

Design 4: A Pattern Language for Transition Research

Collaborators: Rachel Pain, Ben Brangwyn, Connection Participation and Empowerment project team

1. Summary

This design process was embedded in the implementation of the *Connection Participation and Empowerment* project (Design 3). Work began around the middle of 2012 and the completed pattern language launched online in February 2013.

Design Process:

SADIM

Design Tools:

- Pattern mining
- Pattern language
- Design workshop

2. Background

A key output of the *Connection, Participation and Empowerment* project (Design 3), requested by Transition Network, was a set of guidelines for collaboration between Transition groups and researchers. This was partly fulfilled by production of the *Transition Research Primer*, one of the outputs listed for that design. In addition, I suggested producing a deeper, more extensive and more flexible resource: a toolkit that could guide the design of research collaborations in a more systematic way.

Inspired by having encountered Christopher Alexander's *Pattern Language* book and concept during my PDC, and Rob Hopkins' use of the method in creating the *Ingredients of Transition*, I proposed developing this resource as a pattern language. This generated several additional yields: further development of the pattern language concept and its extension into a new field of activity; better understanding of pattern language among permaculture and Transition practitioners, as both concept and practice; and a first experience of pattern language design for me personally, allowing me to share insights with the wider permaculture and Transition communities.

In relation to the ethics, they were addressed in the connection of the design with the work of the Transition movement, which promotes sustainability, well-being and equity. Operationally, there are important contributions to the Fair Shares ethic: pattern language was specifically developed as a way to democratise collaborative design processes, by limiting the dominance of key experts (in this case, researchers) through use of a medium able to capture, integrate and support action upon diverse kinds of knowledge (e.g. of researchers and Transition practitioners). It thus supports the permaculture principle *Integrate rather than segregate*. It promotes Earth Care and People Care through the inclusion of patterns specifically relating to sustainability (e.g., *Energy Descent, Research as Activism, Creating Positive Change...*) and quality of relationships (e.g., *Clear Language, Interpersonal Relationships, Building Community...*) and the overall aim, common with Design 3, of doing research in a way that directly contributes to positive environmental and social goals, rather than simply documenting (or even just providing support for) environmental and social action.

3. Design of the Design Process

Despite the popularity of the pattern language concept among permaculturists, I found few instances of its application in actual designs, and no concrete information about design processes for pattern language creation. The first step in the design process, therefore, was a methodological survey that could inform design of the design process itself.

This pre-survey revealed that pattern languages have been developed and used in a very wide range of fields of action. In most fields, including Alexander's own fields of architecture, planning and design, this is a marginal activity, restricted to a small number of fringe researchers or practitioners. A notable exception is the field of human-computer interactions, where they seem to be in fairly common use, perhaps due to familiarity with the use of patterns (albeit in a very different way from that proposed by Alexander), in object-oriented programming. A scattered academic and semi-academic literature exists; I consulted some thirty journal articles on pattern languages during the course of this design. Appendix 1 contains a bibliography of this literature.

Two academic papers in particular gave details of pattern language development methodologies that were employed in this design.

Winters and Mor (2008) developed patterns in four stages:

1. **Seed:** a title and brief summary, perhaps intelligible only to the author.
2. **Alpha:** contains all elements of the final pattern, intelligible to all members of the project team and under active development towards beta status.
3. **Beta:** open to review and comment by users outside the design team, with the design team responsible for acting on comments.
4. **Release:** a final published form.

Iba *et al* (2011) identify five stages in pattern language development:

1. **Pattern mining:** identification of candidate patterns from experience and knowledge in the wider community, along with connections among and groupings within these.
2. **Pattern prototyping:** a small number of patterns are written out in full and discussed by the project team.
3. **Pattern writing:** remaining patterns written out in full on the basis of agreements reached during the pattern prototyping process.
4. **Language organising:** identifying the relationships among patterns that allow the grammar of the language to be defined.
5. **Catalogue editing:** preparing the final format for delivery of the pattern to its users.

Our design process combined these, within the SADI sequence:

- **Survey:** a pattern mining process leading to identification of multiple patterns reported in and derived from previous research potentially relevant to this topic.
- **Analysis:** refinement of this list into a more focussed list of candidate patterns, in both seed and alpha forms, and identification of broad relationships among these, along with creation of a prototype web platform for pattern language development.
- **Design:** detailed discussion of the draft pattern language and patterns by a wider group and agreement on the content and organisation of the language, also leading to a set of further design recommendations
- **Implementation:** acting on the recommendations from the design workshop, public launch of the pattern language website and development of further associated communications materials.

