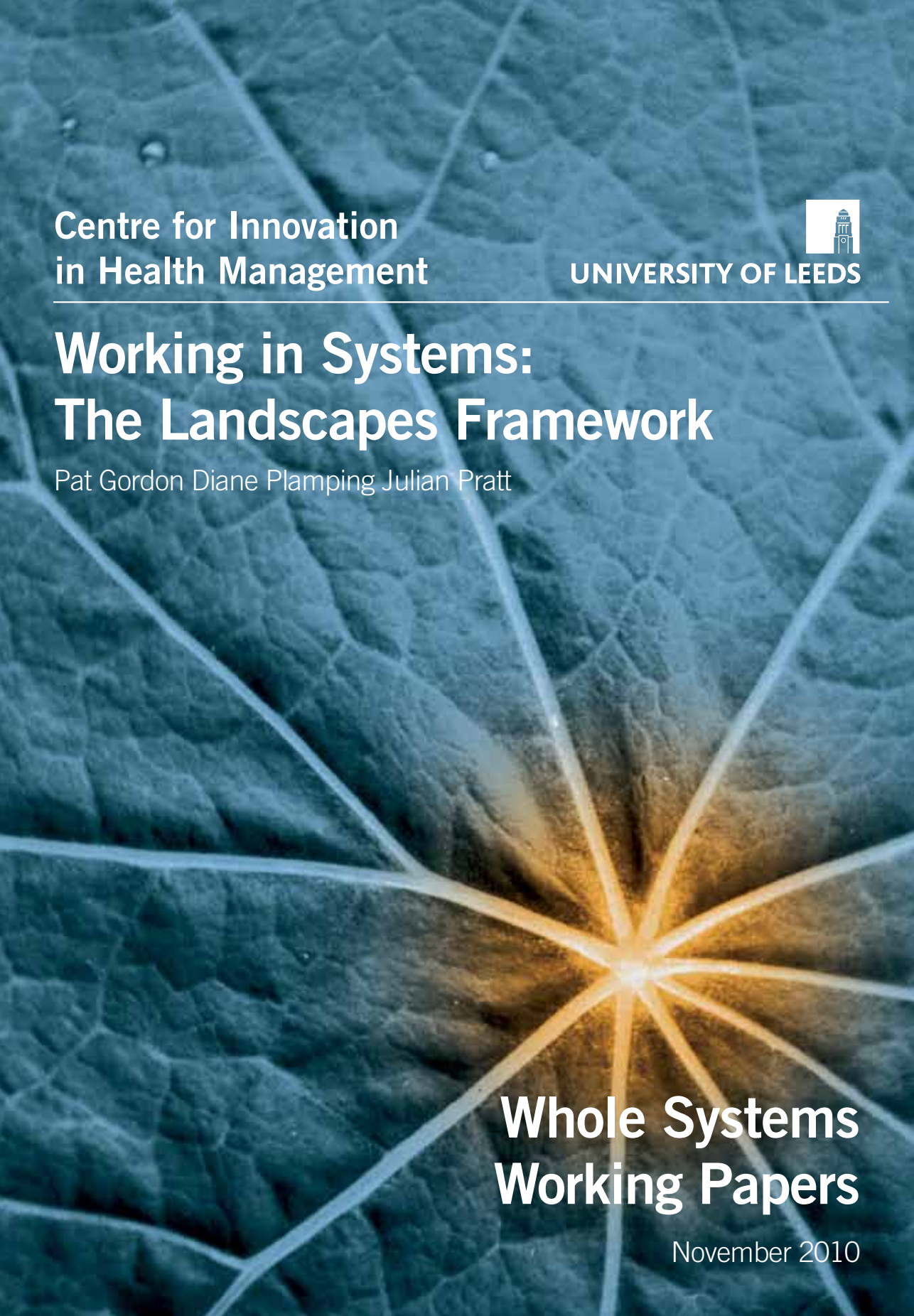

Centre for Innovation
in Health Management

UNIVERSITY OF LEEDS

Working in Systems: The Landscapes Framework

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Whole Systems
Working Papers

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Acknowledgments

We have developed and refined these ideas in workshops with colleagues over many years. Our thanks are due to all of them for their tolerance and readiness to share ideas and experience.

