means, and *redundancy* as having sufficiency of alternative ways and means in the given scenario.

Resilience through redundancy is a natural strategy. Taleb (2012) comments on the propensity of nature to 'overinsure' itself suggesting that 'layers of redundancy are the central risk management property of natural systems.' He points to human physiology as evidence of this; two kidneys when one will do, and 'spare parts' and extra capacity in lungs, neural systems, and arterial apparatus. Taleb also challenges the notion of 'cost' in relation to redundancy. He argues that whilst redundancy 'seems like a waste if nothing unusual happens', 'something unusual does happen – usually'. Furthermore if you have surplus of an

asset then you may be able to draw upon or trade that asset in times of shortage, and in this regard what appears to be 'insurance' against risk is actually better understood as 'investment' in opportunity. This aligns with Sampson's (2012) account of the *enduring neighbourhood effect*. Sampson evidences that at the neighbourhood scale, pro-social activity reduces anti-social activity and fosters greater community resilience. Sampson observes that those communities that have greater social and civic connectivity and activity respond better to extreme scenarios. Tennis clubs become rescue centres. The members a connected network of collaborative actors. The barbecue equipment becomes a kitchen, the indoor courts a dormitory, the towels from the shower rooms bedding and bandages – the day to day is repurposed in response to the extraordinary. This correlates with Greenfield's account of 'spontaneous infrastructure', as evidenced by the Occupy networks' relief response to Hurricane Sandy in 2012.

So, the systemic argument goes that for a system to be resilient it must have redundancy yet for this redundancy to exist some of the actors' themselves (in the case of the earlier examples, the communications routes, the phone boxes or the kidneys) must be redundant, that is surplus to requirements, available, and able to cope with long spells of inactivity.

But, people aren't phone boxes. Just as an arm in a cast withers on the bone as the artificial support removes the need, opportunity, and eventually the ability, of the arm to support itself, so too humans' ability to care for themesleves and each other deteriorates rather than thrives when they are redundant – deprived of resources and opportunities to exercise and develop their abilities to do so. The hegemonic competitive capitalist system is the cast that constrains the people and publics within it, making many of us passive consumers of goods and services rather than active participants in their design and delivery. Far from affording greater freedoms to all the Citizens within the state the 'free' market optimises the Citizens active within it – leaving many resource rich (and able to make consumer choices) but time poor (and less able to explore alternative ways of meeting their needs). Others, the Citizens that are redundant in the system, surplus to system requirements – are time rich but denied sufficient support or authorisation to find alternative means to survive and thrive.

For Citizens in this system, to be redundant is to be denied redundancy.

This suggests a paradoxical relationship between the redundancy of the system and the redundancy of the people within it. Accordingly, the resilience of the system militates against the resilience of the people within it.

Perhaps in an attempt to resolve this paradox, the socio-political system described above includes a model of taxation intended to fund a public service provision that seeks to ensure sufficient ways and means of meeting basic needs to those people redundant within the system. But this model appears to be failing. There appears to be insufficient capital to fund public services. These concerns are compounded by diverse drivers including technological innovations that 'design out' human actors (making more people redundant) and an ageing population that is understood as a community of needs rather than assets.

Central government cuts to local government funding mean that by 2017 funding available for delivery of public services by local government (including adult social care, chlidcare, waste collection and management, policing, libraries and leisure) will be reduced by 50%. Resilience in the face of public service cuts is dependent on those affected by these cuts having alternative ways and means of responding to the needs left unaddressed by them *and* there being redundant 'actors / assets' that can be brought into play to meet these needs.

An alternative system to free market optimization and taxation is required. One in which diverse ways and means of meeting needs are fostered and afforded to and by redundant Citizens, so that a 'positive spiral' of redundancy (of alternative ways and means) is achieved.

> *'People aren't phone boxes ... humans' ability to care for themselves and each other deteriorates rather than thrives when they are redundant.'*

This scenario neccessitates public service innovation that will rewrite the roles of Citizens as service users, moving them from passive individual people to active collaborative people, from service users to service participants, and from people with needs of service delivery to people as assets for service delivery. In this scenario the role of local authorities also changes, moving from being the (sole) provider of services to being stewards of Civic and Civil resilience afforded by new multiple models of service provision. This new role for local government requires them to be

active in creating the conditions that fosters and affords 'positive' and 'active' redundancy to Citizens.

In this context local government might extend the US federal communications commission's precepts for resilience ('diversity, redundancy and resilience – in that order') adding the *connectivity* essential to access a diversity of ways and means. Here *diversity* denotes *existence* of alternative ways and means, in the form of networks and relationships, resources and assets, and roles / identities. *Connectivity* denotes *access* to alternative ways and means. And *redundancy* denotes sufficiency of alternative ways and means of Citizens meeting the needs left unaddressed by public service cuts. This suggests a role for local government in brokering interactions, unlocking community resources and increasing the diversity of how Citizens interact with local government and each other.

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Making Resilience
Work and value

Kim Trogal
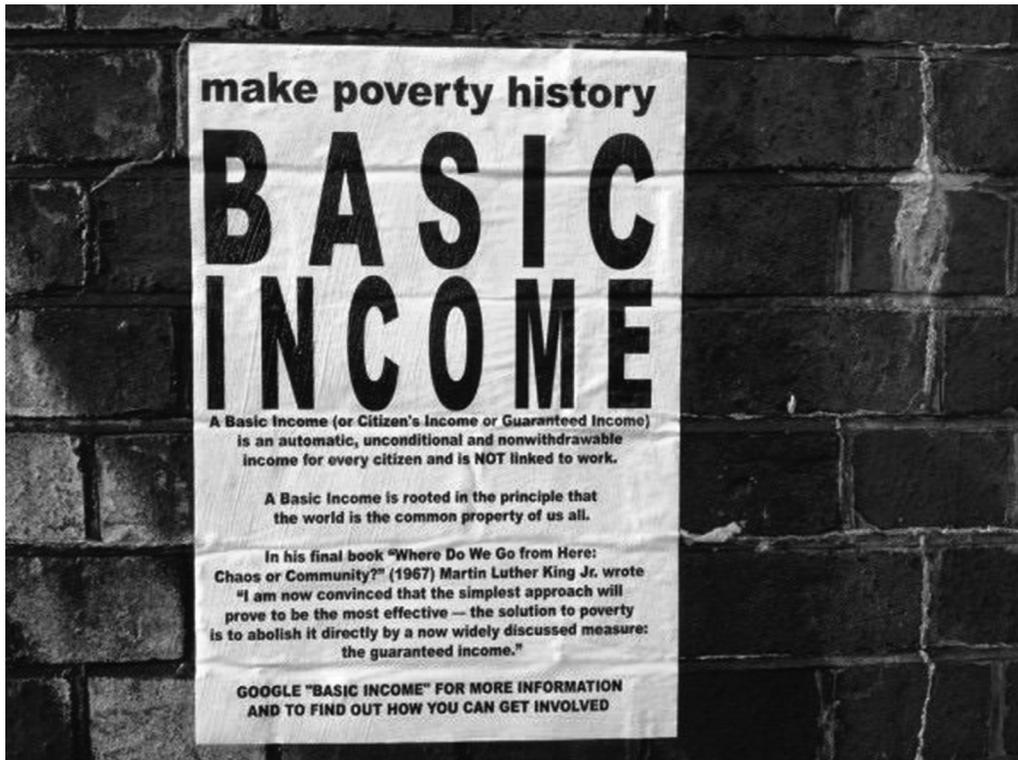
When describing or defining what resilience is, one thing descriptions consistently seem to miss is, what makes resilience? Systems might be described in terms of their characteristics, for example, having 'redundancy' (some slack in them); being 'flexible,' and 'polycentric;' enabling 'learning and experimentation' for example.[1] These defining characteristics, emerging from eco-systems science, are helpful in identifying resilience in various fields. But my question is what makes resilience? Who and what creates and maintains 'redundancy,' or flexibility in a particular system, for instance, and in what kind of conditions?

In the introduction to E P Thompson's seminal book *The Making of the English Working Class* historian Michael Kenny asks:

'What happened to the working class Thompson describes? [...] Where are the habits of self-reliance, the sense of solidarity and common purpose, the willingness to defend rights based on customary English inheritance, and the toil and craft that were central to ethos of the class he depicts? *When exactly did the English working class get unmade?*'[2]

Or, put differently, what *unmade* this particular 'culture of resilience'?

Whilst the reasons are complex, one factor amongst them was the emerging dominance of the commodity logic. Following Polanyi's account of the same period, he describes its increasing application to a number and type of relations, fundamentally to 'Land, Labour and Money.'[3] This type of relation now applies variously to seeds, genetic material, digital coding, ideas, language, knowledge, medicines, culture and more, today.

> *'My question is what makes resilience? Who and what creates and maintains "redundancy," or flexibility in a particular system, for instance, and in what kind of conditions?'*

Thinking back to the question, 'what makes resilience', there is a difficulty. As a number of the other contributors here indicate, resilience requires a different set of values (commons, collaboration, generosity, care, reciprocity) rather than the ones of the commodity, for instance. Thinking about 'what makes resilience,' one of the significant commodified relations that needs to be addressed then, must be work. It takes work to make a community, to create 'slack' (think for instance, of the 'old fashioned' larder, building a stock of reserves), the work to foster experimentation, to enable learning, to maintain a network, to care for others, to share, to negotiate. What makes resilience is work, and as such it is bound up with 'the problem of work,' to borrow Kathi Weeks' expression. Namely, the dominance of waged work as the prime and privileged form of activity.[4]

The 'problem with work' (amongst other things), is that it excludes all the human and non-human activities that make life, and in our interest here, resilience. The work that sustains life is work that frequently exists on the edges of, outside of, or otherwise exploited by our dominant economy. This work might include subsistence production, volunteering, mutual aid through time-based

currencies, community gardening, food cooperatives, the sharing and management of local resources from parks, pastures to local libraries, tool banks, local initiatives, online shared resources, open data, open software.

Initiatives like these (and more of course) rely on different economies and often different kinds of contributions to sustain them. There are different kinds of exchanges, donations, not least the 'gift of time.' The economies these initiatives bring is apparent to, and valued by, those involved, not least because gifts and donations can bring significance and meanings. For example, when time and effort is given out of desire or 'goodwill' rather than 'because one is paid to' – there is a qualitative difference in both the relations and the meaning a project or object takes on. But the idea, that one should work 'out of love' for symbolic rewards, rather than monetary ones is complex.

Whilst these economies are visible and tangible to those participating, a problem from my perspective is that this kind of work, particularly in local, civic contexts, is invoked and held up as exemplar by proponents of a 'big society'. This uncomfortable co-incidence is one of a number when working with resilience. For example: a de-centralised, networked system, with 'diversity' and 'slack' whilst characteristic of a resilient system, is equally compatible with a neoliberal approach to work. This is evident for example in increased outsourcing, the increased use of self-employment (transferring employer's responsibilities to staff themselves), or zero-hour contracts where the burden of 'redundancy' in a system is transferred to individuals. Equally, for example, the other side of flexibility is precarity.

> *'It takes work to make a community, to create "slack" … the work to foster experimentation, to enable learning, to maintain a network, to care for others, to share, to negotiate.'*

What could bring a more self-determined nature or control into this situation? How to choose the 'slack' for instance, rather than being subjected to it? I am interested in how to understand the nature of such a choice, in a time of semiotic capitalism; where and how is desire produced and what is it directed towards? Carrotworkers Collective (now the precarious workers brigade), use the image of the donkey chasing the carrot on a stick, as a metaphor for precarious work and unpaid internships in the cultural industries. They not only critique this condition, but point

to the need for more sophisticated understandings of the affective conditions in which we 'work for free.' The carrot, represents the hopes and desires produced within us. The carrot is the things we care for, but is at the same time 'the false promise.'[5]

If we know that developing our resilience is essential if we are to survive turbulent futures, my question is how, through the tools of art, design and spatial practice, can we deal with its political ambiguity in respect to the work and activities that actually make it? This involves both the material and financial conditions as well as the affective and symbolic economies in which the work is situated. Given that design contributes to the production of particular kinds of material economies and desire, through advertising, imagery, products, aesthetics and so on, could it not also help to create and sustain different value chains, in different economic relations?

