

Afterwords



Figure 57 What painting do we see?

I am at the end of my narrative arc. There is a dilemma with stepping back. If this has been a writerly, plural text then the meaning-making rests largely with you the reader and how you connect this to your stories. On the level of meaning there cannot be one picture and I refuse to impose one. However on the level of action and contribution in the world then a picture can be discerned. It is a picture that has materialised as a result of my narrative arc. By describing this explicitly I make another action in the world. Why shrink from what has been done or leave it to chance that these pieces might be fit together by different readers? Being postmodern has its own challenges I realise. All voices in my pluralism are not equal. Some are louder than others. The dominant sociotechnical theory strand has been quite deliberately shown to mute the theories of relational practice which hang in barely by a thread through the thesis. This I felt reflects

the field in which I worked. I liked that the actual form of my thesis expressed its own argument – namely that it is hard but essential to keep different perspectives simultaneously on the table: the socio- *and* the technical not separated but together in some way. The result of this play on form meant that relational practice represented less a theory in the thesis and became more of a symbol of all that tends to get excluded or become disappeared from the field in which I worked. And that symbolic vacuum was filled with my own stories and reflections on my practice there. In this way I was elbowing out the space to look at what is normally absent. Does this work? Well yes and no. There is a tricky tension between emphasis and invisibility. I have already shown that I cannot ever fully impose on the reader the frame in which he or she should read a writerly text. So a shaky anchoring of relational theory might seem just that to one reader: shaky. To another it might seem to be the artistic, subtle statement I intended. And to a third reader it might simply be a puzzling twist. How things are said is not equal. By not emphasising something theoretically there is no doubt a shift in visibility in the thesis. The absence of a direct statement of the importance of issues of power, gender for example in a field such as the one with which I engaged might imply these issues are not important there at all. This is an aspect of my approach which has been to start where the field is, rather than from where, at a step removed, I might observe it to be. The challenge of omission results. My response to this challenge - it arose during my viva examination - was that narratives, if honestly told, will naturally express the excluded, subtle and tacit dimensions. I stand by this but add that narratives express themes in a different way. They speak more to experience than to theory. As a result my narratives might reach out more to a readership of practitioners rather than to a readership of policymakers and academics. So this tension between the visible and invisible needs to be carefully worked with an eye to the different audiences. And keeping ones own narratives honest is just as demanding as it is for the learning historian. Without the steady questioning and explicit discussion of all that was tacit in the Lowcarbonworks project this account would not have expressed as rich a relief between the said and unsaid. So I still hold that a wide scope can be achieved with the approach I took in my writing but I recognise that the choices I made about what to emphasise explicitly and implicitly through narrative are significant in that they will shape ultimately where and how what I have written is of influence.

A friend and fellow action researcher wrote of my PhD:

As I grappled with the reading of Margaret's PhD, I found that I 'got' the point of the narrative, learning history approach more deeply than I had before – and I felt it was because the form of the writing as a learning history itself that allowed me to find my own way to relate to the ideas it embodied. I seemed to go through a change of perspective myself which felt quite profound; it touched me emotionally as well as cognitively and this felt important and exciting. I seem to have internalised a new understanding. I have become post-modern!

Jean Boulton, from a draft article she is writing in July 2009

Here the tacit form seems to have allowed Jean to achieve her own meaning-making in relation to my work rather than because of it. For meaning, and indeed for elegance, some of what I have said must still remain tacit. My hunch is that it is particularly the humanity of the piece that must be left uncommented. This lies in the folds of the story. There I describe myself, a woman, and a very fallible, idiosyncratic human who embedded herself in a particular field and tried to do some good work there. Neither hero nor post-hero. I do not want to theorise my humanity. It is the particularity of my experience that is there for others to recognise and perhaps connect to. But here in these afterwords I want to work the shape of the less visible into something more overt. For another kind of action and learning in the world a little more must be said and some of that quite explicitly. This then is a final shaping. A stepping back. A musing on the picture of this work in the world.

First theory and action research. The contribution of this work to sociotechnical theory has been articulated in the preface and expanded upon in the thesis. Through narrative I have added a human dimension to an important set of ideas about societal transition that have, to date, been limited by their theoretical conceptualisation of human agency. In the learning histories the human and relational aspect of technical change – the very particularity of these - has been re-introduced through the narrative. Like sociotechnical theory these narratives make a link between the micro- and the macro- but they do so in a way that is more flowing than the clear lines of niche, regime and landscape. The narratives describe characters that move with agility between these levels. Innovators are often regime players who, along with others, create niches and are driven by a vision

of a landscape that is both real and imagined. And this landscape is one that includes the natural world. And through narrative micro- and macro- actions and intentions start to be linked and become more apparent. The micro-moment of opportunity and chance – the particularity of that catfight or that chance cup of coffee is set against the characters' intentions and vision that were usually grand and ambitious. The reader can thus start to see how these micro-moments link to broader visions that are set and adjusted within a wider macro context of changing agendas.