4.1 Survey: Pattern Mining

Pattern mining is a technical name for the usual first stage in pattern language development. It conventionally consists of a broad survey of patterns that might be relevant to the pattern language in question. Depending on the context, it might use any of a variety of methods.

In this case, patterns were mined from several sources:

1. Recommendations in Transition Network's existing guidelines for researchers, posted on their website at the time.
2. Observations and suggestions arising in meetings of the Transition Research Network, and related discussions at Transition Network conferences that preceded these.

3. A document on research processes and protocols written by Ben Brangwyn of Transition Network immediately after the February 2012 Transition Research Network event.
4. Documentation (interviews, case study reports, reflexive discussion) of the Durham Local Food research project, which had been Transition Durham's first research collaboration with Durham University (Design 2).
5. The Transition Companion (Hopkins 2011_ and other Transition literature
6. Other pattern languages (Alexander 1975; Alexander et al 1979; Jacke & Toensmeier 2005; Schuler 2008)
7. Outputs of various relevant Connected Communities studies, including work on the principles and ethics of participatory research conducted by the Centre for Social Justice and Community Action at Durham University
8. The broader literature on participatory action research and related areas

The pattern mining process expressed two main permaculture principles:

Capture and store energy. Experiences from designs 2 and 3, plus documented knowledge and insights from the academic field of participatory action research, were compiled in a way that makes them readily accessible to future such research projects.

Obtain a yield. Incorporation of experiences from specific research projects added an additional yield to designs 2 and 3, and relevant experiences of other researchers and Transition activists who contributed to the process.

4.2 Analysis

Following the pattern mining process that comprised the survey phase, Rachel Pain and I generated an initial list of 50 seed patterns potentially relevant to Transition research. We identified four broad groupings among these, moving from more general and abstract to more specific and concrete, which at this stage we named as follows:

- Overarching values of Transition
- Core principles for participatory research
- Strategic Research Mechanisms
- Specific research practices

Appendix 2 lists the seed patterns identified at this stage and their groupings, as circulated to participants in the design workshop.

The other main activity in the analysis phase (and, in effect, the beginning of the implementation phase) was identifying an online platform to host the pattern language, both during development and for its final release. On the recommendation of Ed Mitchell, online tools specialist at Transition Network, I chose WAGN, a new open source platform specifically developed for pattern language development by programmers with some connection to GroupWorks, a pattern language for facilitation of group processes that was also under development at the time.

The analysis phase exemplified two main permaculture principles:

Design from pattern to detail. The pattern language provides a framework that enables design of participatory research to be informed by patterns shown by experience to assist successful collaboration adapted to the details of the specific project. In this case, the actual design process (harvesting patterns on the basis of specific experiences in Designs 2 and 3) is an example of the reverse movement, which is also a vital part of this principle. On another level, the pattern language approach is itself a pattern for organising, co-creating, sharing and evaluating knowledge, applied in this instance to the specific context of participatory research.

Use edges and value the marginal. The edge between Transition/permaculture and research becomes productive due to the realisation that these are not just interesting topics for research, but social methodologies that can usefully inform the conduct of research itself.

In addition, many of the patterns themselves were closely related to, drew upon and/or implied one or more permaculture principles. One of the patterns in the pattern language – and employed in the conduct of this research - was directly named after one of the Holmgren principles, *Produce no waste*: "Think of the research not as a means to producing the academic output, but of the promise of academic outputs as a means to doing the research. Look for ways to derive practical and/or personal benefits from all tasks within the research process, and enjoy doing it, especially together."

4.3 Design

The initial set of patterns generated during the analysis phase was taken to a wider group of collaborators for discussion. This mainly took place at a two-day pattern language **design workshop** held in Durham in January 2013, with around twenty people participating.

Participants consisted of:

1. Members of the *Connection, Participation and Empowerment* project team.
2. Representatives from Transition groups with experience of working with researchers who had taken part in interviews in the first phase of the project.
3. Other key researchers and organisers from the wider Transition and permaculture movements, both in the UK and other European countries.
4. Local activists from *Transition Durham* and other initiatives in North East England.
5. Researchers from the *Centre for Social Justice and Community Action* at Durham University, with which both Rachel Pain and I were involved at the time.

Appendix 3 includes a full list of workshop participants and their institutional affiliations.