There might be many ways to think about these questions, but I am interested in a few in particular:

- How to deploy the tools of 'diverse economies,' in order that we can perform and embed different kinds of economies in our everyday lives and work? These are tools, generously given to us by Katherine Gibson, Julie Graham and their many colleagues,[6] to help us identify the diversity of economies around us. Their tools aim to help us as individuals and groups elaborate different kinds of markets (capitalist, alternative, informal and so on), different forms of labour and so on. Their suggestion is that by articulating these diverse economies and making them visible, we can make more conscious decisions about the kinds of economies we want to support and participate in. Whilst the tools have been developed in the context of regional development, they could well be deployed in any field, in any place. How to make use of them in our fields, work and everyday lives?
- How might the skills of art, design and spatial practice help us work better with the more 'invisible' labours and relations, the things normally 'beyond measure'? Given the affective and symbolic aspects of cultural production, could they not also actively engage in, and support different kinds of values? Producing and sustaining new symbolic economies? And,
- How to better connect with social and spatial justice movements, and other political movements, through the work that we do?

In relation to the 'problem of work' Kathi Weeks, argues for a demand to a basic income. More recently, journalists polled readers on ideas around a citizen's income or basic income, a minimum income guarantee separated from work.[7] A culture of resilience should (I think) be engaging in debates like these and, directing work towards their realization.

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Creative Cities
Managing chaos not cleaning up mess

Melanie Dodd

Mess

One of the most disturbing aspects of dialogues about sustainability (particularly in the field of architecture and urbanism) is the absence of culture from any part of the definition. When people talk about sustainability in architecture and the built environment they most often frame it around an instrumentally driven approach, which privileges measurable technical outcomes and building performance values to the exclusion of broader social and cultural complexities. The culture deficit has been particularly evident in a lack of understanding about, and a disregard for the way networks of cultural production, specifically creativity, can promote and engender effective and alternate ways of living in cities, as evidenced in the way that artists are critical to cycles of innovation (Oakley, Sperry, Pratt, 2008).

Furthermore, cities are places of diversity, complexity and difference; ecosystems of barely balanced chaos and flux. Necessarily, policy decisions control cities at the level of the meta-narrative, but are often too imprecise to nurture the small-scale, disruptive but necessary differences between different spaces, cultures and areas. We need to value the 'imperfect' aspects of urbanity and formulate a way forward to manage adaptation and adjustment over time; a matter of managing the chaos rather than cleaning up the mess.

How might we foreground more marginalized cultural and creative practices in cities and acknowledge the way they (provocatively) re-conceptualize and sustain our contemporary lives?

> **'Necessarily, policy decisions control cities at the level of the meta-narrative, but are often too imprecise to nurture the small-scale, disruptive but necessary differences between different spaces, cultures and areas.'**

How might a creative practice of 'managing the chaos' be conceived and undertaken, and what examples can we identify that might help us? Ideas about creativity in the city are not new. In the past twenty years there has been a significant upsurge in writings and debates about the notion of creativity, creative clusters and the creative city 'but as these terms have filtered through to the popular media they have lost their precision and specificity and collapsed into more or less the same generic or bland idea' (Pratt, 2010). His comments point to a growing acknowledgement of the need to move beyond overly broad and generic justifications for the 'creative city' and creative economies within cities. As Pratt says, we need to recognize the 'value of acknowledging the subtleties of historical and locally specific practices of cultural and creative activities; only by taking such an analytic step can we understand the processes animating creative cities, and accordingly begin to develop a range of policy responses to them'.

There are serious problems associated with a lack of detailed analysis on local and specific examples of cultural and creative activities in cities. This has resulted in imprecise interpretations of how creative clusters form, and are sustained. Worryingly, the role of policy driven culture and creative industry-led renewal and regeneration has often resulted in the raising of property values and rents, attracting cultural consumption and promoting city

living, such that gentrification arguably discredits the notion of creativity and at worst, connects it to problems of social inequality. An understanding of the threats to, and from, creative clusters, and further research on the way that (actually) locally specific practices of cultural and creative activities can resist the forces of gentrification, is therefore critical to their sustainability. Central to opening up this research, and to return to our question, we need to focus on the way small-scale creative and cultural practices 'manage the chaos'. Interestingly, it has been found that the influence of key individuals, whether entrepreneurs, family businesses, or artists, are often required to first create and then sustain local networks and facilities. This is especially the case with smaller artist and designer studio organizations and larger community arts organizations, which are critical in the way they provide ongoing and practical advocacy for artists and creative users (Evans, 2011). Perhaps we might call this a type of 'creative agency' where we define 'creative agency' as the capacity to enable others to act creatively in the world, and also the capacity for that agency to enable engagement in broader cycles of cultural production. How does such creative agency (necessarily messy, idiosyncratic and disruptive) operate successfully to sustain cultural production and creative activities, and is the key their particular (small) scale of operation and inherent flexibility?

In the case of arts organizations, creative agency can range from enabling practical aspects of how an artist acts, produces and consumes objects including in space (rooms, studios, galleries, the city) over time (tenancies, residencies, tenures, exhibitions, events), and in specific locations (market, locale, historical and cultural territory) to more ephemeral, enabling, or indirect capacities such as educational support, financial support, and the social and cultural structures and frameworks which encourage and drive creative productivity, and facilitate the intrinsic and instrumental values of its production to be accessible the rest of society. Considering these definitions of creative agency, and cultural production as forming a complex 'matrix' or web of interactivities and enchainment, how can we unpack the constituent parts of the ingredients of the matrix to provide a clearer and more lucid picture – a picture which can acknowledge and illustrate the subtleties of locally specific practices of cultural and creative agency?

For me one critical hurdle lies in how we might represent, make legible, and so understand the constituent components of such a matrix. Since there are both strongly geographic and proximate

qualities to artist's enclaves, alongside virtual and ephemeral networks of social connection, the 'management' of the matrices operates across both the tangible sites of the city, as well as the intangible. The multiple modes of creative agency in the city (spatial, cultural, social and economic) are difficult to communicate through conventional empirical tools and mechanisms commonly adopted by the policy-maker. We need hybrid representations of other values that extend beyond the metric alone, capturing a wider range of scales and qualities, from the local and spatial to the global and virtual.

'The value of "managing the chaos" of creativity in cities might best operate at this micro, or mid scale, and present an alternative to the 'meta' scale narrative and the blunt tool of policy.'

The creative agency of small to medium-scale cultural organization underpins the literature on creative production in cities, since their effects are to engender and sustain creative clusters. But as the 'idea' of creativity has been co-opted and instrumentalized in urban redevelopment narratives, the operative and detail know-how of their creative agency has been successively devalued, if indeed it was ever properly understood in the first place. Yet ironically, it is probably clear that the value of 'managing the chaos' of creativity in cities might best operate at this micro, or mid scale, and present an alternative to the 'meta' scale narrative and the blunt tool of policy. Having a better understanding of the complex web of interactions – the actual creative agency – inherent in these organizational operations, is a key to respecting and valuing what they do, and a critical step on the journey towards reproducing it at a wider scale for the benefit of everyone living in cities.

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Communities of Evaluation

Neil Cummings, Marsha Bradfield and David Cross

PARADE: BarCamp

Context

Markets are brilliant bundles of technologies, assembled to exchange things. All kinds of things – from living labour to resources and foodstuffs as well as public services. And because markets broker our big systems like healthcare and education, they also determine our futures in ways we don't always think about. The most visible form of the market is a competitive one. The neo-classical economic model pictures rational individuals pursuing their own self-interest – without regard for others – as the motive force for markets. The laws of supply and demand that organise these *homo economicus* extrude the values – often represented by a financial price – exchanged, in any transaction. These fundamental elements – rational agents, supply and demand and the 'efficiency' produced by price mechanisms – function in most markets, making them like natural laws.

Except of course, not all economies are markets, and even competitive markets don't actually work like this, or at least, only in theoretical models. And yet, outside of public museums, and some secretive private collections, art, artists and their artworlds reproduce through competitive markets. Even art and design education is riven with 'market forces'. Why have we enabled the values of competitive markets to dominate our recent evaluations of contemporary cultural production? We inhabit a mono-culture of evaluation, and this is not resilient.

Resilient values: evaluative communities

Building resilience in art and design communities will involve learning to value other kinds of values, like care and generosity. It will entail building peer-networks, and prioritising cooperation over individuation and attention seeking. We will need to overwrite scarcity with creative abundance, build a commons of creative resources, enjoy complexity and distribute decision making. We might also need to re-imagine the University as a social enterprise.

Taking our model from resilient ecosystems (where bio-diversity is essential for their reproduction), we intend to research different, varied, even conflictual evaluative communities. We start from the assumption that all values and evaluation take place through social processes that bring actors together into communities of varying scales; from intimate personal exchanges – family gifts, to terrifying international power-trade sanctions. Communities of evaluation give values their emotional, monetary or material texture, and simultaneously enable these communities to be visible. Values, especially abstract values are not qualities of things or people, but momentary judgements – value judgements – given a 'sensible' (meaning apprehensible) form, that can be transacted.

> '*We inhabit a mono-culture of evaluation, and this is not resilient ... to build resilience in art and design communities, we might need to learn to value care and generosity.*'

Evaluative communities choreograph the exchange of values within any given society. These communities are scalable in number, distributed in space (near or far) and variously durational (they can be fleeting, or durable enough to aggregate institutions). As the values they produce persist, the communities themselves become more resilient. Other values are introduced and purged

through feedback loops that test and stretch each community's scope, relative to other communities in their proximity.

Examples of evaluative communities may include (and in no particular order):

- Skill sharing networks, like maker libraries, communal workshops and hacklabs
- Blood and organ donation systems (commons-like resources)
- Wikipedia, bitcoin, archive.org and Creative Commons as digital commons
- A tournament of evaluation – An art auction – (art's value as purposive purposeless (Adorno) is useful for its circulationin competitive markets, but is it a price we can still afford?)
- Time banks, where time replaces money as a currency
- Localised currencies – such as the Brixton Pound
- Non-human values; biotic, geological, machinic
- Crowdfunding / skillsourcing and non-financial enthusiasm communities
- Microfinancing networks
- Reputational ecosystems
- Reading groups, knitting circles and other discursive cells
- Economies of attention
- Temporary and fleeting evaluative communities, such as festivals like Roskilde, Burning Man or Glastonbury
- Gift economies: various volunteer and exchange communities and their hidden obligations
- Upcycled Waste-management streams, and repurposed asset valuations
- Occupy Finance – *ie* Ethical investment, communal ownership of public resources, or other forms of resource management
- Imaging alternative forms of profit, loyalty and fandom

What are the values we value in peer-2-peer exchanges, or commons-like and communal creative resources? How do we recognise the social processes through which values in art and design are valorised?

> *'Evaluative communities choreograph the exchange of values within any given society. These communities are scalable in number, distributed in space (near or far) and variously durational (they can be fleeting, or durable enough to aggregate institutions).'*

Conflicts in expert and non-expert evaluative communities?

In an attempt to insert different values into political discourse, the New Economics Foundation designed a 'happiness index'. In 2010 they persuaded Prime Minister David Cameron to launch a £2m plan to measure the nation's happiness, with the Office for National Statistics collating data as people rated their own well-being and happiness. This is a double edged sword; to make happiness accountable to public policy, NEF economised happiness and gave it a price.