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Contents

Introduction

Whole Systems Go is the title of a 2009 paper by the National School of Government and the Public Sector Leaders Alliance[1] which calls for 'a whole systems approach to thinking about government and public services' and new patterns of inter-organisational working in order to tackle the cross-cutting problems facing citizens and communities, such as child protection or crime and the fear of crime. Some 10 years earlier the Department of Health insisted that 'The strategic agenda is to work across boundaries… underpinned by a duty of partnership… past efforts have shown that concentrating on single elements of the way services work together... without looking at the system as a whole does not work'[2]. In 2010 the language is of the 'big society', localism and Total Place as another new administration seeks to tackle intractable problems.

People readily understand that many of the issues facing public services do not sit neatly within one organisation or one sector. They recognise that piecemeal approaches do not solve complex problems and yet, in trying to tackle these, the tendency is to break them into manageable component parts. At the same time, however, there is growing understanding that, when you can't do it alone, you have to find ways to get the system as a whole to operate differently – but how to make that happen? How to progress from analysis of a problem to effective action?

Systems thinking offers both a way of understanding the world and a way of intervening to make things happen. In other words, theory can be intensely practical when it helps you decide what to do. We suggest that the type of systems thinking that is useful depends on the environment you find yourself in and determines the sort of practice that is likely to be effective. We describe a Landscapes Framework which offers a way of thinking about different types of situation in which people work together on a problem. Each of the landscapes calls for a different set of tactics in order to produce the successful behaviour that gets things done.

We originally described this framework over ten years ago in the context of inter-organisational partnerships[3]; but it applies just as cogently to single organisations or departments. This is an updated and expanded version. It is addressed to public sector managers and practitioners who are sceptical enthusiasts, curious but not much taken with magic bullets. Section 1 begins with a brief discussion on systems thinking. Section 2 *Making sense of your environment* sets out a framework based on judgements about the nature of the problems people face and the nature of their goals. This gives us four possible landscapes. In Section 3 we give some examples of the way in which players find themselves moving between landscapes and adjusting their behaviour accordingly. Section 4 *Acting effectively* describes the methods and behaviours that are effective in each of the landscapes and is illustrated with the example of tackling obesity. The paper concludes with a brief summary.

1. Systems thinking

A system is something that can be conceptualised both as a whole and as a set of interconnected parts. In human systems we refer to these parts as 'players' whether they be individuals, groups or organisations. One or more of these players may think systemically and we call this player an animateur. This player gives attention to the parts, the whole and the connections, and although one of these will be in the foreground at any given moment, the animateur always gives attention to all three*.

The parts: An animateur gives attention to each of the players, ensuring that the conditions are right for them to survive and to do their best while also preventing them from doing their worst.

The whole: An animateur looks beyond the activity of individual players, asking whether the system as a whole is achieving what it could achieve and taking action to shape the whole so that it behaves more in the way they would like it to.

Connections: An animateur gives attention to the connections between the players – who communicates with whom, what are the flows of information, the relationships of power and authority, the nature of feedback loops and so on.

The challenge of how to get things done when you can't do it alone arises within a single organisation, with its multitude of departments and professional groups, as much as in inter-organisational settings; and systems thinking can be applied fruitfully to organisations, teams and indeed families.

Adaptive systems and designed systems

There are several ways of thinking about systems, each of which implies a very different theory of change – why and how particular actions and methods bring about changes in the way we do things. Anyone who wants to take action to make a difference in the world will employ a theory of change, even if this is implicit. Our theory of change is rooted in an understanding of the distinction between designed and adaptive systems[4 5 6].