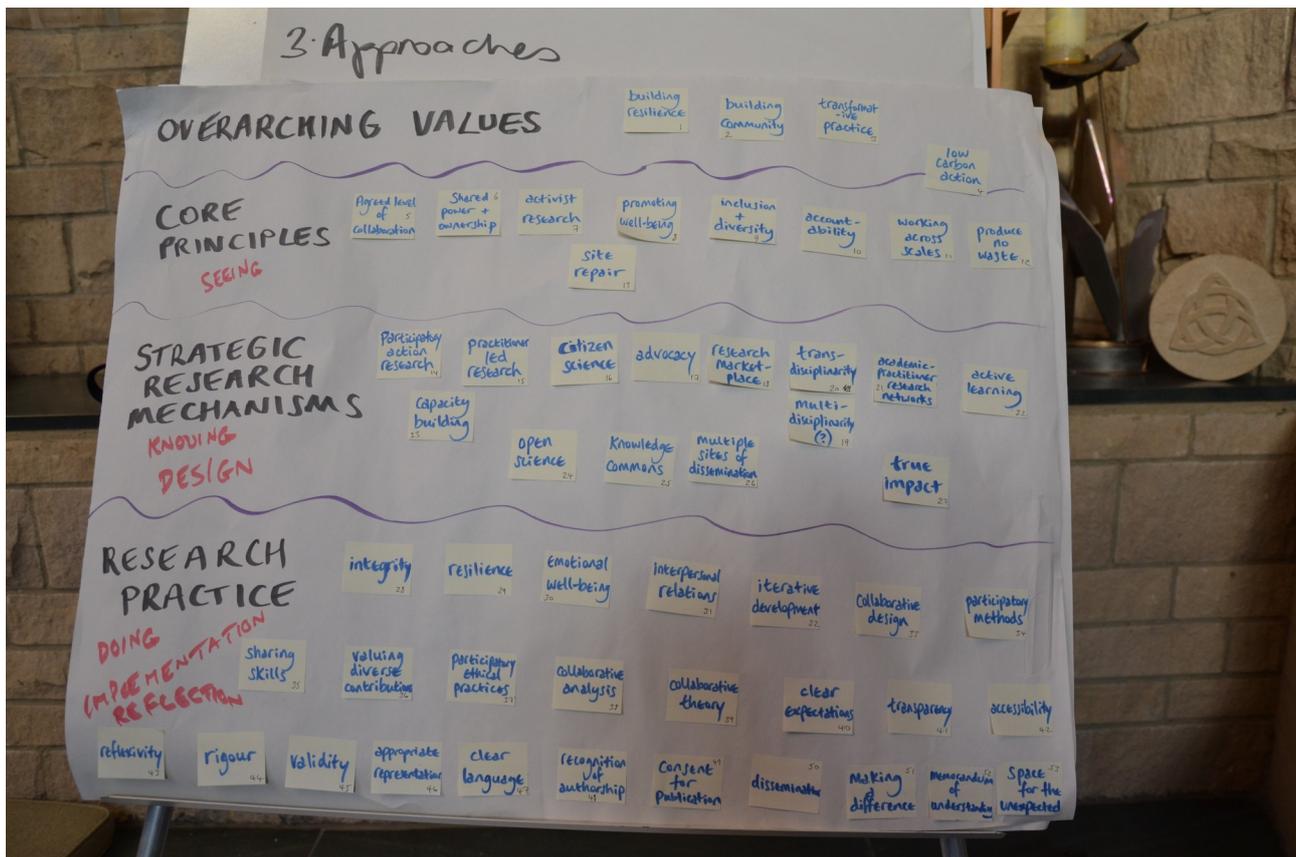


Participants at the pattern language development workshop, St. Antony's Priory, Durham, January 2013, including Permaculture Association Research Coordinator Chris Warburton-Brown.

Participants were sent a list of the seed patterns identified during the Survey phase a few weeks before the workshop. The workshop itself combined plenary discussion, small groups and individual work. Participants were asked to examine and evaluate the outcome so far at two levels: first the overall structure of the language itself (patterns selected, groupings, and the relationships among them), second the details of individual patterns.