We are interested in exploring the complex assemblies of value that art and design can generate, and then to try and test whether these values can be resilient – values that persist after their (inevitable) competitive market expropriation. We aim to produce meshworks rather than monocultures of evaluation. We intend to assemble a new lexicon of resilient values for the 21st century, and new 'communities of evaluation'.

We will collaborate with artists, designers, economists, academics, ecologists, anthropologists, civil-society groups, donorpreneurs, sales-persons, activists and others.

CoR members Neil Cummings and Marsha Bradfield are both members of Critical Practice, and David Cross has worked with the cluster on various projects for more than five years.

Caretakers
Revaluation & appropriation

Sarah Temple

The Caretakers: A humble village Hall, 2014

'Attentive discussion' around notions of resilience

A suggestion that Resilience is a vitally important strategy immediately provokes a critical response in me. Resilience to me suggests suffrage and repellence, a defence position while at war. A dam stoically holding back a flood. A 'pliable' entrepreneur ready to ride the market. A battered wife trying to cope. An ambitious jobseeker, willing to lie on his CV, if that us what it takes. A community determined to retrench once the hurricane passes through. It suggests to me a short-term response to adversity from which there is no guarantee the human spirit will survive. Resilience tends to run out.

Okay, let's accept that being resilient and willing to change is *sometimes* good for us. But changing your mobile phone every six months is downright irresponsible. Is redundancy *really* desirable? A dedicated follower of fashion may adhere to frequent radical transformations but is this lifestyle sustainable? An evolutionary biologist would cite bacteria, rats, cockroaches and termites as adaptable experimenters but should mankind seek to emulate these stoic little survivors? Mary Shelley wrote the apocalyptic *The Last Man* in 1826 warning of technological excess and the questionable value of survival. In Greek mythology Phoenix, the resplendent bird, is constantly reborn from its own ashes. (The Phoenix, incidentally, is the symbol of Beirut, a city weak from constant bombardment). I propose that adaption and reproductive success may matter less than collective intelligence and empathetic ferocity.

> *'... preservation is more desirable during this current period of unprecedented exponential change, than abolition and regeneration. I wish to play a Caretaker in this project, concentrating on maintenance as a strategy for anticipating the future.'*

I was attracted to the CoR Project to argue the case that genuinely valuable assets are pretty rare, that they need identifying and treasuring in order to pervade for generations. I wish to argue from an 'anti-design' position which insists that preservation is more desirable during this current period of unprecedented exponential change, than abolition and regeneration. I wish to play a Caretaker in this project, concentrating on maintenance as a strategy for anticipating the future. I am seeking to transform public perception of a Luddite and a Conscientious Objector, celebrating their ability to see the ethical dimensions of a bigger picture. (The Luddites, of course, were the 19th-century textile workers who protested against newly developed labour-saving machinery introduced during the Revolution, which threatened to replace artisans with less-skilled, low-wage laborers).

Seeking a permaculture

I was attracted to the CoR Project as a result of three related projects that I have undertaken at the London College of Communication. In 2011, I established Conscientious Communicators with Tara Hanrahan at the LCC. It was formed to develop and consolidate a

community of practice around environmental and social creativity. It is an informal cross-disciplinary group of students, staff and Industry practitioners who explore sustainability and social responsibility in practice and within the curriculum. I am proud to say that we have now successfully established a diverse community at LCC of involved practitioners (filmmakers, designers, journalists, designers) and are very inspired to be sharing and developing the ethical & sustainable ideas and motivations that we have in common.

Last February I curated another Green Week of events and intervention entitled: *Survival.* Through a project called Critical Mass, it looked at: historic communities who had rejected consumerism, at what Future Pharmacy might look like, at Paleo fitness and primary play, at Dark Cities and Reverse Archaeology. Exploring 'survival methodologies' encouraged LCC students and staff to create bio-composites, to eat insects, take part in an immersive installation entitled 'Small Global', to follow the Folk calendar, to rewild the Elephant & Castle and to return by feral techniques to basic principles of Permaculture. Reflection on this combination of experiences allows me to understand my current position.

In 2012, I was invited by Neville Brody, (before his appointment as dean of School at the RCA) to take part in the Anti-Design festival. The experience allowed me to decompose my discipline, to explore how design contributes to consumption and commodity and to consider how analogue cultures may be more desirable and even exotic than technological ones. This formative experience challenged me to consider that we have perhaps, as Neville suggests, traded 'freedom for peace'.

Luddites & objectors

Early discussions with the cross-UAL working group on Cultures of Resilience have proved very inspiring, as we have debated features of system organisation that we individually favour. I have been surprised to find myself falling between the 'auto-organising systems' camp and the 'cohesive systems' troupe, which broadly value humanism over artificial, technological salvation. I align with empathy, investment, participation, trust and reputation. I find myself reflecting back to Rousseau who believed that unhappiness in civilised societies was caused by the need for material possessions and that community, understanding and trust are all we needed for a fulfilled and happy life. This may seem naïve and 'romantic', but I realise that they underpin my own values and my commitment

to the Green Movement. How odd I feel in 2014, arguing like a Victorian about the dangers of technology! I have seen so much 'progress' in my short lifetime that I have lost faith in the notion that the Future offers us much scope for optimism. I yearn for less.

Groups discussions at UAL have prompted me to adopt ideas of 'indigenous conservationism' in these times of scarcity. The 17th century philosopher and conservationist Jeremy Bentham proposed localised utilitarian measures: 'the greatest good, for the greatest number, for the longest time'. Let's organise an amnesty. Let's not make more, let's eliminate, value and share out what we have?

> *'... the best utilities reside beyond the objects themselves in the emotional connection with and between the users. In essence, I am interested in communities, the emotional nonobjects and nonspaces between participants.'*

Things are emotional. The space between things interesting. Socially organized systems rely on old-fashioned ideas of co-operation and non-materialism. This reminds me of Branko Lukic's *NonObject*. His approach is the thought that the best utilities reside beyond the objects themselves in the emotional connection with and between the users. In essence, I am interested in communities, the emotional nonobjects and nonspaces between participants.

Insurgency & optionality

In the past I have been encouraged to behave like a Flaneur, to constantly revise my options and actions as I progress. I now rebel against this optionality and open-mindedness. Adaption and modification may suggest progress and fluidity but it no longer has the clarity and co-operative approach needed as a long-term strategy to flourish in a world of increasing complexity and turbulence.

My intuition tells me that conservation and preservation are now appropriate systematic strategies. I am compelled to seek insights into the properties of survival, which may give us a clearer understanding of what makes an innovation resilient, stable or durable.

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Resilience and Places

Resilience as an Emerging Scenario

Rethinking community based services for the elderly

Alison Prendiville

The UK is facing a number of political, economic and social challenges that are interwoven with the theme of Cultures of Resilience. According to Gooby (2012) the social programme of the 2010 UK Conservative-Liberal Democratic Government aims to set the UK on a 'trajectory of permanent lower spending, lower debt and market led growth, leading to containment of pressures on the state and shifting responsibility in many areas from state to private providers, citizens and the community'. Such bold measures have consequences for most of the UK but more for those communities and individuals that are vulnerable and on the margins of society (p.66). Concurrently, as an ageing population with ten million people in the UK over 65 years old and with this figure projected to increase by five and half million elderly people in the next twenty years, there are particular pressures on how community

services may be reconfigured to address the changing landscape of restricted budgets and increasing social care needs. In London, commonly presented as a city for the young, the elderly population is predicted to grow rapidly with over 65s likely to increase by 46 percent (almost 600,000) to reach 1.85 million by 2029 and the over 90s population expected to double to 91,000 (London Medicine: http://www.londonmedicine.ac.uk/health-economy/population-growth-and-ageing – accessed 18.09.14).

> *'When considering resilience, human actions of collaboration, generosity, care and empathy, must be understood in terms of their social and material configurations within a location and how they are formed over time.'*

According to the (2007) report 'Age Friendly Cities' older citizens in cities are less likely to have contact with neighbours, fewer friends and other non-kin than rural communities. Furthermore, 'wellbeing in later life is often taken to emerge independently of the environment in which older adults find themselves, overlooking how the urban environment mediates many of the challenges and opportunities available to older citizens'. The report acknowledges how generations have often become separated either by design or by population movement of younger people in and out of urban environments with the ageing of citizens once they are 'in place'. The prohibitively high costs of living in London means that for young people they are increasingly forced to move away from the city often leaving elderly family members isolated and alone. Neighbourhoods with high levels of rented accommodation exacerbate the situation with transient populations of students or working people becoming temporary residents with little interest in forming long-terms relationships with their neighbours. For Oswald et al (2005) as people age they tend to spend more time at home and the immediate outdoor environment than younger people, with poorer groups more attached to their immediate neighbourhood, and this raises questions on how places evolve and support elderly citizens.

Through the lens of Design Anthropology, this project explores the importance of relations, temporality, materiality and locality in understanding resilience within a community of older people in a London borough. As a starting point it takes Design Anthropology's characteristic of engagement with 'peoples and places where a problem is not always given' (Gunn and Donovan, 2012:11).

Blomberg and Darrah (2014) see 'anthropology as looking beyond the individual to understand the meanings and motivations of human action' and when considering resilience, human actions of collaboration, generosity, care and empathy, must be understood in terms of their social and material configurations within a location and how they are formed over time.

The paper aims to address through a London-based service design project, anthropological conceptual frames that can be made visible through design, and that make communities resilient. Building on the seminal work by the anthropologist Appadurai (1996:178) locality is 'primarily relational and contextual rather than as secular or spatial'. Extending this explanation further he presents place as 'a complex phenomenological quality constituted by a series of links between the sense of the social immediacy, the technologies of interactivity and the relativity of contexts.' Appadurai acknowledges the work of Malinoswki (1961) and his recording of the 'magical ways, in which small scale societies do not and cannot take locality as a given. Instead, they seem to take it for granted that locality is ephemeral, fragile and unless hard and regular work is undertaken to maintain its materiality, it will disappear'. Gupta and Ferguson (2001) also explore how our understanding of locality and community are formed and lived and answer by suggesting that we look 'away from the common sense idea that such things as locality and community are simply given or natural and turn towards a focus on social and political processes of place making conceived less as a matters of 'ideas' than of embodied practices that shape identities and enable resistances.'

> *'Building on the seminal work by the anthropologist Appadurai locality is primarily relational and contextual rather than as secular or spatial.'*

Design is a process that draws people together through co-designing, making the exploration of social relations possible through the materials, collaborations, enactments and performances (Gunn and Donovan 2012:7). For this project on resilience, context based methods and practices will be developed throughout the design process to inform the work and embodying a humanness that 'like the lives it follows, is inherently experimental and improvisatory with its aim to both enrich these lives and render them more sustainable' (Gatt and Ingold 2013).

In contributing to the CoR theme of 'resilience as an emerging scenario', I wish to incorporate 'anthropology's concern with making tangible what allows people to keep on going and the ways people are making sense of technologies, systems, plans while carrying out everyday practices' (Donovan 2011 in Gunn and Donovan 2012:12) into the design of locally based services for the elderly. The emphasis for this work will be on the exploration of co-created services that articulate Suchman's wish of not seeking 'massive change or discontinuous innovation but modest interventions within ongoing, continually shifting and unfolding, landscapes of transformation' (Suchman 2011).

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London Transcience and Community Spaces

Building links between communities through spaces that encourage generosity

Silvia Grimaldi

BA Spatial Design students from London College of Communication engaging the college student community in a feedback session for the redesign of a sustainability-themed library space.

London is not only a multicultural city, but also a city that plays host to a lot of transient people. People are transient in London for different reasons. There is a very high student population, who come to London for 3 years and then leave. There are also large amounts of people who come to London for a few years to work or study English and then go back to their home countries. Young British people move to London for studies or for work and move back to their home counties when they start families.