Metaphor is a way of illuminating our thinking about the world[7] and we describe two useful and contrasting metaphors for ways of organising in human enterprises – machines (designed systems) and living systems or ecosystems (adaptive systems). Each is a systems approach but the underlying mental model of how systems organise is different.

** We have found it hard to find a term that conveys the role of a player who thinks and acts systemically in a range of different sorts of system. We experimented with system organiser, rule maker, having oversight of the whole, promoter of necessary conditions, shaper of landscape and in the end decided to go with the term animateur in the sense of 'to cause to come alive' or 'to make happen'.*

Designed systems, machine metaphor

The dominant theory of change in our culture is derived from a view of the world as a simple system – simple in the sense that the behaviour of the whole can be predicted from knowledge of the behaviour of the parts and their connections, even where this is complicated. Order has to be designed in. A designer has to take responsibility for analysing the current situation from a position of objectivity and for proposing an intervention that will have the desired effect – either because it is so persuasive that people change their behaviour or because you have control over them. This is a designed systems approach and the interventions can be described using the metaphor of a machine – re-design, re-engineering, leverage. It is a sequential approach in that analysis leads to policy, which leads to action.

The designed systems approach is a powerful way of understanding and describing, but its great weakness is that there is so often a disconnect between the policy analysis and the action that makes a difference. A lot of energy has to go into motivating people to carry out the policy which they have had no part in developing.

An example of this sort of designed structure is a firm that decides what to produce, whom to employ, what roles each will play and what will be the sanctions and rewards.

Adaptive systems, living systems metaphor

An alternative theory of change is derived from a view of human systems as complex adaptive systems that are capable of organising themselves (self-organising). When such a system is not acting as you would want it to, it is likely either that it is organising to achieve something other than its stated purpose or that it is being constrained by its environment. As there is no external designer, any actor in the system (individual, team, group, organisation, community) may take on the role of 'animateur' and perturb the system in the hope that it will self-organise to achieve a different purpose.

This is an adaptive systems approach and interventions can be described using the metaphors of living systems and ecosystems – interconnection, interaction, identity, patterns, flows of energy. It is a non-sequential approach in which the sharing of understanding and purpose is not a precursor to action but an integral part of it.

An example of this sort of adaptive structure is a social network that influences an individual's diet, exercise and weight[8].

Boundaries

The boundaries of a designed system are created by its designer. The boundaries of a complex adaptive system are created by its own internal dynamics, in interaction with its environment. Everybody is part of many human systems – for instance a family, a neighbourhood, supporters of a football team, a work group. We suggest that human systems organise around purpose (what is important to them) and meaning (why it is important). People choose whether or not to take part. If you are connected to others who share the same purpose, you are part of a human system organised around that purpose. The boundaries of adaptive systems are not the same as the boundaries of organisations or professions.

Both / And

Some aspects of the work of a human system require the formal authority, accountability and hierarchy of a designed system. Other aspects require the capacity for self-organisation, adaptation and evolution. We find it fruitful to think of most human systems as both designed systems and as living systems. The important thing is to be able to distinguish between them so you can recognise what sort of system you find yourself in at a particular time, and identify how you might operate effectively.

Whole systems

The term 'whole systems' does not have a single agreed meaning but has nevertheless proved to be useful. In the 1990s we worked together on an action research programme based at the King's Fund and developed a combination of theory and practical methods of working across boundaries which we called *Working Whole Systems*[9] . Its original sense was intended to convey a way of working based in adaptive systems and the living systems metaphor which was applied to a domain (inter-agency work). People responded to the term 'whole systems' as an invitation to think beyond the limitations of a competition-based NHS and would say things like 'we don't know what a whole systems approach is but it sounds interesting'.