Key recommendations arising from the workshop were as follows:

- Rename the four main groupings of patterns as:
 1. Values
 2. Principles
 3. Approaches
 4. Practices
- Better define the four groupings, and on that basis move a number of specified patterns to a different group. Of these changes, the most important was to elevate *Low Carbon Action* to a value and rename it *Energy Descent*.
- Change the online interface to show this structure explicitly: organising patterns according to group, and changing pattern numeration to include their group number.
- Clear Language: participants agreed that the names of a large number of patterns were too obscure, often including technical terms not familiar to a general audience, and should be renamed. In some cases a preference for an established term, or the lack of any suitable plain language alternative, meant this could not be done. In this case, we introduced a clear definition in non-technical language as the first sentence of the description.
- Incorporate a version of Alexander's star system for certainty of patterns, in which one star indicates a pattern whose inclusion is provisional or uncertain, two stars a greater degree of certainty, and three stars definite inclusion in the language.
- Participants also made or agreed upon numerous suggestions for addition, removal, merging and/or renaming patterns.



Pattern Language Development Canvas

Another important conclusion of the workshop was that the pattern language concept itself is a potential barrier to understanding and engagement. Participants therefore suggested putting the pattern language concept and tool into the background, in the following specific ways:

- Rename the site in a way that makes its nature and purpose clear to people unfamiliar with pattern languages: provisionally, as *Transition Research Guidelines*.
- Move the pattern language itself more into the background of the site, and add a new front page along with background information, a description of the guidelines and a user guide. This could include a summary of potential pitfalls of research and examples of bad practice
- Create (ideally more than one) easily understandable navigation interfaces for the pattern language, in a variety of formats that could form starting points for different users. Suggested formats included a series of questions about motivations for getting involved in research, a narrative account of a research collaboration as a journey, and a flowchart. Each of these could point to particular starting patterns, so making it easier for someone to identify the patterns relevant to their situation and begin to become familiar with the language as a whole.

4.4 Implementation

Following the workshop, I followed up on as many of the recommendations as possible. Due to time and funding constraints, it was not possible to do all of this. The workshop took place towards the end of the funding period, leaving me little time to action changes, though reuse of some project funds still held by Transition Network allowed us to extend that time a little.

The time available was sufficient to make the changes to the pattern language itself suggested by participants:

- Renaming the main groups of patterns
- Integrating groups into the pattern numbering and structure of the website
- Moving patterns among groups as recommended

- Renaming patterns in cases where workshop participants judged existing names to be obscure
- Adding a star rating indicating our level of confidence in each pattern
- Editing, moving, removing and merging specific patterns

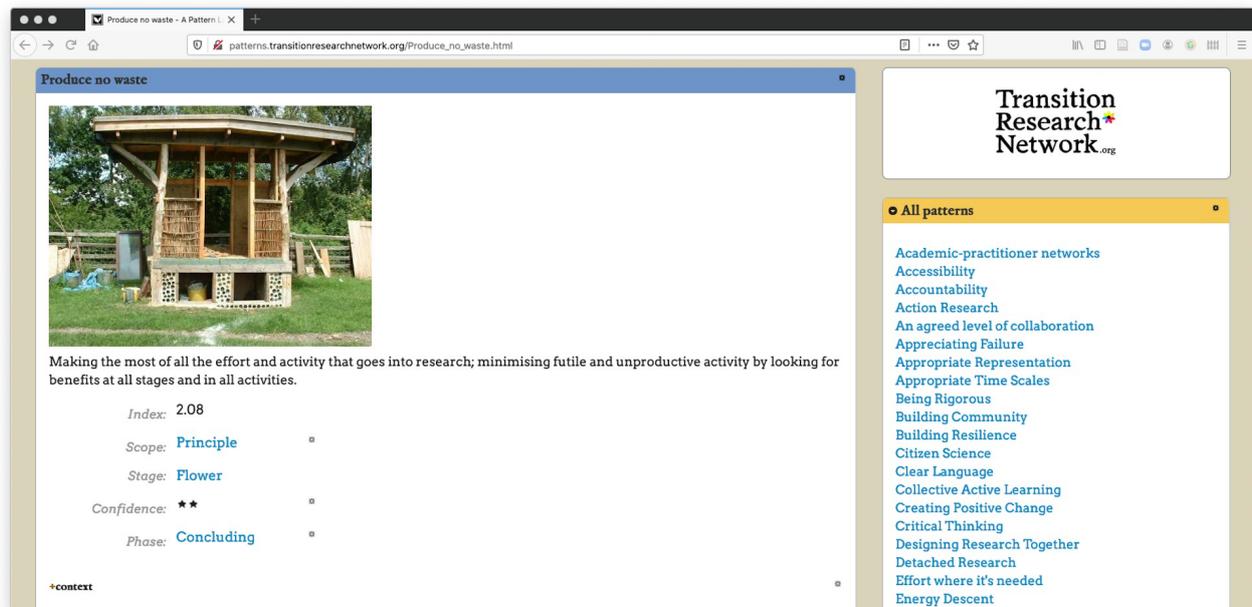
We did not have the capacity at this stage to add the proposed extra layers of description and navigation to the website itself and hence move the pattern language into the background, except to a limited degree. We added a front page to the website that provided context, explicitly describing it as a set of research guidelines, and other pages describing and explaining the pattern language concept and how we had applied it. We also introduced a 'research journey' element to the website, categorising each pattern according to the point in the evolving relationship between a Transition group and researcher or research team it was most likely to apply.