What has resulted is a picture of change that is much less knowing, that is more present-oriented and more fluid and human-centric than sociotechnical theory. It is a practice view of change. I call it the practice of transition. With an evolutionary theory of change such as sociotechnical transition theory, there can be a tendency to revert to the view that a societal transition *can be managed* in some way. The narrative view adeptly prevents a collapse back to certainty and control. With this view questions of practice have more to do with how one can connect meaningfully to an ongoing transition rather than how one can manage or change something. With these observations then the whole concept of 'change' has become moot.

But neither an expanded theory of change nor a full deconstruction of the term has been my goal. And here lies the broader point of my theoretical work that has to do with the pragmatic imperative of relating theory more easily to practice.

By working with theory in the way that I did I storied my theoretical exploration as a quest. A practical quest to help address a big issue. By doing this I was in effect reversing the link from theory to practice. I was performing relevancy checks on theory and looking for it to serve the purpose of guiding practice rather than as an end in itself. When my quest arrived in sociotechnical theory I worked appreciatively with it, critiquing it and enhancing it with my own thematic work. There I showed how narratives could bring such a theory to life. But my purposes in doing this were not only to serve the theory but also to serve the question of practice in the face of the big issue. So when I worked with the analytical aspect of learning history to draw out general themes about the qualities of innovation I did so in a way that supported two onward routes. One route was, via the learning questions, back into the field of practice. The other route was, via further theorising, back into the field of theory. I took both routes. The questions I took

out to practitioners at a local government sustainability conference in Liverpool in May 2009. The theory I took to an academic conference in Amsterdam just after submitting my thesis in June 2009. There some 200 transition researchers were meeting, including, to my excitement, Frank Geels himself. This whole exercise was an attempt to increase the scope of my action research. It was an experiment. In Liverpool I was running a workshop with local government sustainability practitioners. I presented the six themes (from Chapter 11) to them and they were enthusiastic. They recognised the themes but had never seen them presented in this way. Because the themes were drawn from stories I realised that I was telling them a familiar story but in an unfamiliar way. I was conferring an academic legitimacy to human qualities of innovation that were already known by practitioners to be of value. But these qualities are rarely formally recognised. This seemed important. A month later in Amsterdam I presented my themes to an audience of transition researchers. It stood up well I felt. But there were few audience questions. My presentation felt somehow sealed into itself. The chair of the session remarked on our work overall: "it's so fascinating", he said, "I wonder do you need to relate it to transition theory at all? Why not just stick with the narratives?" There we were, having crossed the bridge entirely to a new discipline and the researchers there wanted us to just be action researchers! My overall conclusion is that my expansion of the theory had, for this experimental cycle at least, more value in the field of practice than it did to the academy. Either route would require further work to capitalise on the contribution. So as important as any theoretical expansion I might have achieved, is my attempt to work with it and to understand its practical implications. This I propose is a way of working with theory that is interesting for action research generally. In this way theory becomes another narrative. Another story. It is naturally equalised alongside the other forms of knowing described in this thesis.

Placing my methodological contribution sits more easily with the overall practice orientation of the thesis. I have already summarised the methodological contribution of learning history in an open system to the field of action research. Practice accounts, for example my reflections on power and participation in Chapter 7, strengthen and develop the methodological proposition generally. From these and my situation of the method theoretically comes this new articulation of learning history method that is being offered as a well-substantiated and theorised 'method' from which practitioners might work. However the storied and reflective form of this proposition has meant that it has already

found an outlet directly back in the field of practice. In Chapter 5 I mentioned the Appetite for Life research program that, inspired by some of this work, set out to use more portable forms of learning history. On this project it was envisaged that learning histories would relate different peoples' experiences around the introduction of healthy eating guidelines to schools in Wales. Just as I completed writing this thesis, this project hit choppy waters during the validation process of these learning histories. At this point I sent my co-researchers my account of validation in Chapter 7 hot off the presses. Several of my colleagues commented that they found it enormously helpful. Though my research was set in a different context with different sensitivities, researchers found that my narrative related well to them *on the level of their experience*. Chapter 7 does not preach method; it shows it in all its messy glory. Another scholar practitioner of learning history recently read Chapter 7 with the purposes of aiding her understanding of an engagement that had two years before 'gone wrong'. She said: "I read that chapter and I was comforted by it but I also saw I'd messed up". She went on to say: "I look now at the work I did and see that it was good work, my intentions were good, it was good and I messed up". This is her story not mine. But I make the point here to show how her engagement with Chapter 7 held her still in that interesting place of Chapter 8's relaxed contradiction – a place that increasingly I see as a heuristic for deeper learning.