The state of the housing market in London also contributes to this transience. Most London areas are now too expensive for a family with two working parents on average incomes to ever dream of buying a flat. Council housing is almost impossible to obtain as most councils have thousands of families on their waiting list.

So people are stuck privately renting on the standard one year contract, subject to the whim of landlords who may decide to not renew a lease or hike up the rent cost. As more and more areas of London get gentrified and more expensive, people who used to be able to afford to rent within London are driven further and further out.

'The challenge is to build communities that are resilient enough to withstand this clash between transience and permanence within the same space and are able to cross cultural boundaries.'

This has a huge impact on the fabric of neighbourhoods. Communities are often doubting of each other's motives, the transient private renters are seen as the agents of gentrification, while those living in council flats or own their own home are resented for the perceived privilege and stability. In addition, the cross-cultural nature of London neighbourhoods, and in particular of the transient communities, means that contact between groups becomes even more challenging as people may not know the conventions of behaviour within the community they are entering. A good example of this is international students, who may not be aware of how and when it's appropriate (or not) to say hello to a neighbour or initiate a conversation.

The challenge is to build communities that are resilient enough to withstand this clash between transience and permanence within the same space and are able to cross cultural boundaries. Some of the points of contact between different sections of the community within a neighbourhood already happen with universal talking points: when someone gets a dog or has a baby, they immediately have something in common with a whole sub-section of the neighbourhood; the dog park, baby group or school gates become typical touch points for mixed communities to form. However, these points of contact in a busy city are few and far between. The challenge is to create more of these points of contact to encourage the formation of more solid communities. This is especially relevant in light of our current society's focus on profit-making and the privatisation of places and spaces that used to be public and used to host public life and opportunities for contact.

'This could start from a modification of the neighbourhood's physical spaces, creating touch points or places for encouraging particular behaviours.'

Generosity and collaboration could be good ways to create cohesive systems for mixed transient and non-transient communities. This is said not in terms of trying to create utopian scenarios which realistically are not possible, but through design interventions trying to encourage a change of attitude in a few people within a few specific locations. These small changes in attitude in small amounts of population, whether it is two people talking to each other for the first time or someone changing the way they relate to a particular space, feeling more comfortable in it for example, might have a knock on effect when people interact with each other within neighbourhoods.

This could start from a modification of the neighbourhood's physical spaces, creating touch points or places for encouraging particular behaviours. It could be achieved through setting up community-wide spaces for sharing (skills, objects, tips, *etc*), or through simply creating opportunities for friendly encounters and conversation starters woven into the urban space. Creating opportunities for play in public spaces, or creating spaces that foster common narratives, is a good way to change the mood of a space and as a consequence the mood of people passing though it or staying in it. Designing to encourage playful and meaningful social interaction within public or semi-public spaces to help foster a sense of generosity in the local community, could affect the ways in which members of those communities see each other and interact with each other.

These systems and spaces will not necessarily be universal or transferable to other neighbourhoods, but may be specific to a particular situation and a particular area. Starting on a small scale the projects may then be replicable or adaptable in other neighbourhoods or other cities.

Resilience and Specific Topics

Ageing and Digital R&D
How to be a resilient researcher of social isolation

Amanda Windle

I am going to be reflexive on the promises of a digital R&D project entitled 'Silver Service' that aims to reduce social isolation by engaging an audience aged 65 and above in arts and culture events supported by technological innovation. Working collaboratively with our main arts partner artsdepot and a technology partner Ingelby research has been engaged throughout the UK predominantly in north London, Warwickshire and South Lakelands. The research has been partnered with the Warwick Arts Centre and Brewery Arts Centre with support from AgeUK. The project aims to build a digital tool, a platform bespoke for this group but only if it is possible, wanted, needed or relevant. It is important for a researcher to be reflexive so as to inform the continued trajectory of an R&D project though this takes resilience, but around what? In this case it will be the term 'social isolation'.

Social isolation is related to 'being-lonely' rather than to the more active action of 'being-alone'. Social isolation is a commonly used phrase related to ageing that can be loaded with complex negative feelings like shame and embarrassment. Becoming-isolated is a process that can happen to anyone as the Research Manager for AgeUK, Dr Marcus Green pointed out to me in a recent stakeholder interview. Being-alone is the opposite of being-lonely. It is this last sentence that I want to do some reflexivity around and demonstrate resilience.

> *'Social isolation is related to "being-lonely" rather than to the more active action of 'being-alone'. Social isolation is a commonly used phrase related to ageing that can be loaded with complex negative feelings like shame and embarrassment.'*

Resilience in this context is a turning word full of action like sustainment. Resilience is sustained over time. In a research context it fits well with what is described as 'rolling impact', the ability to show impacts on research as we go along, revealing research in the making whilst thinking it through. This is the purpose of this text: to show resilience around the term social isolation as the project rolls along.

I've now introduced the relation between the subject of social isolation, the method of reflexivity and the temporality of resilience. There are two resilient moments I will now discuss to show how this is done. The first involves an auto-ethnographic moment of hanging out at a field site in Warwickshire, and the second relates to a finding in the user-testing of various forms of online booking systems with our stakeholders.

As I sat during a weekend just gone in a field site in the middle of England, I pondered social isolation from a personal perspective. Each time I ate out over three days, be that breakfast in my hotel, lunch in a café or dinner at a theatre's restaurant, I was sat in far off corners, in walkways next to the bar, or in tables far away as possible from the social groupings of couples, families, and larger celebratory gatherings and get-togethers. Even the solo murder-mystery guests of my hotel did not dine alone. It was as if to be set aside and at that moment I felt the term's implied action. I didn't want to be removed from the social even if I wasn't necessarily joining-in. To eat alone and to sit at a table carried with it a stigma I hadn't experienced for a long time. I embrace dining alone, when dining in cosmo-political places like London or Paris,

or even the quiet mountainside of the Italian republic of Triente; I simply relax and enjoy being-alone whilst amongst the social. I do not ask for sympathy or pity, which is often what the waiters expressed towards me. No, I realize to research is a privilege and an enriching experience even if the atmospheres are not always pleasant. Experiencing the stigma of social isolation first hand was an act of resilience – of resisting becoming stigmatised as being socially-isolated and of being-lonely. Each time I was resiliently holding onto the act of being-alone in a social environment, and that this experience would be pleasant and amiable. What then makes this reflexive rather than just reflective is thinking how this experience might change the way I think about social isolation in the research project at large. By reflexively getting in touch with the project's key term 'social isolation' auto-ethnographically which I did by staying around a field site (beyond the working week) mid-way through the stakeholder interviews, I was able to bring a deeper consideration of the term to play. This leads me to the second part of my writing.

> **'Resilience in this context is a turning word full of action like sustainment. Resilience is sustained over time.'**

A digital tool built to reduce social isolation should not bind within its usability the stigma toward those that are pleasantly attending-alone. As one stakeholder said to me when interviewed (unprompted) and to paraphrase, being 65 and perhaps being alone is to be at the prime of life, to rediscover and rekindle the activities one may not have done beforehand and to embrace them on one's own. Adults of any age may choose to be alone and to embrace it for long lengths of their life. Not all digital platforms need to enforce group behaviour like Twitter, Facebook, Friends Reunited, or WhatsApp to name but a few social forms of digital media. There is a trend in digital R&D to do just that, to focus on group innovations but at the cost of other forms of being-social.

I hoped to take on board resiliently that for every action of loneliness counteracted upon in a digital R&D project there might also be a production of something else – a stigmatisation and a loss of the joyful action of choosing to be happily alone not just for the 65+ audience but for all ages of arts and theatre audiences of which I count myself amongst. When analyzing the stakeholder booking tests two weeks later I got my opportunity to be reflexive.

When asking stakeholders to make an online booking the recordings of those digital journeys showed that choosing a theatre seat can be defaulted for individuals or group bookings. Most stakeholders demonstrated booking for one as they were interviewed alone but several theatre systems stretching beyond our three field sites default to two seats, which might infer to an attendee that to book alone or separately is not the usual occurrence. This is however, not the same in other forms of online booking like booking a cruise or booking for a flight. Booking in these instances is one seat at a time. A system that helps groups may help those already engaged whilst at the loss of freedoms of being social as an individual attendee, which is a form of attending a arts and culture event. Making a booking via the box office to seek face-to-face interaction is a way of making booking a social activity. However, making an online booking default to two, maybe doing quite the reverse.

Building Resilience of Returning Citizens

Creative ways to survive prison and thrive outside without crime

Lorraine Gamman and *Adam Thorpe*

Resilience: 'the capacity of a system, enterprise or person to [find] and maintain its core purpose and integrity in the face of dramatically changed circumstances.'

(Zolli and Healy, 2012)

Crime and resilience

Ideas about law and criminality are made and read in history, often linked to contestation, ethics, status and power. A 'criminal' is not just a simple description of those who commit crime, but also a toxic label. As the philosopher Foucault (1982) describes, such definitions are part of a powerful 'discourse' that informs subjectivity, cultural norms and values. Consequently, 'criminal' is not an easy label to ignore, yet 'criminality' or 'offending' does not define a person. To be a 'criminal' or an 'offender' (someone who breaks the law) is only one expression of a person who commits crime. Nevertheless, connotations of the label 'criminal' overshadow virtually every other identity definition.

There are of course many different types of crime (*eg* acquisitive, violent and sex crimes), and accordingly, many different types of 'criminal'. Here we consider the activities of prolific individuals who are self-directed and commit acquisitive crime as a sort of quasi 'trade' or 'profession' – a way to make a living. Such individuals may not 'work' in the traditional sense, but they are very active and entrepreneurial in terms of finding opportunities (Garwood, 2011; Felson and Clarke, 1998) to rob, swindle, thieve or drug deal *etc*. Such individuals appear to make money through small, repetitive and acquisitive crimes rarely aligned to organised crime *eg* not managed but rather self-managing. They invent their own day and rely on themselves and self-directed scripts and routines, as well as their own networks, for the opportunities they create in order to survive. These individuals present an apparent expression of resilience in terms of what has been called 'bounce backability'[1] or more significantly what (Adger, 2008)[2] defines as 'the ability to absorb disturbance, self organise and to learn to adapt' – a definition of resilience that was subsequently redefined by Edwards (2009) as 'the ability to adapt in order to sustain an accessible level of function, structure and identity'.[3] Certainly, both definitions of resilience seem apt to explain the self-managing criminal approach that also links to the account of 'effectuation and contingency' described by researcher and author Sarasvathy (2008) when exploring the principles of effective entrepreneurship. So what exact characteristics of resilience do some of those that commit acquisitive crime express (and which do they lack) and what are the systemic and cultural 'qualities' that individuals exhibit in doing so? Referring to the keywords that surfaced within the CoR workshop,[4] the 'qualities' of a person that commits crime seem to cluster around 'risk taking and chaos embracing' (even creating) also 'disruptive and generative attitudes'.