In addition, a small follow-up grant from the AHRC supported writing, design and printing of the Transition Research Primer, a booklet directed at Transition groups interested in working with researchers. While drawing on the content of the pattern language, it was presented in a conventional linear structure and plain English narrative format. It is worth noticing that our original proposal was for two booklets, one for Transition groups and another for researchers, but the AHRC did not see a need for the latter and funded only one. While pitching the primer mainly at Transition groups, we wrote the content so as also to be instructive for academic researchers, and included them among the target audience for distribution.

4.5 Maintenance

The WAGN website was given the URL patterns.transitionresearchnetwork.org, and publicly launched via the Transition Research Network media in early 2013 (see screenshot below). A poster display about the language was also featured at a showcase of Connected Communities projects held by AHRC, funders of the Connection, Participation and Empowerment project, in London on March 12th 2013. The Transition Research Primer was also launched at this event, and hosted on both the Transition Network and Transition Research Network websites.

It was hoped that the research guidelines would become a living pattern language, with users applying it in the design of real projects and feeding back insights from their experiences as changes to or additional supporting evidence for patterns, or copying the pattern language and applying it to other contexts. In practice, this did not happen, for reasons of both research culture and capacity. The extended lead-in and lead-out processes that would have been required are hard to accommodate within research projects at all levels in the ways they are developed, funded and implemented. To provide an alternative to this would have required dedicated ongoing capacity to support researchers, Transition groups and others to engage, apply and contribute to the pattern language, which did not happen. However, it did become a useful point of reference to which we could direct researchers interested in working with Transition groups to explain our expectations. Transition Network drew on the material, in simplified form, research guidelines on their website (<https://transitionnetwork.org/about-the-movement/what-is-transition/research/>).



4.6 Evaluation

The design was not a complete success, for a number of reasons: limited implementation capacity relative to that needed, lack of uptake in practice, and technical limitations with the platform.

First, the design could not be fully implemented due to limitations of available capacity. Not all of the recommendations from the workshop could be acted upon, nor could all of the patterns be developed into mature, fully referenced forms. Under some circumstances, it is possible to generate a prototype pattern language quickly and easily. For example, in later events at Swansea University mentioned in the outputs below, an initial half day workshop among participants who had never met before allowed us, in 2-3 days follow-up work, to create a pattern language on sustainability collaboration useable as the basis for discussion, and further incremental learning at a follow-up involving mostly different participants a few weeks later. However, creating a robustly verified and readily applicable tool is a much more laborious endeavour, beyond the resources available for this project.

At this level, pattern language is a methodology for entering into greater rigour and depth in terms of background knowledge, user engagement and validation, and design of a useable tool. For example, the *GroupWorks* pattern language for group processes was the outcome of a multi-year process involving over fifty participants - to which its exceptional quality attests. The time and capacity necessary to emulate this were not available in this time-limited and tightly budgeted project. Within these constraints, pattern language might have been a useful guiding orientation, but was not a feasible core methodology. This is reflected in the part-finished nature of the tool. The initial design brief, of creating an improved set of research guidelines for Transition, would have been better achieved through a methodology that better matched the resource constraints. This was partly achieved in the more focused and accessible *Transition Research Primer*, whose quality certainly benefited from the background pattern language process on which it drew, but was quite different in form from the anticipated end product of a full pattern language design process. Another implementation weakness was low uptake in practice. While pattern language proved a useful medium around which to organise a collaborative design process, and to compile and represent knowledge from diverse sources, in practice the site developed was not easy for either researchers or Transition groups to use without dedicated support. It was hoped that this could be resourced by writing use of the pattern language into funded research projects; however in practice our own pattern language projects did not receive funding in the years immediately following, nor

to my knowledge did anyone else seek to integrate it into their research projects. The site thus remained more as an archive of knowledge and representation of a process than a living tool.