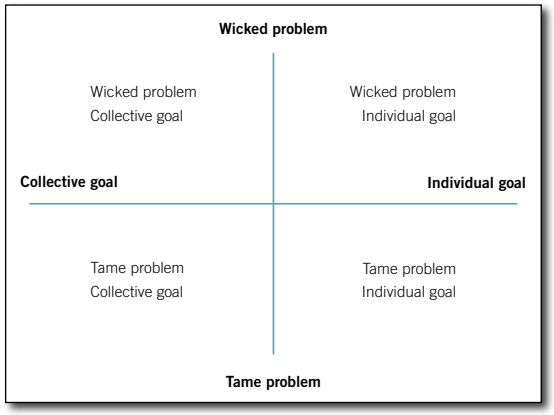
When New Labour came to power in 1997 they brought a language, indeed a duty, of partnership to the public sector and a commitment to joined-up government. It seems clear from the form they prescribed for Local Strategic Partnerships and Action Zones that they intended these partnerships to follow a designed systems approach that coordinates the activities of different agencies. The term 'whole systems' entered the vocabulary of the public sector, particularly the health service, and came to be applied to any sort of system-wide inter-agency planning.

There is a coherent literature in which whole systems approaches are rooted in adaptive systems thinking; but 'whole system' is also commonly used to refer to any approach that is system-wide, even when rooted in disciplines such as strategic planning.

2. Making sense of your environment: the Landscapes Framework

We describe a framework of four environments or landscapes, each of which calls for different tactics in order to get things done. The starting point is to recognise which landscape you are in and what you are dealing with. The framework is derived from judgements about the nature of the problem and the nature of the goal; whether the problem is 'tame' or 'wicked' and whether the goal people seek is individual or collective.

These judgements, about the nature of the problem and the nature of the goal, set up four possible landscapes.



Goals, individual or collective

To the right side of the landscapes framework, players pursue individual goals. To the left, they also have some collective goals.

Collective goals and joint undertakings between organisations are avoided in the private sector, by and large, but there are usually some areas of common interest e.g. horizontal groupings such as trade associations and cartels or vertical groupings such as a manufacturer and its supply chain. In the public sector, on the other hand, joint ventures are assumed. There is the high-level collective goal of serving the public good but, at the same time, organisations are driven by their own policy imperatives, budgetary requirements and departmental responsibilities. There are plenty of good reasons for misunderstanding whether and to what extent public sector organisations are pursuing a collective goal.

Problems, tame or wicked

Tame problems are found below the line in the landscapes framework, while wicked problems are found above the line.

Tame problems are those where people more or less agree what has to be done and how to go about it. Tame does not necessarily mean easy – reaching a solution may be difficult and solutions may be complicated – but tame problems can usually be defined, analysed and resolved in a sequential manner. With a tame problem there is an existing knowledge-base of tried and tested solutions that it is possible to exploit. We can predict what success will look like. Building the Olympic Park in East London is a tame problem – difficult, complicated, costly and controversial but we know how to plan to do it and there is plenty of experience to learn from. In organisational life and professional practice, preventing people from 'doing their worst', in the sense of incompetence or fraud, is in principle a tame problem. It may not be easy but there is no doubt about what's needed – good regulation.

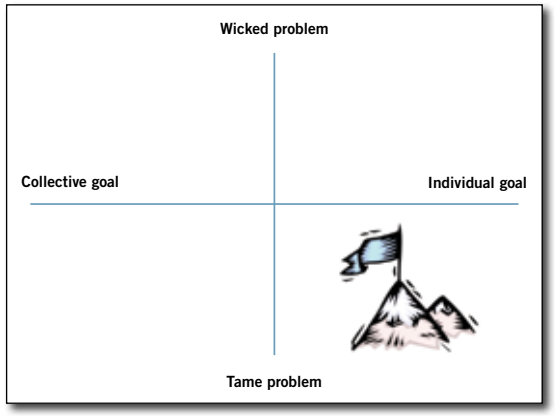
A wicked problem, on the other hand, is a situation where, even with a goal they are all agreed on, a group of people will have quite different views on the nature of the problem, what may be causing it and how to resolve it. Securing the Olympic legacy, for instance, is quite a different matter from building the Olympic Park. Childhood obesity is a wicked problem. Poor communication between professionals is a wicked problem, as evidenced in child protection inquiry after inquiry. In terms of professional behaviour, enabling people 'to do their best' is a wicked problem open to many interpretations and possible forms of action. A wicked problem may be clear enough at strategic level, but not at operational level. A wicked problem cannot be tackled simply by exploiting existing knowledge; what is required is exploration of a range of possibilities. (Annex 1 sets out a more detailed description of the tame and wicked terminology.)