> '*The challenge in relation to resilience in this context is not that of helping 'criminals' to survive the criminal justice system so as to bounce back to commit more crime, rather to bounce forward towards a new self-definition and determination – a new way of living.*'

To understand these 'qualities' better in terms of crime contexts, we observe that those that commit crime accept or ignore the *risk* associated with the *uncertainty* of 'getting away' with a criminal act. They find opportunity*/serendipity*

in the *randomness* of everyday life; an open door here, an unattended bag there. (Home Office figures suggest that 80% of crime is opportunistic). Some who earn their living from crime, though not all, respond *creatively* to and / or manipulate 'real world' context(s); *disrupting* the dominant scripts of the *un-programmed* everyday encounter with their *adaptive, embodied, reflexive practice.* Some criminals we have talked to describe this experience as being 'constantly on your toes' (Gamman, 2012). Often such practices of crime are *regenerative* too in that the modus operandi involved receive positive feedback from success, creating *exemplars* of practice that enable certain crimes to be resilient, enacted by other peers beyond the capture and incarceration of the perpetrator that *authored* the scam. It is here, at the point of detection (of a crime) and detention (of the person that commits crime) that the resilience of the system (crime) and that of the principle agent within the system (the person that commits crime) implode and part ways. The system of crime resides despite the removal of the perpetrator (of the prosecuted crime) from the system. The perpetrator is less likely to cope with this extreme change to their circumstances. Whilst perpetrators may demonstrate *daring and risk taking*, as well as creativity, in their criminal actions, these qualities of resilience are thwarted by an absence of other resilient qualities. For crime is not *error friendly.* If a successful outcome for the perpetrator is to get away with it then an unsuccessful outcome may see the perpetrator detected, apprehended and prosecuted. *Making mistakes and failure* in the context of a criminal event is a form of fragility (Taleb, 2012) that can lead to imprisonment. The perpetrator may see this inbuilt fragility as lived experience from 'crime as trade', as reliant on 'luck which inevitably runs out' (we discuss this in terms of the 'dark side of creativity' in Gamman and Thorpe, 2011). The discourse of risk as 'luck' (given the probability of luck running out) militates against the future resilience of a person that commits crime. The challenge in relation to resilience in this context is not that of helping 'criminals' to survive the criminal justice system so as to bounce back to commit more crime, rather to bounce forward towards a new self-definition and determination – a new way of living. This new way of living should make them more resilient, more able to use Zolli and Healey's (2012) definition 'to *[find]* and maintain *[their]* core purpose and integrity *[making a living]* in the face of dramatically changed circumstances', such as those in which a person who meets their needs via criminal means no longer seeks to do so.

Society needs to reduce the incidence of crime and its impacts. This is because the costs of crime are debilitating and unsustainable for the victims of crime, the perpetrators of crime and wider society. On average the annual overall cost of a prison place in England and Wales for the financial year 2011–12 was £37,648 (Ministry of Justice, 2012). Furthermore this process of incarceration is ineffective in the face of the resiliency of the system of crime, whilst severely damaging the human resilience (as opposed to criminal resilience) of the person who commits the crime. Prosecution and imprisonment produces a criminal record that 'fixes' a person's identity as a 'criminal' or 'offender' in the eyes of society, and produces well documented behavioural responses amongst those imprisoned including constantly hiding their feelings to the point of repression, particularly of empathetic connections (resulting in the creation and adoption of a hard and impenetrable 'prison mask'[5] – a metaphor that many theatre companies who work in prison refer to). This 'identity trap' rather than ('personality' type) keeps many offenders in the same place as is evidenced by reoffending rates that are estimated to have cost the economy between £9.5 and £13 billion in 2007–8.

> *'Art and design, as participatory creative processes, can help people who are imprisoned for committing crime to be more resilient ... in a society that denies them the opportunity to live through criminal means.'*

The challenge therefore is for those who commit crime to want to, and be able to, find alternative ways to live. Rates of recidivism within the criminal justice system appear to demonstrate that the current approaches are failing to positively support the transition from 'criminal' to 'returning citizen'. The prison system is currently overcrowded and linked to recent and predicted further cuts to public funding may become overwhelmed, further impeding its effectiveness at reducing reoffending. Alternative ways and means are required.

With Anderson, Colvin et al (2010), we argue that art and design, as participatory creative processes, can help people who are imprisoned for committing crime to be more resilient (linked to pathways 2 and 7 in Fig. 1 on p.71–2) in a society that denies them the opportunity to live through criminal means.

Fig. 1 The seven National Offender Management Service (NOMS) pathways to reduce reoffending are:

1   Accommodation and support

A third of prisoners do not have settled accommodation prior to custody and it is estimated that stable accommodation can reduce the likelihood of re-offending by more than a fifth. It also provides the vital building blocks for a range of other support services and gaining employment.

2   Education, training and employment

Having a job can reduce the risk of re-offending by between a third and a half. There is a strong correlation between offending, poor literacy, language and numeracy skills and low achievement. Many offenders have a poor experience of education and no experience of stable employment.

3   Health

Offenders are disproportionately more likely to suffer from mental and physical health problems than the general population and also have high rates of alcohol misuse. Not surprisingly, 31% of adult prisoners were found to have emotional well-being issues linked to there offending behaviour.

4   Drugs and alcohol

Around two thirds of prisoners use illegal drugs in the year before imprisonment and intoxication by alcohol is linked to 30% of sexual offences, 33% of burglaries, 50% of street crime and about half of all violent crimes.

5   Finance, benefits and debt

Ensuring that ex-offenders have sufficient lawfully obtained money to live on is vital to their rehabilitation. Around 48% of prisoners report a history of debt, which gets worse for about a third of them during custody and about 81% of offenders claim benefit on release.

6   Children and Families

Maintaining strong relationships with families and children can play a major role in helping prisoners to make and sustain changes that help them to avoid re-offending. This is difficult because custody places added strains on family relationships.

7   Attitudes and Behaviour

Prisoners are more likely to have negative social attitudes and poor self-control. Successfully addressing their attitudes, thinking and behaviour during custody may reduce re-offending by up to 14%.

Source: http://www.emcett.com/Offender_Learning/list/the_seven_pathways_to_reducing_re_offending

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1   A phrase coined by Ian Dowie, Crystal Palace manager.
2   www.resalliance.org
3   This definition is developed by Edwards in *Resilient Nation* (Demos, 2009) and was evidently reached by combining definitions from Walker, Adger and others.
4   http://www.culturesofresilience.org/wordpress/?p=55
5   Prison masks are discussed by Travis and Waul (2003), p.13: 'prisoners…develop an unrevealing and impenetrable prison mask and simultaneously risk alienation from themselves and others.'

Elastic Learning Tools
Teaching material resilience

Rebecca Earley and *Bridget Harvey*

A colleague at Chelsea who teaches on the BA Textiles course – a well respected industry professional who has carved an illustrious career from designing knitwear – would not let her daughter study textiles at school. For the field that she knows to be highly innovative – exciting and daring even – as well as socially engaging and impactful, is taught in such an out-dated and uncreative way that the colleague feared it would destroy any interest or enjoyment in something she views as vital to a quality of life.

Textiles are in and of themselves are resilient. Textile constitution and construction create hardwearing and long-lasting cloth, material-with-potential. After fabrication this resilience drops. The actions of cutting and stitching do not weaken the inherent structure of cloth, but, perversely, do weaken cloth resilience. By being formed into 'fashions' and sized clothing-objects, cloth becomes temporally situated; form giving a finite life span that the material-with-potential did not have. The giving of form is the taking of resilience.

The other paradox in this situation is our resilience towards clothing-objects – in the face of ennui, signs of use and advertising, our resilience in retaining and maintaining our wardrobes, particularly in the case of uniforms.

> *'Clothing links us physically and metaphorically to the world. We can use it to locate ourselves, develop new ways of seeing, comprehending scales of production from seed to product ... clothing is a material pin in our relational map.'*

This poses the question, how can we strengthen both the material and the human resilience of these post-fabrication clothing-objects? How can we develop tools and skills and mind-sets to move towards more resilient textile and clothing systems?

The ubiquitous school uniform gives a starting place to explore these questions, to challenge the out-dated and under-resourced school system; to innovate with cheap, local, low impact and tactile approaches fused with social network and online accessible resources and support, to work with the young designers and consumers of tomorrow. Designers must become systems thinkers, empowered to enable the rapid change that is urgently needed.

Enlightened economists are arguing for new, more democratic industrial systems to bring about better employment of planetary resources and people. Architecture is challenging the environmental, social and aesthetic impact of the Victorian house with radical new living shapes created from innovative materials. These efforts towards resilience can also be seen in those challenging our current school system – an inherently Victorian model – with a focus on the need for creativity, hands-on experiences, and a deeper appreciation for the world we are educating our children to inhabit.

Resilience, in this context, incorporates *learning, trust, reputation, evaluation, reflexivity* and *flexibility*. As safe places for experimenting and exploring, schools need space for iterative learning through play,

making and storytelling. Resilience requires trust in those with deep expertise willing to be part of the curriculum and being prepared to build institutional reputation through this exchange. Rejecting the downward slide to the numerical standardisation of assessment and instead crediting our children with their achievements, the quality of their thought processes and their ability to discern between information (Mitra, 2014); to be reflexive and flexible. Assess their resilience.

Clothing links us physically and metaphorically to the world. We can use it to locate ourselves, develop new ways of seeing, comprehending scales of production from seed to product. As 'local' becomes a value and experience rather than geography (Schwarz, 2013, p.38), clothing is a material pin in our relational map.

We know a greater connection is needed between the consumer and those producing clothing and suffering the effects of production values and the post-consumer life of our textiles. In schools, clothing needs to be scrutinized. The neglected space of uniform is the focus of our inquiry and a site for building a resilient-textiles-system.

> *'Resilient-textiles-systems use localised care and repair paradigms with adaptable frameworks, mediating global traversing of textiles, using a bricolage of tools, techniques and agents.'*

Children in particular are hard on their clothes – running, falling, spilling and so on – should we aim not to cicurate but to help them remedy mishaps, making time to care for clothing, rewilding garments through the freeing-ness of mending? Visit any primary school in the country to find a lost property area stuffed with neglected clothing. For many, not all, it is cheap and replaceable, not warranting time spent cleaning or mending. Some schools have parent-run shops but these are not creative places, and damaged goods very rarely get remade. School uniform has no impact on academic achievement, but plays another role as a social signifier and the basis of peer interaction. It is a child's first formal sense of self through dress.

Topical learning – politically, environmentally and socially – playful and experiential, not sought solely through through tablets or phones (ironically Steve Jobs forbade his children to play with screens), we propose to counter the bombardment of advertising we are exposed to from the labour ward onwards, by

advertising different choices, creating situations where, avoiding a 'totalizing ideology or subjectivity' (Trend, 1998), we give children space to experiment, make ideas and to decide for themselves. Resilience is the power or ability to return to the original form or position after being bent, compressed, or stretched; resilience is elasticity. Resilience is also the ability to recover readily from illness, depression, adversity, or the like; resilience is buoyancy.

We propose that a resilient-textiles-system reacts to 'stretches' of its resources into forms (fabric to clothes), experiences of / with those forms, and supporting logistics. Located in / reflecting on history, use and practicalities, resilient-textiles-systems have the elasticity to return to original forms (clothing to fabric), uses (being worn) and capabilities (eg waterproof). Resilient-textiles-systems use localised care and repair paradigms with adaptable frameworks, mediating global traversing of textiles, using a bricolage of tools, techniques and agents. Resilient-textiles-systems are a use-loop on various scales (off)centred on users and / or materials.

Tools are simply things that helps us do what we need to do, how we need to do it. They may be multi- or mono- purpose, physical or immaterial, manual or mechanical, may require one or many operator(s). Designerly ways of being include observing, listening and empathising, experiencing as self and other, comprehending and translating, sharing, physically, mentally and emotionally. Designers are tools in and of themselves, and create tools for others.

Experimentation using that to hand, referring to but not mimicking Make-Do and Mend values, could have high impact. Design and creation of artefacts giving space for play, communication, inspiration and peer-to-peer learning can engage users with problems and information; an inside-out garment could lead to inside-out thinking.

Elastic Tools could help us navigate advertising and ethics, choices through newness and oldness, and develop abilities to (re)make from our personal stash creating buoyancy, retained and shared through informed decision-making and action taking, learning from one another and experience. Uniform gives us a site from which to think radically about the hands-on and low-tech activities in schools and at home, and teach non-uniform resourcefulness, resilience and elasticity, creativity and innovation. For outside the curriculum box and inside the child lay the answers we are looking for.

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Synthetic Resilience

Can synthetic biology help mitigate and adapt to global environmental challenges?