Finally, the choice of platform proved to be sub-optimal. WAGN appealed as a versatile open source platform well-suited to pattern language development. However, its use in some respects required levels of technical capacity higher than my own, leading to a reliance on the designers to develop some features. This was not a problem when we had project budget to pay for this, but made maintenance difficult thereafter, particularly when WAGN was discontinued by its developers in favour of a new format.

5. Reflection

The key learning I took from this concerned the versatility of pattern language as a methodology for compiling, co-creating, evaluating and sharing knowledge, which can be applied to almost all topics, in diverse ways, and at varying depths. This versatility, especially in relation to depth, I found to be double-edged: reflected in the failure to complete the pattern language as a useable tool within the time available, and the source of the failure to align delivery of the project with the resources available. This was a classic case of allowing the design to lead the tool, rather than choosing the tools to fit the design brief as best as possible within the available constraints.

Another key learning concerns the accessibility of pattern language as a concept and methodology, and hence its range of applicability. Pattern language is a highly technical concept – a very powerful one when applied well, but not simply reconciled with superficial levels of engagement. I realised that it is best applied as a design concept suitable for guiding the work of a small and dedicated core team, and not suitable as a tool for wider participation and communication, which need more accessible methods. Rob Hopkins reported a similar learning from his experience writing the *Ingredients of Transition*, when I consulted him in preparation for this design: although he originally developed it as a pattern language, and presented it as such to the 2010 Transition Network Conference, he realised that this hindered conversation because people became distracted by the pattern language concept from the material itself, and kept it hidden in the background of the published version in the 2011 book *The Transition Companion*.

Both these learnings strongly guided my subsequent use of pattern language in the ECOLISE knowledge commons for community-led action on sustainability and climate change (Design 5). The pattern language concept is made explicit to site curators and others engaged at a design level, but kept in the background for general users and content editors. The design is modular and incremental, allowing particular areas of the site to be developed as and when needs arise and resources are available. This development is built into ECOLISE projects, which employ the knowledge commons as a key tool. Finally, given the experiences with using the WAGN platform, we instead chose MediaWiki due to it being a well-established, well-known and well-supported tool.

6. Outputs

- The central output from the design was the patterns.transitionresearchnetwork.org website
- A key side-output – in fact more widely known, circulated and used than the pattern language itself – was the *Transition Research Primer*, co-written with Ben Brangwyn. 1000 paper copies were printed, and distributed for free at the AHRC Connected Communities showcase event in London on March 12th 2013, and various subsequent research, Transition and permaculture events (I left my last physical copies on a freebies table at the International Permaculture Convergence in London in September 2015). The pdf version of the primer remains available on the Transition Research Network website, and is among the appendices to Design 3.

- Deep engagement in the world of pattern science not only exposed me to a far wider and deeper literature on pattern languages than I was previously aware of, it also brought me into contact with other pattern language researchers, through groups such as [PURPLSOC](#) (Pursuit of Pattern Languages for Societal Change. In particular, during 2014 and 2015 I collaborated closely with pattern language researcher Helène Finidori supporting development of her PLAST project (pattern languages and societal transformation) and participating in two proposals for EU funding, both of those unsuccessful. Text from the proposals was recycled into two academic papers, both lead authored by Hélene with me among the contributing authors.
- The experience of pattern language design, deeper understanding of pattern theory thus obtained, and awareness of the social processes involved in pattern language development, fed into my further work in important ways. In particular, it was a strong influence on the design of the ECOLISE knowledge commons and its use of pattern language and pattern theory.
- I also applied pattern language as a methodology for transdisciplinary knowledge co-creation in other areas of my work, including a series of workshops contracted by the Institute for Sustainable Design at Swansea University that brought together sustainability practitioners from across Wales to discuss collaboration based on shared systemic understandings of social and environmental challenges.

7. References

Alexander, C., 1977. *A Pattern Language*. Oxford University Press.

Alexander, C., Silverstein, M., Angel, S., Ishikawa, S., & Abrams, D., 1975. *The Oregon Experiment* (Vol. 3). Oxford University Press

Hopkins, R., 2011. *The Transition Companion*. Green Books.

Jacke, D. & E. Toensmeier, 2005. *Edible Forest Gardens. Volume 2: Design and Practice*. Chelsea Green Publishing.

Iba, T., M. Sakamoto & T. Miyake, 2011. How to Write Tacit Knowledge as a Pattern Language: Media Design for Spontaneous and Collaborative Communities. *Procedia: Social and Behavioral Sciences* **26**: 46-54.

Schuler, D., 2008. *Liberating Voices*. Massachusetts Institute of Technology.