Tame and wicked problems are not in themselves good or bad, desirable or undesirable – they just are. For many commercial organisations one of the key strategic decisions is how much resource to put into exploiting their existing knowledge base and product line (tame) and how much to put into exploring possible new products (wicked). Problems are dynamic, not static, and a wicked problem today may be tamed for a while, even though it may present itself as a wicked problem again in the future. These situations are familiar to us. In social life what counts as success is often contested. In organisational life, different views on the current state of play, incomplete evidence about what works, uncertainties about what others intend and how they will respond all contribute to the wickedness of a problem. This does not mean that there is no purposeful way of tackling wicked problems, but wicked problems are not solved in a once-and-for-all way and intervention in a wicked problem is likely to give rise to unintended consequences[10].

It is the designed features of accountability and formal authority that are intended to tackle tame problems, and the adaptive feature of self-organising that is best suited to wicked problems. What's important is to be able to distinguish between tame and wicked because they call for different tactics and behaviours in order to act effectively.

Four Landscapes

i) Mountain: competition



In this landscape each player is pursuing their own goal and believes they know how to achieve it. The mountain peak represents a tame problem which somebody, somewhere has tackled before, and there is enough knowledge of what has worked in the past to exploit in this venture. If an animateur sets up a competition and defines what success looks like they can give coherence to the activities of many players. A sporting body, for example, decides the rules of the game, its duration and the criteria to be met for a win. A commissioner decides the service they want to commission, and how to decide amongst potential providers. An interview panel decides the specifications and the weightings to be used in selecting applicants for a job. If the rules are set well, the animateur can harness the creativity of players. This is a landscape which enables architects to come up with creative designs, sportspeople to improve their performance and contractors to refine their offerings and hone their prices.

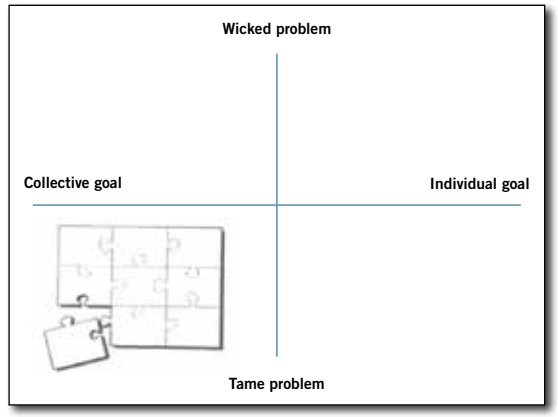
The language in this landscape is of competition, best practice, success, benchmarking, winning, as well as allegations of cheating and appeals to fairness. The characteristic behaviours and artefacts that allow you to recognise where you are include invitations to tender, clearly set out rules and regulations, lists of competencies, markets, competitions, auctions, contracts, targets, performance frameworks. Rewards and sanctions are set out openly. The focus is on the relatively near term – winning the match, getting the tender – and on tightly defined, therefore fairly narrow, goals.

The negative side of self-interest can lead to grave injustice and to coercion and control when players exploit differentials in power. But competition is a mechanism that can harness each player's pursuit of their own goal to give rise to purposeful and coherent behaviour, as demonstrated by contexts as different as sport and the market economy.