Carole Collet

We, as humans depend 100% on planet Earth to continue to evolve as a species. The very natural system we depend upon is under serious human-triggered and global threats, yet we are too distracted by short term thinking to face the long-term implications of our exploitative attitude towards the planet. And when we do try, we face the complexity of global politics and fail to reach impactful decisions. The recurrent inability of the climate change summits to help reach and implement effective action plans is one of but many examples. And we have seen the potent impact of extreme disruptive weather patterns around the world in the past decade. We are beginning to feel the consequences of the way we

have devised toxic agricultural and manufacturing systems in the 20th century in our day-to-day lives. So we turn to the notion of resilience to explore how we can better adapt to a changing world. But in my view there is no point to foster a culture of resilience if it is detached from how we design, produce and dispose of the 'stuff' around us. There is a risk that we continue to think of us as detached from the health of Nature, and simply explore ways to adapt as opposed to ways to mitigate and reverse our negative impact on the planet. I believe that a culture of resilience cannot be detached from fostering a different approach to our material production and consumption.

> *'... there is no point to foster a culture of resilience if it is detached from how we design, produce and dispose of the "stuff" around us.'*

So how can we radically rethink the way we design and manufacture? By investigating how nature has developed resilient life strategies for the past 3.8 billion years, we can explore models of life evolution that can inform our future. For instance, a plant fabricates new leafs at ambient temperature with very few molecules and without endangering its neighbours, nor polluting the soil it depends upon to survive. There is a lot we can learn from biological systems, whether we attempt to imitate them or whether we develop co-working strategies with them. However in the quest to get close to fabricate like nature does, we have reached an unprecedented step in humankind. We have devised bio-technological tools to create and design new living species. With synthetic biology, we are developing a fast growing and competitive industry of computer generated living 'factories' that take the form of bacteria, algae and yeast customized to produce human-specific substances such as biofuel, medicine, vanilla or saffron flavours.

The synthetic biology community defends this new science by using a sustainable argument. In the light of a current energy intense and polluting manufacturing and agricultural models that devastate the planet, and in the context on the forthcoming 3 billion extra people expected in the next 20 years, the argument is that synthetic biology will extend the capacity of the planet to support us. It will do so by replacing current manufacturing and harvesting models with a new form of 'synthetic Nature' which will not outcompete with 'natural Nature' but release it from intense exploitation.

A simple example is that if yeast is reprogrammed to produce palm oil, we will not need to continue destroying Indonesia's forests. The paradox here is that synthetic biology can help protect Nature by developing genetically engineered new species, which in turn could endanger nature itself if mismanaged. This technology can also cross the divides of our animal and vegetal worlds: 'By reading and rewriting the gene codes of bacteria, plants, and animals…We start to turn cells, seeds, and animal embryos into the equivalent of floppy disks…Data sets that can be changed and rewritten to fulfill specific tasks. We start deliberately mixing and matching apples and oranges…Species…Plants and animals.'
Juan Enriquez, *As the future catches you* (2001).

'The paradox here is that synthetic biology can help protect Nature by developing genetically engineered new species, which in turn could endanger nature itself if mismanaged.'

Is synthetic biology leading us to a form of 'decadent' resilience, one which is led by techno-scientific explorations? What are the alternatives, and do we actually have a choice?

Resilience and Specific Disciplines

Give and Take

Space as medium of communication

Patricia Austin

Imagine material environments as communication channels; in other words, picture place as a communication medium, as powerful as television, text messaging or music. Questions immediately arise: how are spatial communications constituted? Who or what authors the messages? How are communications transmitted, interpreted, valued or resisted, and re-authored by users? How is place, as a medium of communication, implicated in notions of societal and cultural resilience?

Let me turn first to place-based layers of communication and how spatial communications may be constituted and transmitted. I am suggesting that place communicates implicit narratives through structures and materials, in other words, through landscaping, architecture and objects.[1] The second layer of communication comprises of lighting, sound, smell and temperature. The third layer consists of still and moving image and text in the place,

which can communicate through explicit narratives. The fourth layer consists of digital interfaces which also communicate through explicit narratives. The fifth layer of communication is the behaviour of people in the place which can produce both explicit and implicit narratives.[2]

> '*This position stands in contrast to conceiving places as simply functional products of instrumental rationality, or products of visual aesthetics.*'

All five layers are understood by users through a geographical / historical / cultural framing of the location and each one of us will interpret spatial communications from our own cultural perspective. Places, then, are contested, but I argue that these frictions should be seen in a positive light because they can prompt new thinking and action, or, seen from the perspective of the design of narrative environments, my field, the frictions emerging from place create dramatic conflicts[3] and narrative drivers that can unfold into new co-created strategies and design actions that have significant potential to enhance societal resilience.

This position stands in contrast to conceiving places as simply functional products of instrumental rationality, or products of visual aesthetics; in other words, the approach overrides a quantifiable, positivist materialistic approach which casts places as fixed, inert settings or backdrops. My position takes *materiality* and *locality* and assigns agency to place at a local scale. It conceives of place, as an active socio-political actant which is *open* and *porous*.[4] It conceives of place as temporal,[5] as experiential, as malleable, and as continuously and, without exception, subject to different and simultaneous interpretations, regulations and contestations through the social, physical and digital realms. As such it conceives of place as *fluid*, *adaptive*, capable of being *creative* and *disruptive*.[6]

Let me now turn to who or what authors the spatial communications and how these communications are interpreted, valued or resisted, and re-authored by users. Junkspaces[7] proliferate in 21st century. The physical destruction of war, the advent of mass industrialization, rampant commercialization driven by multinational corporations, lack of sensitivity in urban planning, and over reliance on certain digital tools are among the reasons we find ourselves living in smooth, bland, meaningless places and socially alienated environments. As designers our central purpose is to engage in agonistic struggle[8] to create places with strong identities that inform

and connect users and / or enable users to inform and connect with each other. Our process harnesses *learning* and *exchange*. Designers of narrative environments are strategic designers who transform places, through series of material and digital interventions. Such an approach sets out to create physical / virtual, coherent and *tolerant* and *democratic* systems by provoking users' thoughts and actions. Learning, exchange, tolerance and co-design in localised networks[9] present the possibility of evolving quick, creative and resource efficient responses to risks and dangers, whether they be physical, such a food shortages, or socio-spatial, such as urban alienation, or economic, such as the erosion of traditional markets.

> '*We work with a temporal axis mapping and envisioning the "before, during and after" of a project. We are not designing 'solutions' to "problems" but proposing new possibilities and situations. We produce critical and speculative narrative environments.*'

Questions of politics and ethics automatically arise when considering why you design and who you design for. We aim not to impose pre-formed political solutions based on a political ideology but rather to enable stakeholders to recognize each other and the content that surrounds them, to communicate with each other and rework their conditions in negotiation with each other.

Our practice takes the form of collaborative, multidisciplinary, team-based design. By design I mean in-depth data gathering and analysis of specific locations which enables us to identify the conflicts at play in the particular place, for example, history and / or regulations of the space being at odds with the current use or aspirations. This then leads to creative interpretation of insights and then onto to the development of design strategy and visualization in the form of storyboards showing the look and feel of the environment and anticipated human behaviours and the arcs of interactions. We work with a temporal axis mapping and envisioning the 'before, during and after' of a project. We are not designing 'solutions' to 'problems' but proposing new possibilities and situations. We produce critical and speculative propositions. Wherever possible we build and test the design with real audiences / users / residents and iterate the design according to results from our tests. A great deal of our research and design development is about understanding our audiences / users and indeed co-creating interventions with our users applying *empathy*

and *investing* in social capital. Our focus is on user engagement, not just material resolution, or aesthetically driven design proposals. We see users and their behavior as the dominant dimension of the resilience of place.

Our methodology comprises of folding narrative onto place and / or revealing the narrative(s) of a place. Each step of the practice is enacted through a narrative approach: place is understood as a construct,[10] as is narrative;[11] place is understood as authored or co-authored; place is understood as dramatic sequences, events, characters and actions, some nested within others;[12] place is understood as contentful, alive with meaning and messages;[13] place is understood as discourse, that is, actively 'telling' and communicating *diverse* and conflicting perspectives (these narratives are often non-linear and might best be described as different story-worlds);[14] place is understood as always having audiences and in many cases as being co-authored by its audiences or users. Importantly we see all narratives of place as shaped by their context, that is their surrounding geographic location and infrastructure, their history, their politics, their economics and social and cultural norms.

Our projects take many forms interconnecting digital technologies with human behavior in physical space. However digital technologies are always seen as a means to an end that serves a socio / economic purpose rather than a driver of behaviour. Our projects are situated across a broad range of cultural, commercial and community environments. Our approach can be used both to analyse and to design places on different scales from a single room, to a whole building, to a city street, to a city quarter or a whole city. We work on shops, markets, clubs, cafes, offices, museums, schools, homes in council estates, city streets and squares and historical sites. We work with what is 'to hand' the physical grain, the social dynamics, the cultural codes that constitute our daily lives. We use place as a medium of communication that, subject to collaborative, co-creation and iterative design, presents tangible, real world opportunities to foster cultures of resilience.

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Eyes Wide Open

Designing-in resilience for sustainable change through incremental tenacity or seductive disruption

Jane Penty

Replacing dinosaurs to become dinosaurs? Silver plate dish press tool, Birmingham, 2011, Jane Penty

Locating thoughts

Planet earth: home to 7.2 billion highly unequal humans, consuming 50% more than can be replenished and rising, destabilising their natural cycles and habitats in the course of over-producing in their quest for economic growth and where more than half the population are struggling to get by, let alone fulfil their potential because of deprivation or social injustice.[1] This is the snapshot I have recently gleaned from world statistics as I try to put into context the relevance of design and more specifically product designers' work.

Future predictions have not been any more comforting. The picture Jurgen Randers paints for 2052,[2] based on his observations of 'past performance', is of certain deterioration and loss of the natural world with an increasing risk of existential disaster. For the new middle classes of the BRIICS countries there will be some improvement in quality of life but the opposite for the poorest and the better off as resources are diverted to limiting the damage. It is a sad but not hopeless story of missed opportunities and lost beauty. But perhaps this is not a problem if you, like most, have never experienced what has and will be lost?

> *'I would like to locate the opportunities for a culture of resilience within the practice of product design to tackle what is still in our power to change rather than diverting our focus to coping with the damage.'*

Current or future, this is hardly a picture of a sustainable eco-system and if resilience is a precondition for sustainability then neither is it resilient. In our efforts to avert disaster, I see resilience most often interpreted as the ability of a system to spring back or recover from difficulties. In this sense it seems that resilience is being used as a damage limitation strategy to cope with the consequences of our un-sustainability, focused on effects rather than causes.

While a resilient system can withstand great disturbances, it is not *because* it is focused on disturbances that it is resilient and it is this aspect that I am much more interested in exploring. Fortunately, as we are constantly reminded, 'past performance is not a guide to future performance', and so I would like to see our energy being fed by informed and intelligent optimism. I would like to locate the opportunities for a culture of resilience within the practice of product design to tackle what is still in our power to change rather than diverting our main focus to coping with the damage.

Product design, sustainability and a cultural of resilience

In the context of sustainability, product designers could very easily feel responsible for so much of the over-consumption in the world and talk themselves out of action. For decades we have been trained to design products, and more recently product service systems, for mass production and mass consumption – a necessary ingredient of a capitalist system that requires continual growth.

We certainly have been complicit, but not the drivers. Yet, what product designers really love is creating beautiful solutions for people's daily lives and meaningful expressions of our material culture. So how can we do what we love best and become part of the solution?

There can be strong parallels between 'design thinking' and 'resilient thinking' if their goals are aligned. Equally, diversity is inherent in resilience and so I have chosen two examples of very different arenas of possibility that illustrate the potential for design to affect sustainable change as part of a culture of resilience.