Winters, N. & Y. Mor, 2008. IDR: A participatory methodology for interdisciplinary design in technology enhanced learning. *Computers and Education* **50**: 579-600.

Appendix 1: Bibliography of Further Pattern Language Literature Consulted

- Alexander, Christopher, 2005. Harmony-Seeking Computations: A Science of Non-Classical Dynamics Based on the Progressive Evolution of the Larger Whole. *International Journal of Unconventional Computing* 4.
- Alexander, Christopher. 2007. *Empirical Findings from The Nature of Order. Environmental and Architectural Phenomenology* 11(1): 11-19.
- Alostath, Jasem M., Meshal Kh. Metle, Lamia Al Ali & Laila R. Abdulhadi Abdullah, 2011. Cross-Use Pattern Language: Cross-Cultural User Interface Development Tool. *Procedia Computer Science* 3: 1541–50.
- Dovey, Kimberly, 1990. The Pattern Language and Its Enemies. *Design Studies* 11(1): 7.
- Hinton, C. Matthew, 2002. Towards a Pattern Language for Information-Centred Business Change. *International Journal of Information Management* 22(5): 325–41.
- Iba, Takashi, Toko Miyake, Miyuko Naruse & Natsumi Yotsumoto, 2009. *Learning Patterns: A Pattern Language for Active Learners*. Paper presented at Asian PLoP, 2009.
- Iba, Takashi & Toko Miyake. 2010. *Learning Patterns: A Pattern Language for Creative Learners* Paper presented at Asian PLoP, 2010.
- Iba, Takashi, Mami Sakamoto & Toko Miyake, 2011. How to Write Tacit Knowledge as a Pattern Language: Media Design for Spontaneous and Collaborative Communities. *Procedia - Social and Behavioral Sciences* 26: 46–54.
- Jessop, Alan, 2004. Pattern Language: A Framework for Learning. *European Journal of Operational Research* 153(2): 457–65.
- Kernohan, David, 1981. Externalizing the Design Process. *Design Studies* 2(1): 27–32.
- Kohls, Christian, and Jan-Georg Uttecht, 2009. Lessons Learnt in Mining and Writing Design Patterns for Educational Interactive Graphics. *Computers in Human Behavior* 25(5): 1040–55.
- Kotsiopoulos, Tassos M., 1982. Reading The Oregon Experiment. *Building and Environment* 17(2): 69–85.
- Lea, Doug, 1994. Christopher Alexander: An Introduction for Object-Oriented Designers. *ACM SIGSOFT Software Engineering Notes* 19(1): 39–46.
- Lera, Sebastian G., 1981. Empirical and Theoretical Studies of Design Judgement: A Review. *Design Studies* 2(1): 19–26.
- Pauwels, Stefan L., Christian Hübscher, Javier A. Bargas-Avila & Klaus Opwis, 2010. Building an Interaction Design Pattern Language: A Case Study. *Computers in Human Behavior* 26(3): 452–63.
- Seamon, David, 2007. Christopher Alexander and a Phenomenology of Wholeness. Paper presented for a special session on Christopher Alexander, annual meeting of the Environmental Design Research Association (EDRA), Sacramento, CA, May 2007.
- Sime, Jonathan D., 1986. Creating Places or Designing Spaces? *Journal of Environmental Psychology* 6(1): 49–63.

- Tonkinwise, Cameron, 2015. Design for Transitions – from and to What? *Design Philosophy Papers* 13(1): 85–92.
- Ward, Anthony, 1987. Design Archetypes from Group Processes. *Design Studies* 8(3): 157–69.
- Ward, Anthony, 1989. Phenomenological Analysis in the Design Process. *Design Studies* 10(1): 53–66.
- Winters, Niall & Yishay Mor, 2008. IDR: A Participatory Methodology for Interdisciplinary Design in Technology Enhanced Learning. *Computers & Education* 50(2): 579–600.
- Winters, Niall & Yishay Mor, 2009. Dealing with Abstraction: Case Study Generalisation as a Method for Eliciting Design Patterns. *Computers in Human Behavior* 25(5):1079–88.

Appendix 2: Draft Pattern Language Structure and List of Seed Patterns Shared with Workshop Participants (November 2012)

Level 1: Overarching values of Transition

RESILIENT SYSTEMS

BUILDING COMMUNITY

TRANSFORMATIVE PRACTICE

Level 2: Core Principles for Research

TWO-WAY COLLABORATION – researcher and researched work together in a way that is planned from the start. Ideas/skills/benefits flow both ways. Dialogue at all stages.