What this environment is good for

Competition offers the possibility of getting the best out of each of the players – optimising the parts – and is a good strategy when improving the parts is likely to raise the game overall. In some ways this landscape can be seen as low maintenance as it requires no agreement, or even direct communication, among players and there are no uncertainties about what to do to succeed.

ii) Jig-saw: co-ordination



In this landscape the problem is once again tame. The goals can be described and painted on the jig-saw for all to see. The steps which are necessary to achieve these goals can also be described, based on past experience of what works (and these could be visualised as the painting running though the whole thickness of the jig-saw so that it is visible to all levels within an organisation). The big difference, compared to the mountain peak, is that players have to rely on others to achieve the overall goal. The task is to co-ordinate the activities of the players. This is the terrain that people most often assume they are in when they choose to work together.

Coordination is a good way of delivering complicated projects when the goal is shared and can be divided into manageable chunks, each of which can be tackled independently and then assembled e.g. the many contractors building a bridge or the public service organisations developing emergency plans for responding to a disaster. Each player is responsible for one or more pieces of the jig-saw. They come together with the intention of delivering pre-set, shared objectives based on a consensus about what works. Once they have committed themselves to playing their part, individual players don't need to see the whole picture. Someone has to hold the collective goal in focus, but as long as each player delivers their piece on time and to standard, they will complete the jig-saw.

> The chief executive of a high-tech engineering company was interviewed about the firm's contribution to building the Large Hadron Collider. He was very proud of having manufactured a component to the specified design and within a tolerance of thousandths of a millimetre. When asked what part the component plays in the collider, he replied he had no idea.
>
> In patient care, what matters is that each professional delivers their piece of the jig-saw in a way that fits well with adjacent pieces. Once protocols have been negotiated in a surgical team, for example, each professional does not need to see the whole patient pathway, just to deliver their piece in a manner that allows others to play their part.

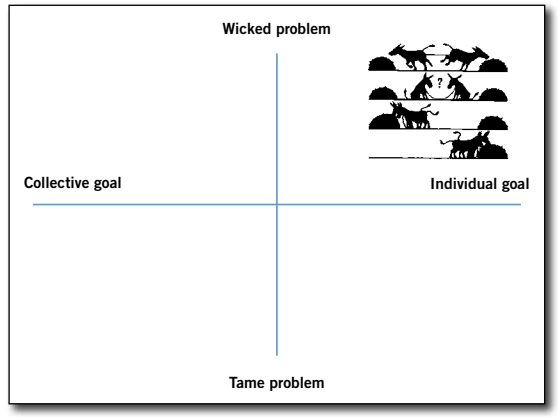
The key to recognising this landscape is that there is agreement about strategic goals and agreement, too, about the operational plans required to achieve them. This is the landscape where most planning sits and 'observables' include things like strategic plans, option appraisals, project plans, paper trails, contracts, project initiation documents, partnership agreements, operational plans. The language here is of good practice, joint ventures, due process, transparency, coordination and evidence-based practice.

The caveat is that the paradigm of planning and project management is so familiar that we assume we know what is entailed and mis-apply it to situations where there is no collective goal or where the problem is wicked and there is no consensus on what works. In other words, the picture on the jig-saw may be illusory. The reason coordination and project planning are so valued may be because they deal up-front with factors like risk management and metrics and resource allocation. Factors like these have to be managed whenever work involves several players and while it is tempting to think there is one best way of addressing them, they matter in all the landscapes and their appropriate management varies in each. (see Annex 2: Action planning in all four landscapes).