The first, BioRegional is an entrepreneurial charity with the goal of creating viable One Planet Living Communities around the world through a combination of social enterprise and commercial ventures. One Planet Communities use a mix of design and community engagement to make it 'easy, attractive and affordable' to live within a one-planet footprint. They embody systems thinking working from a basis of ten principles that all stakeholders share, covering health, happiness, equity, economy, culture, community, transport, food, water, zero waste and carbon. But ultimately, they rely on all the people living in the community and their stakeholders to make these their own goals.[3] They also monitor data and observations from residents, using these to adapt and learn from for their new projects. Data from their first community at BedZed in London (2002) showed that seven years on, the keenest residents were halving their footprint against the 3 planet footprint for the UK overall. It concluded that given an optimal design, achieving one planet living is possible but ultimately lifestyle choices and supportive infrastructure are the biggest factors influencing footprint. So design can play a key role in making more sustainable choices the easiest option if these are part of a supported system.

> *'So while resilience is a necessary condition for sustainability and innovation, risk taking and disruption are features of resilient cultures, not all disruptive innovation is sustainable.'*

In the continuum of a resilient system, the One Planet Living Communities initiative sits on the edge of mainstream yet challenges the status quo. Here, resilience as a necessary condition of sustainability becomes evident. The One Planet principles *are* a living culture of resilience in action with notions of democracy and participative community, equity, restoration, localism and diversity in culture and economy, all within a cycle of learning and improving.

In contrast, the internet has facilitated the creation of many new and 'disruptive' economic and social models. Perhaps one of it's most resilient features is it's peer-to-peer (P2P) capacity and the distributive networks this creates. Here we can bypass the established 'brokers' to create decentralised exchange communities, albeit most often through new brokers, those in control of the internet. For product designers P2P is opening up whole new channels where they can be in direct contact with their audience and backers. More eloquently put it is:

'... the replacement of the anonymous individual user and the monolithic target market with groups of living, breathing, intelligent people who have relationships with each other.... Adjacencies, connections, context, local insight – all the things that are essential to urban communities then become vital to the global group of makers who are linked by ... online and offline platforms.'[4]

As with all disruptive models, many will fail but the successful ones are quickly adopted by the mainstream as we see with online sellers like eBay and Amazon using P2P reviews to create 'trust' and the Pentagon's Defense Advanced Research Projects Agency's (DARPA)[5] open competitions using the internet community to widen the range of participants to improve and reduce technology development time by sharing sophisticated modelling software.

Disruption for disruption's sake?

Now designers and creatives are fascinated by 'disruption'. Finding better and unthought-of ways of doing things that break the stranglehold of existing systems and barriers is ingrained in us. But designers are not alone in this fascination as this is the stuff of new business opportunities, where 'better' may easily fall away from 'new', if it was ever there to begin with. So we need to take a critical look at innovation and disruption, even if it is bottom up, and be vigilant lest it re-centralises power back into the hands of the few or merely extends the status quo through a new medium. As these examples show, while resilience is a necessary condition for sustainability, and innovation, risk taking and disruption are features of resilient cultures, not all disruptive innovation is sustainable. Quite the contrary.

As the technological world shifts from 'bits to atoms'[6] and there is re-engagement with physicality and materiality through distributive production, product designers could be at an important threshold to affect change, but they will have to embrace the responsibility

that comes with it, eyes wide open and keep sight of the bigger objectives. But it is an opportunity not to be missed.

'… for De Carlo the machine is a metaphor for society itself, and like the cogs and wheels that "collaborate" to transform energy into horsepower, the buildings, objects and people in a city interact to manufacture everyday life. And as with machines, it is the responsibility of design to determine the future direction of society – how to improve the machine of collectivity.'[7]

Fashion Habit(at)s for Resilience

How fashion's habits and locations shape our cultures and contribute to authorship of our lives

Dilys Williams
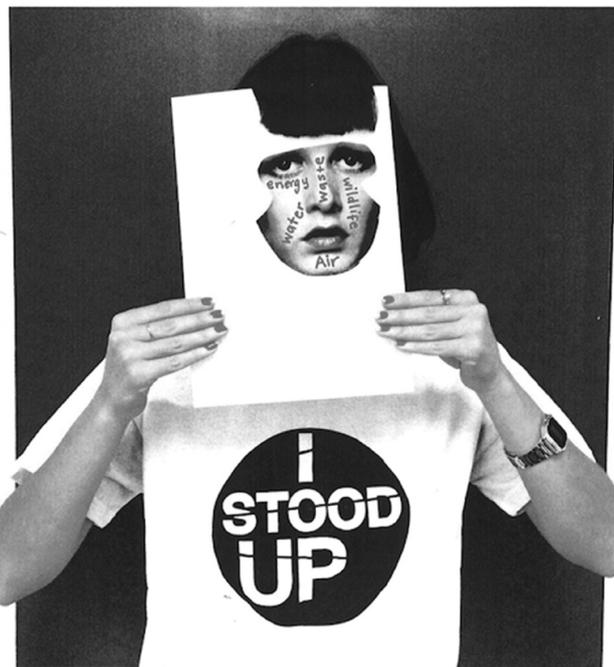
Fashion can make us individually vulnerable; we put out into the world an idea for public viewing and scrutiny, it's written all over our bodies. We create statements and commitments through our spending (time, money, skills, attention) on things that name us, identify us as distinct or similar to others. We take a punt on how we'll be received in a social world and how we'll feel about ourselves. This risk-taking can offer vitality or fragility. It can make us collectively vulnerable too, its practices and artifacts often relying on scarce resources, the drawing from which compromises nature and society's balance. Can this collective vulnerability become a means to energize social resilience in its wake?

Fashion can make us individually strong; we create affirming, adaptable, diverse, meaningful and usually voluntary actions through our attire. We create and follow habits and rituals that relate to vital elements of being human in the world. This position can embolden us, but it can also distance us through a notion power and hierarchy. It can make us collectively strong, its practices engaging millions of people (mainly women) in gainful employment through the making of its collateral: the human energies and activities, materials, services, economies, communities and the communication that it entails. Yet this strength is built on industrial practices that tend to fix components in a regulated manner, at odds with the undulating nature of life and all that it thrives on.

> '*The relationships, actions and endeavors that are mediated through the creation, wearing and caring for our attire form narratives of what we make of being human, in our place and time.*'

Millions of citizens practice a democratic right through their visible and undercover fashion practices, which can be playful, political and personal. Fashion's role is visible in every day activities in our cities, towns, fields and farms, it is profiled in newspapers, through social media, in fashion capitals and raved about as an economic generator by governments the world over. It also finds root at the edges of our vision, informal city practices generating emergent properties giving place and form to cultures and societies. It is not fixed, just as sustainable fashion is not a static term. The relationships, actions and endeavors that are mediated through the creation, wearing and caring for our attire form narratives of what we make of being human, in our place and time. It is part of our endeavor to 'do what we can', as individuals and as a social species. Creating a culture that is hospitable to all manner of activities, necessitates, a common value, a sense of justice that is not just about the right way to distribute things, but also about the right way to value things (Sandel 2010). The elastic connection between assertion of individuality, connectivity within community and wider contribution to societal infrastructures is a yarn that might be spun through looping fashion as personal and social 'making'.

The Nature of This Flower Is to Bloom
And for ourselves, the intrinsic
Purpose is to reach, and to remember,

*and to declare our commitment to all
the living, without deceit, and without
fear, and without reservation. We do
what we can. And by doing it, we keep
ourselves trusting, which is to say,
vulnerable, and more than that,
what can anyone ask?*

June Jordan, in a personal letter, 1970,
Alice Walker, 'Revolutionary Petunias'

Hospitable cultures of resilience thrive on curiosity between consumption and conceptions of value, the immediate and the anticipated, the near and the distant. Locations for such cultures might be usefully explored in the conviviality within the geographical domain of our cities, an increasingly dominant home for a majority of citizens. It is anticipated that by 2050, in this age of the Anthropocene, 75–80% of the world's people will be located in cities, their contribution to or draining from nature, and humanity will be affected by the cultures of resilience that they can generate. Whilst much city growth is taking place in the global south, social as well as environmental conditions in London offer an apt place for experimentation. London hosts 270 ethnic groups, speaking 300 different languages and expected dramatic changes in the city include wide climate fluctuations, changes in resource availability and economic uncertainties. The resilience of London depends on its ability to anticipate, dissolve and adapt to crises rising from demands of its citizens. London is home for a great diversity of both formal and informal fashion practices, a tradition in design, making and parading of fashion identities, as well as a platform for global fashion manufacturing and distribution.

> **'The elastic connection between assertion of individuality, connectivity within community and wider contribution to societal infrastructures is a yarn that might be spun through looping fashion as personal and social "making".'**

Starting 'where we are' might enable us to participate in an exploration of the city's social energy, to look at how city making and fashion making might link together. City making, just as fashion making, represents extremes in vulnerability and strength, often in close proximity. We are brought together by our 'concerns,'

of which shelter, food and fashion are paramount. Intertwined amongst these, we find love, safety, death, health, nature, friendship, recognition, fulfillment, equality, democracy and voice. For these 'concerns' to find form, we need to create conditions for commitment and consensual involvement on an individual and collective level. The skills that we need as 'hosts' to these conditions are the skills that might equip us to become 4D facilitators of convivial lifestyles.

As humans, we do not by nature set out to harm, cause strife or suffering, as evidenced both biologically in the empathy gene (Rifkin 2010) as well as societally in the many ways that family, friends and communities' contribute to healthy ecosystems. We do, however, all want to make our mark. This balance between collaboration and competition occurs across nature, including between people and within nature. When in balance, there is a flow between collaboration and competition that creates a striving for success, but not at the expense of others, ie a common good or citizen ethic. So, taking a cue from David Orr (1991), '...think of yourselves first as place makers, not merely form makers. The difference is crucial. Form making puts a premium on artistry and sometimes merely fashion. It is mostly indifferent to human and ecological costs incurred elsewhere. The first rule of place making, ...is to honor and preserve other places, however remote in space and culture. When you become accomplished designers, of course, you will have mastered the integration of both making places and making them beautiful.'

In doing so, we expand notions of fashion back towards their origins of 'bringing together to make with style' and forward to 'embrace the chaos of an uncertain future.

Flow

Art practice as a strategy for resilience

Anne Eggebert

Folly #4 (Grotto), 2009
Sarah Cole and Anne Eggebert

Resilience proposes its other – attack. A long-shore drift drags slowly at the foundations of a landscape until, eventually, it falls into the uncompromising sea – entropy ensues – dissolving towards a state of inert uniformity. Resistance in this instance might be seen as futile. The marvellous structures that we put in place don't always support the context they are intended to underpin – they inadvertently cause eddies and swells that function to undermine the territories of our concern. Resilience proposes a flexible resistance – a reshaping or letting go of one space in recognition that another is forming way down the coast; or that the water itself has surfaces, other sites, to roll with the waves (or punches), to shift and tow with the current – crouch in the vessel, feel the heaves and swells[1] and what they tell us about the water's journey – rather than sit apathetic on board and look longingly at steady ground, or look out to sea as the ground slides away beneath us.

'Resilience proposes a flexible resistance – a reshaping or letting go of one space in recognition that another is forming way down the coast.'

There are enough things to be anxious about. An entropic culture, with its inert conformity is, perhaps, no culture at all. To regard the arts and other manifestations of human intellectual achievement of less value than other subject areas is to miss the point entirely. A culture without these spaces to interrogate what it is to be human, to test ideas, customs and social behaviour, evolves towards a state of dull inert uniformity. And uniformity is dangerous, for then difference is at fault rather than of value. Uniformity proposes a thing that can be utterly known, rather than a possibility for the unknown: not knowing as a dynamic process, 'operations that produce a discrepancy, a dissemblance'[2] transgression, speculation, risk, surprise, failure and feedback – these interruptions offer us the ground for the production of new subjectivities.