I conclude with a question asked of me in my viva: what is the quality of this piece of action research? In Chapter 6 of this thesis I presented quality criteria to guide my choices as I moved through this process of embedding myself in a field and working with a problem there. These were forward-going, practice-oriented criteria that would, if they worked, enable good action research. Did they work? To answer I turn to Hilary Bradbury's questions for assessing the quality of a piece of action research: how did the work make an impact in the world? What practical value has the work demonstrated? How has it been anchored in partnership? How has it been inclusive of many ways of knowing and how does it help build infrastructure for the future? (Bradbury 2007 in Roth and Bradbury 2008 p.360). Lying in the folds of this thesis is the answer to this. It is the picture that has resulted from the strokes, dashes and dots of my narrative arc. I will conclude by describing that picture as I see it now.

The work has made an impact in the field of local government by creating connections and collaborative learning experiences there. It has introduced points of self-awareness

and reflection at the individual, organisational and institutional level that have helped show the field to itself. And it has brokered the flow of knowledge and stories from one place to the next. From this increased awareness and knowledge have come new conversations, new actions and the articulation of new moves. Overall these amount to an increase in capacity for appropriate action in the face of climate change.

The research has also had an impact on the field of action research practice by articulating and developing the learning history method in more detail. It has done this not in isolation theoretically but in collaboration with other researchers on the Lowcarbonworks project and beyond. These researchers – as I mentioned above - have already found the field accounts and experiments on method to be of practical use. The experiments with aesthetic and fluid forms described in this thesis have been embraced by the Lowcarbonworks project and developed on from there. The ‘designer’ learning history in our final project report built on the prototype of my learning history form. It reveals a very exciting and engaging development. And in much the same way that recipients of my learning history booklets voiced relief and delight before even reading a line of the content, the recipients of the Lowcarbonworks final report have been similarly enthusiastic.



Figure 7: The luxury De Vere Grand Harbour Hotel connects for heating and cooling in 1994 (courtesy: Utilicom)

With each successful connection, though, the scheme grew in reputation and legitimacy. The BBC connected in 1990 and though local hotels appeared reluctant, French hotels IBIS and Novotel connected without a murmur a few years later.

Finally in 1994 the new five star De Vere Grand Harbour hotel agreed not only to connect to the heat system but to take advantage of the chilling that was made possible by an absorption chiller at the heat station. Costs for the new infrastructure were shared between the hotel and the scheme.

Researcher reflection: This sharing of the capital infrastructural cost reflects flexible financing and the ability to accrue cost-savings on a whole-life basis. It stands in stark contrast to the forces of lock-in mentioned earlier.

The scheme could now demonstrate capability in chilling as well as heating and the impressive façade of the luxury hotel put paid to any lingering associations between this district energy scheme and 'poor man's heating'.

Link to Theory

Social shaping of technology. It is interesting the French hotels played this important role. District energy is common in France and it is likely cultural acceptance made connection easier for the French hotel chains. So lock-in was broken in places and in so doing the meaning of the technology was being re-negotiated locally. The luxury hotel connection was significant because it challenged deep-rooted cultural resistances to district energy that may have underpinned some of the resistant forces.

That was one of the lightbulb moments and you think, yes, it's the network really that's important, after that you can plug in whatever energy sources you've got really. And so it was then we realised that our dream of having a large scheme actually, we could do this by adding CHP even though the geothermal resource was relatively small. (MS)

Phase 4: A lightbulb moment – Expanding the vision

In the mid-90s the focus and understanding of the scheme started to shift. Though it was and still is marketed as a geothermal scheme, the importance of the geothermal element was becoming less central. Gradually Bill, Mike and others were realising that it was the network and not the actual heat source that was important.



This shift in thinking was significant. It reconnected the team back to their original ambition – that of a larger district energy scheme around Southampton. This had been curtailed by the limited size of the aquifer, but now the vision was re-instated.