What this environment is good for

When a group of players agrees a shared goal, and how to achieve it, the pay-off is that they achieve much more than any one of them could manage on their own. Like the mountain peak, the jig-saw is a good place to carry out initiatives that can be planned on the basis of past experience and knowledge of what works. The great attraction is the belief, tenaciously held, that applying learning from other places holds out the promise of 'roll-out' and transferability.

iii) Donkeys: co-operation



The image of the two donkeys tied together and pursuing their own stock of food illustrates a wicked problem. Neither is interested in the other's welfare. Neither knows at the outset how to achieve their goal but they recognise they will have to act in a way that triggers helpful behaviour from the other. The rope in this image signifies the key insight that co-operation arises when players recognise that their futures are linked. They are exploring new territory in this landscape of individual goals and wicked problems. They cannot know in advance what the 'right' behaviour is because it will depend in part on the future behaviours of others, which may in turn depend on how the first player behaves now. As with all wicked problems, the first steps are important and each step shapes subsequent possibilities. The steps along the way cannot be predicted and each player may have to try some non-obvious behaviours to influence the actions of others (and be prepared to abandon them and try something else if they don't). This is about cycles of behaviour over time, not one-off activity.

Political process is the means of balancing different opinions and interests and finding pragmatic ways of operating that allow people to work together on certain issues and remain in conflict on others. When players want to get things done and find that they can agree, or at least go along with, some of the goals of other players, this leads to the formation of coalitions and shifting alliances based on giving and withholding conditional support. The prize is the possibility that co-operation may arise entirely out of self-interest, 'I can get more of what I want by co-operating with you'.

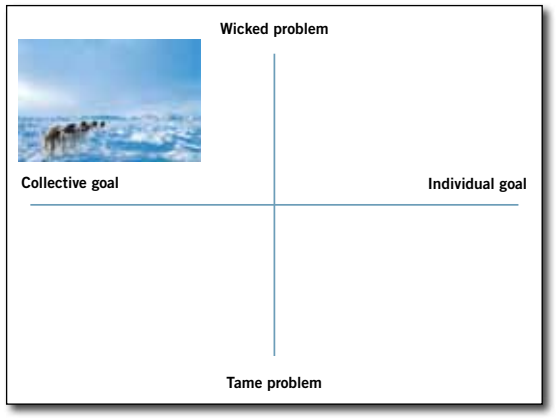
The characteristic language here is of win/win, give and take, coalition, reputation, the long game, social capital. The artefacts and behaviour that help you to recognise where you are include shared currencies, trust, requests and offers, deals, alliances, resource-sharing and a sense of 'what goes around comes around'. Players build on the particularities of their history in the knowledge that they expect to share a future.

And, of course, co-operation can be negative as well as positive – people cooperate to defend insider interests, to exclude rather than include, to make 'dirty deals', to reinforce compliance with the rules of closed societies and so on.

What this environment is good for

The attraction of co-operation is that it can be very efficient. It does not need the time and effort required to reach agreement about a collective goal. It is characterised by the growth of trust and social capital. Players are prepared to work together to achieve their own ends, and co-operation around one issue can build reputations and set the scene for further co-operation in the future. This is a low risk opportunity to build relationships that can lead to other forms of working together.

iv) Ice Field: wicked problem, collective goal



Players share broad goals in this landscape but there is no consensus on how to achieve them. The problems are wicked and the future uncertain. This is where we find the challenge of seemingly intractable issues like obesity, or inequalities of wealth and opportunity, or shifting to a low carbon economy. The image we use here is of an ice field, constantly shifting, in which floes move around exposing unexpected patches of freezing water*.

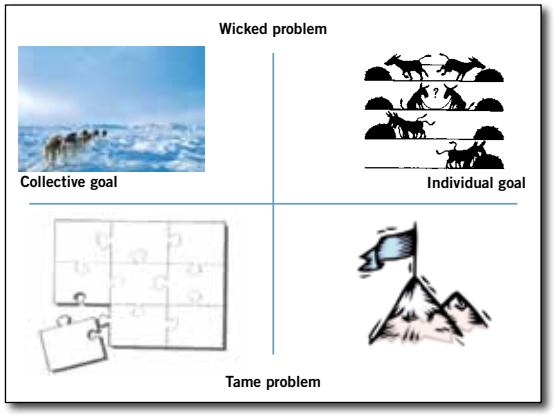
As with all wicked problems there are likely to be many players each with their own take on the nature of the problem, what may be causing it, and how to resolve it. They may recognize that interactions between them produce knock-on effects that can have unexpected consequences. They will have some shared goals but these will be much less precisely defined than the pre-set objectives of the jig-saw; and there is unlikely to be agreement about what works. Operating effectively here is about 'roping up together'; players who recognise their inter-dependence agreeing to explore possibilities in the hope of co-producing something together for a shared purpose. An example would be the challenge of how to reduce the amount of waste we send to landfill sites. It is a safe bet that there will be strongly held views about why landfill sites are becoming saturated and whether solutions are to be found in penalising households that throw away too much or incentivising people to recycle or reorganising refuse departments or compelling supermarkets to reduce packaging waste or renegotiating EU targets or convincing shoppers that plastic-wrapped carrots are not OK, or all of the above.