'When language works against the common use of words and the petrified reality they denote, when forms fight against the forms and images imposed on the world by others, the artistic enterprise is from the start a transgression in its perpetual and fundamental reinvention and reintroduction of languages.'[3]

Communication is necessary for culture to come into being, for human achievements to be activated, and so the social learning aspect of a resilient culture appears paramount. The ubiquitous mass communication system of the internet has its powerful affects, but the embodied nature of communication remains vital with its oral and auditory, body language and asides, scribbled notes, drawings and printing presses, image, movement and light, object and tactility, and its haptic and contingent being in the world's spatio / temporal encounters: the studio, the museum and the public (in all their various forms).

To be creators of new knowledge, to bring their insights and energy to these spaces, young artists need to be resilient[4] as they enter into the micro-enterprise world of the creative sector structured on precarization and insecurity[5] – where creative entrepreneurs effectively work to zero hour contracts.[6] Resilience necessarily functions as dynamic interplay between an individual and available resources – adaption is paramount – but what are the limits of adaption before it becomes a force against the human? There is the art market, the strange extravagant beast that, if you leave enough tit-bits and morsels in its hunting grounds, might sniff you out (and gobble you up)…

The meaning of resilience, nonetheless, may be culturally or contextually dependent;[7] if a resilient culture is a social learning process it is continually having-to-adapt-itself[8] in accordance with the processes of failure and feedback, this then proposes adaptions that offer shifting cultural spaces of identification. Cultural adaption as a dynamic process of change. To enter into this cultural space with its necessary adaptions may be a stressful experience – but arguably one that artists should be well prepared through practice – an activity that is familiar with newness and the thrill that accompanies the arrival of the not-previously-known. Art practice relies on processes of critical awareness, productive response to failure through problem solving, reflection, and the feedback of the sociocultural environment of practice – all aspects that relate back to similar traits in the psychology of resilient individuals and extrapolate into a resilient culture. Practices and their encounters provide potential to explore atypical relationships through multidisciplinary approaches – a means of rubbing along together with all of our differences.

> *'A culture without these spaces ... to test ideas, customs and social behaviour, evolves towards a state of dull inert uniformity. And uniformity is dangerous, for then difference is at fault rather than of value.'*

So, art's interruptive, affective power is in itself a model for resilience both at the personal psychological level and at the cultural level. However, there is a double bind in that the typical characteristics of the artists' condition – the blurring of boundaries between work's parameters, and personal and professional relationships – have become today's capitalist *modus operandi*.[9] On the face of it, it appears that the hegemonic cultural production of desire for identification with this 'edgy' lifestyle choice both enforces its selling power and reduces the potential for those really living it to make a living. Nonetheless 'being resilient entails more than the ability not only to adjust and adapt to a perturbation, but also to transform when the perturbation requires a new conceptualization of the way in which to effectively proceed forward.'[10] Critical practises articulate a complex range of responses to the contingent conditions encountered; interventions that ask what if, what is this, why is that, how can we, what then, and then and then: unsettling the terrain, troubling the waters and revealing the possibility of alternative perspectives. We should be able to step outside existing

rules to construct new paradigms and the potential of a world that has never existed before and demand attention to the intrinsic value of art as a strategy for the production of cultural resilience.

We find ourselves at a moment when the loss of the appeal of traditional frameworks of identity is revealing the vacuous nature of what remains – commodity culture. Propelled to exhaustion, skeptical of its promise, disillusioned with its inequalities, contemporary Western culture is at a point of peril. Identification as artist offers both a holding frame or mesh within the complex multiplicity of identities on offer (for us or projected onto us) and a space for the production of meaning in relation to those identities. Identification as artist becomes empowering through art's potential as a pluralistic, collective and potent space, while functioning as a tool to explore how we might move differently within our cultural landscape and, in doing so, through these unexpected movements, open up the potential for new subjectivities for artist and audience alike.[11] The ocean's fruits and the loosened fabric of the landscape piled into an extravagant structure that offers new terrain from which to leap into the void.

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4 WINDLE et al (2011). http://www.hqlo.com/content/9/1/8#B38 Resilience is the process of negotiating, managing and adapting to significant sources of stress or trauma. Assets and resources within the individual, their life and environment facilitate this capacity for adaptation and 'bouncing back' in the face of adversity.

5 RAUNIG, G (2013). *Factories of Knowledge Industries of Creativity*, Semiotext(e) Intervention Series, MIT Cambridge, Massachusetts/London.

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7 WINDLE, ibid.

8 HEIDEGGER, M (1977). *The Age of the World Picture,* in *The Question Concerning Technology and Other Essays*, New York/London: Garland Publishing.

9 BOLTANSKI, L & CHIAPELLO, E (2007). *The New Spirit of Capitalism*, London/New York: Verso.

10 JAIN et al, *The tapestry of resilience: an emerging picture*, http://royalsocietypublishing.org/content/4/5/20140057.full.

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Afterword

Ezio Manzini

This book has not a conclusion: resilience, and everything is related to it, must by definition be multiple (capable to include and preserve different positions) and open (capable to accept new and unforeseen ideas). Given that, what follows must be read as an editor's personal reflection. Its goal is not to close what this first phase of the CoR project has done, but to stimulate new ideas and actions for its following steps.

Looking at the keywords and statements presented in the previous chapters, the first impression is the one of a constellation of ideas, open to different interpretations and, in turn, capable to generate new ideas and interpretations. At the same time, it seems that, in their diversity, they share a tone and a meta-narrative: they all refer to resilience as a fabric of individuals, communities, organizations, objects and places that has to be continually mended and regenerated.

'When considering resilience,' writes Alison Prendiville, 'human actions of collaboration, generosity, care and empathy, must be understood in terms of their social and material configurations within a location and how they are formed over time.' In the same way, Dilys Williams expresses the need for 'elastic connection between assertion of individuality, connectivity within community and wider contribution to societal infrastructures.' And Jeremy Till writes: 'At heart what we see being played out is the classic tension between structure and agency ... resilient systems cannot straddle these differences and implied oppositions on two legs and in two ways, but need to dissolve the gaps so that the founding assumptions of structure and agency are challenged'.

These three statements clearly indicate what many other participants to the CoR discussions proposed: Western culture is largely based on polarities (as structure vs. agency; context vs. individual human expressions; societal infrastructures vs. individuality – just to refer to the previous examples). These polarities have to

be recognized in their nature and value but the gap between the two poles on which they are based must be reduced. Or, using a textile metaphor, they must be woven together as the warp and weft of a resilient social fabric.

In general terms, to introduce a metaphor is useful if and when it is generative. That is, if and when it permits us to see something that, alternatively, would have been difficult to see, and to raise questions that alternatively would have been difficult to raise.

This could be the case of looking at resilience as a woven fabric. A metaphor that, in our view, gives resilience useful insights, raises difficult, but necessary questions on it and, finally, lays the foundations of a meta-narrative capable to include the whole variety of cultures of resilience, without reducing the richness of their diversity.

For instance, this metaphor of weaving tells us something important about the value of redundancy: in a woven tissue all the yarns have a similar function, and therefore could also be seen as redundant. But, exactly for that, they make the resulting fabric resilient. At the same time, while it makes us better understand how resilience can work, it also indicates how it can fail, showing that, in a woven fabric, a certain kind of cut, even very small, can easily expand, bringing about the fabric's complete rupture.

Most importantly, the woven fabric metaphor permits one to make an interesting observation on the different nature of the choices to be done. In the weaving work there are the choices related to the warp and ones related to the weft. The first ones require a planning capability: fixing some rules, they define the space of future possibilities. The second ones, related to the weft, are choices that can be freely taken, assuming that they remain in the limits of previously defined space of possibilities. Given that, if resilience asks for diversity and redundancy, and therefore for creativity and freedom of expression, how are the shared rules that make that creativity and freedom possible decided and planned? In turn, facing possible deeper future changes to context, what is the resilience of these shared rules?

Here we will leave these questions open to future discussions. But, considering them, we must observe that this metaphor, as all the metaphors, has a limit (that is, it can give a vivid image of some aspects of resilience, but it cannot capture its reality in all its complexity). In this case, the most evident limit is that woven fabrics are materials characterized by an homogeneity in their texture and a regularity in their making that clash with the messiness of

contemporary reality. And, at the end of the day, with what should be the vision of a resilient world. To overcome these limits we must move from the metaphor we used until now (the one of the woven tissue, considered as a physical artifact), towards a different kind of fabric and a different way to look at it.

'Resilient-textiles-systems use localised care and repair paradigms with adaptable frameworks, mediating global traversing of textiles, using a bricolage of tools, techniques and agents.' This is what Rebecca Earley and Bridget Harvey say about the life of cloths. But maybe the vision they propose can be generalized, bringing in a new and comprehensive metaphor, capable to better describe what a resilient society and its related cultures could be like. In Earley's and Harvey's vision, resilience starts to appear as a fabric combining different techniques and, most importantly, considering both its final result and its making.

'My question is what makes resilience?', asks Kim Trogal in her text; 'who and what creates and maintains "redundancy" or flexibility in a particular system, for instance, and in what kind of conditions?' She continues: 'It takes work to make a community, to create "slack"…the work to foster experimentation, to enable learning, to maintain a network, to care for others, to share, to negotiate'. Considering this observation our textile metaphor evolves in the one of never-ending patchwork fabric: a production process in which a multiplicity of actors are on the job weaving, knitting, embroidering and, most importantly, mending and re-sewing this always evolving patchwork fabric. A swarming of activities involving everybody: from the individual, to all the kinds of organizations. In particular, as Adam Thorpe writes: 'this suggests a role for local government in brokering interactions, unlocking community resources and increasing the diversity of how citizens interact with local government and each other'.

This same idea of a patchwork fabric resonates in Melanie Dodd's text too, when she writes: 'The value of 'managing the chaos' of creativity in cities might best operate at this micro, or mid scale'. What happens is that the different patches of the patchwork are the ones in which the general complexity is distributed. And that, in this distribution, there are the conditions of existence of local and transformative solutions: ways of doing with the double value of solving local problems and, interlacing with the other 'patches', generating changes at the larger scale too.

Beyond this, in the making of the patchwork, the possibility to resist the local stresses can evolve, becoming a learning process.

In other words, if we assume that those who weave, knit, embroider and re-sew different patches are intelligent actors, facing the effects of errors and unforeseen events, they can mend possible breaks (*ie* bunch back to the original conditions), but they can also up-grade the patchwork (*ie* as Lorraine Gamman and Adam Thorpe write, 'bunch forwards' towards better solutions).

Through these reflections in-progress, we can observe that this emerging vision (the vision of human activities as a never-ending patchwork making process) is quite far from the demiurgic one that played a such big role in the past century western culture (and that is still mainstream in the technocratic arenas).

This observation, which of course needs expansion, is not a surprise: taking seriously the notion of resilience necessarily implies to redefine our ideas on progress, time and future. And therefore, on how human beings position themselves in the world and make their choices on how to act on it.

At the same time, the vision of multitudes of individual and social actors, conscious of their limited knowledge who actively cultivate differences but also making their best efforts to interlace them in a larger fabric, seems to us a very human one. It tells us of human beings moving in the complexity, being fully conscious of their cognitive limits but, nevertheless, willing to 'wisely dare'. That is, to express their individual creativity, their social empathy and their reflexive capability. In short, we could say that this metaphor tells us the story of a new, more human humanism.

Of course, this metaphor and the ideas on which is based, must be situated in the specificity of their context: they are the partial results of discussions that took place in London, between Spring and Summer 2014, in the University of the Arts London. For sure, other cultural contexts would have generated different ideas and different metaphors. But, their explicit, openly declared link with the context in which they have been originated is a limit that is also their strength: having a clear origin, they can participate with less ambiguity to the world wide on-going conversations on these same themes. Or, using our metaphor, they may represent a meaningful patch to be sewed in the patchwork making process thanks to which our future will be progressively shaped.