SHARED POWER AND OWNERSHIP – dispersing traditional power relations in research. Everyone has a say in decisions about the research, and knowledges/ideas/skills are equally valued.

ACTIVIST RESEARCH – research is carried out with the goal of positive social and environmental change, in light of the overarching values above.

PROMOTING WELL-BEING – research that increases the well-being of all those involved, and the wider community.

INCLUSION AND DIVERSITY – research includes a wide range of people of diverse backgrounds, knowledges and skills. It is carried out in a way that respects equality and human rights. (*Integrate rather than segregate*)

ACCOUNTABILITY – researchers have multiple responsibilities, to participants, research partners and to the communities they work with, as well as to professional practice and institutions.

WORKING ACROSS SCALES – the issues the research is focusing on are connected from local to national to global, and practical efforts are made to widen the relevance of the findings (scaling up)

LOW CARBON ACTION – the carbon footprint of the research is minimised, and sustainability is an explicit goal across all areas of research practice.

PRODUCE NO WASTE – nothing is produced during the research or from the research that is not used.

SITE REPAIR – research is only conducted if the value to Transition is clear.

Level 3: Strategic Research Mechanisms

PARTICIPATORY ACTION RESEARCH* – a research approach where researchers and participants work together to identify an issue, collect data, conduct analysis and take action together. Researchers may be internal or external.

PRACTITIONER-LED RESEARCH – research undertaken by practitioners.

CITIZEN SCIENCE* – democratic science, where ‘non-certified’ experts feed into or lead scientific research.

(*these terms/approaches are often misappropriated; the content of our patterns will make the focus on radical/liberatory approaches clear.)

ADVOCACY – research is conducted with the goal of representing or advocating for a particular community or sets of political interests or beliefs

RESEARCH MARKETPLACE -

MULTI- AND TRANS-DISCIPLINARITY – working across and disrupting traditional boundaries in research, e.g. between separate academic disciplines or between academic and practitioner/community research.

ACADEMIC/PRACTITIONER RESEARCH NETWORKS – building robust and long-term networks to share knowledge, skills and ideas, and to foster research collaboration

ACTIVE LEARNING – the learning of all participants and researchers is at the centre of research, this leads to additional benefits.

CAPACITY-BUILDING – two-way sharing of skills and knowledges, during and beyond the research, for improved capacity to conduct research and collaborate.

OPEN SOURCE PRODUCTION

KNOWLEDGE COMMONS

MULTIPLE SITES OF DISSEMINATION – research is disseminated to as wide a range of audiences as possible/appropriate, this may require multiple modes and formats

TRUE IMPACT – research should result in positive social and environmental changes that support the work of Transition.

Level 4: Research Practice

INTEGRITY (PERSONAL AND COLLECTIVE)

RESILIENCE (PERSONAL AND COLLECTIVE)

EMOTIONAL WELL-BEING (PERSONAL AND COLLECTIVE)

INTERPERSONAL RELATIONS

COLLABORATIVE DESIGN

PARTICIPATORY METHODS

SHARING SKILLS

VALUING DIVERSE ROLES

PARTICIPATORY ETHICAL PRACTICES - follows ethical procedures, based on ethical priorities of all those involved. Does not cause harm to participants/environments and aims to have positive impacts.

ITERATIVE DEVELOPMENT

COLLABORATIVE ANALYSIS

COLLABORATIVE THEORY

CLEAR EXPECTATIONS - no unrealistic promises. At the start of the research, everyone knows what is expected of them and what to expect from the research.

TRANSPARENCY - clear about where the project (and the researcher) comes from. Makes every stage of method and analysis clear. Committed to accuracy in reporting on the research.

ACCESSIBILITY - uses clear language at all times. Findings and outputs are available to everyone.

REFLEXIVITY - reflection on research practice is built in at all stages.

RIGOUR - recognised scientific/professional research standards are set and adhered to at all stages

VALIDITY - making knowledge claims that are justifiable based on the context and methodology used.

REPRESENTATION - attention to how people, actions and the wider movement are represented in the research. People who are represented in the research have control over this.

CLEAR LANGUAGE

RECOGNISING AUTHORSHIP

CONSENT FOR PUBLICATION

DISSEMINATION - a set of patterns here, covering different modes of dissemination - academic articles, community events, policy reports, media, etc.

MAKING A DIFFERENCE - a set of patterns here, covering examples of ways of making a difference from research.