This liberated the team to think more imaginatively about potential sites for community energy that were further out and that didn't have a direct connection to the geothermal well.

One such site was the Holyrood council estate where 300 council flats needed new heating. Too far from the well, a small on-site CHP generator was installed instead and this supplied a standalone community energy network around the estate. This demonstrator then paved the way for connections to private residential clients and dispelled the belief that geothermal was essential to the growth of the overall scheme.



Figure 8 Holyrood: Council housing, the first standalone CHP scheme (Photo: Utilicom/SCC)

Figure 58 From the Lowcarbonworks final report: a designer take on a fluid learning history form

Experiments in form have not been confined to the written forms of learning history.

Throughout there has been a deliberate blending of multiple ways of knowing. Practical and experiential knowledge have been mediated through the presentational form of story in the learning histories. The presentational form of story has been taken very seriously as a form of knowing in its own right. At the end of the research there reside in the system stories, legitimised and valued and new that were not there when it started. And as I have described at some length propositional knowing has been continually levelled alongside experiential and practical ways of knowing. This is to be seen in the learning histories where theory is 'just' another perspective and it is to be seen in my overall way of working with theory where I have doggedly pursued its practical implications. And in the process of learning history – the events and presentations – there has been a conscious effort to experiment with aesthetic presentational forms that engage participants' practice and experience via their inner narrative arcs. Again the propositional has had its place but not an exalted one.

Finally partnership and building infrastructure for the future. I see the two as bound up together in that the one precedes the other. And together these quality criteria elide elegantly with my earlier point about 'change' being less about making something happen and more akin to a 'practice of transition'. The practice of transition, is for me one of connection. In the past three years I have created and facilitated connection. I have connected myself to individuals in the field and through the experience of learning history a deeper relational connection has resulted. This connection was one that, within the focus of our work together, was akin to partnership with those very qualities of trust, loyalty and respect that have surfaced over and again throughout this thesis and in the learning histories it describes. The learning history work also created partnership among participants – for moments at the workshop and in a more sustained way with the B&NES work. In late July 2009, Jane of B&NES wrote to the University endorsing the work we had done together. Of the participants she wrote:

Also, the.. participants [in the seminars], most of whom are Divisional Directors, now form the core of a new senior cross-departmental group of Divisional Directors overseeing the development and implementation of the whole corporate Climate Change Work Programme. I think this is first group of its kind in this Council

Jane Wildblood, e-mail to Peter and University of Bath management, July 2009

Here partnership, first mine with Jane and then the partnership within her organisation that was created at the seminars helped to build an infrastructure for the future. Similarly on the Lowcarbonworks project I started, necessarily because of project funding delays, working in isolation. However it was when I moved from lone ranger into partnership with my colleagues that the reach and scope of the work became far more extensive. This started with the Learning History workshop in February 2008 and concluded with the end of project conference in July 2009 which built on and developed what was prototyped in February. This was the conference with which I opened the preface.

Partnership at an organisational level or at the institutional level has been less forthcoming. As a project we have concluded that to effect policy at a national level we were impeded by not being adequately plugged into those organisations and networks that influence and drive the carbon reduction debate in the UK. We have realised that institutional sponsorship and partnership is an important ingredient that was missing. But building these links takes time and needs an underpinning of individual relational partnerships of trust and loyalty to support them. As we plan our next phase of research we are deliberately setting out to find institutional and organisational partners – and on account of our earlier work – we find that doors are now opening. It is a different kind of work to building individual relationship but the same kind of ‘push-pull’ energy applies. In July a policy maker from the Dept. of Energy and Climate Change gets in contact with me having heard about my work from a couple of different sources. She has a sense narrative has an important role to play in the challenge of helping communities move to green low carbon lifestyles. When I send her a paper I wrote about Merton she responds:

[It is] interesting. I had an instinctive feeling that Government needs to work with others to tell and share stories; now it all feels academically credible

June, 2009. E-mail from a UK policy maker in response to a paper I wrote about Merton.

Reading this I see a connection rather than an exchange of ideas between us. We will meet at the end of July to share these connections. Who knows what will happen.

So partnership perhaps must be built individually first before moving up and connecting these to our organisations and institutions. If change and innovation is, as I am

suggesting, a practice of connecting to an ongoing unknowable transition, then the first step of that process is to build a scaffold of relational connections into that transition and to take it on from there. This thesis has described the creation of that scaffold and the process of connection into a field I knew nothing about. And on this basis then the work has only just begun.