One way of recognising that you are in this landscape is to realise that you have tried every other approach you can think of (including trying to convince others that you have the right answer). The language to be found here includes uncertainty, complexity, learning through doing, interconnectedness, long-term, resourcefulness, culture change. Observable artefacts and behaviours include bringing in different voices, structuring conversations that help people see a problem in a new light, rapid proto-typing, action research, building trust, multiple stakeholders, conversations to explore possible futures.

This is not a good approach for tackling tame problems or for people who want to coerce others in a certain direction. To some people exploring possibilities may appear to be little more than 'chewing the fat' or time-wasting talking shops. For those who are rewarded for clear remits and tight agendas when they operate in the designed system, it can be a jolt to find that dialogue can be effective in leading to action. There are lots of tried and tested techniques for constructive dialogue that can spark new insights and, when certain conditions are in place, lead to new ways of working.

What this environment is good for

Recognising that you find yourself in this landscape, and that there are effective ways of working here, allows you to engage with issues that would otherwise seem too wicked to tackle. There is no need to pretend that you know at the outset what to do or that there is accepted best practice that can fix it; and because exploration benefits from bringing together different perspectives, you are no longer on your own. One advantage of recognising that you are in the ice field is that you stop wasting the time and effort that are needed to maintain the illusion that problems are tame. Another is that you have to choose whether to explore or not – it is a matter of putting your energy into things you feel passionate about. This is a good place to begin for a group of people concerned about a particular challenge that all of them want to resolve but that none can fix on their own.



Caveat

By now it will be clear that our aim in this paper is to describe the possibilities for positive behaviours in all four landscapes. We acknowledge the 'dark side' where differentials in power are exploited, players collude to fix prices and make corrupt deals and so on; but our focus is on understanding the nature of the different landscapes and the practices that work well in each.

We first used the image of the Scottish Highlands to bring to mind a landscape that is rugged, in the sense that it is topographically uneven and a climb to the top is not a smooth steady progression but a series of ups and downs, diversions and attempts. That image captures the ruggedness but not the deformability of an environment that is constantly changing and where 'snapshots' and 'helicopter views' are of little use.

3. Moving around the landscapes

At this point you might ask yourself if this framework illuminates your own experience of working with others to get something done. If it does, you will almost certainly recognise that you often move from one landscape to another as circumstances and purposes change, as illustrated in the examples below. We believe that there is no right or wrong way of moving around the landscapes, though some trajectories occur more frequently than others.

Examples

A routine procedure that runs into problems

A surgical team carrying out an operation has a shared goal and treats the procedure as tame. They have trained to carry it out, and the sequence of actions is well-rehearsed – they are in the bottom-left (jig-saw) landscape. If something unexpected happens, they may well have considered this eventuality and rehearsed what to do. But sometimes something happens that turns the problem into a wicked one, where the team need to improvise a solution, and here they will need to talk, perhaps challenge, and explore possibilities together. They have moved from the bottom-left landscape (jig-saw) to the top-left (ice field), and when they identify a suitable course of action will soon move back to the bottom-left. The difference between high- and low-performing surgical teams lies not in how often things go wrong but in how quickly they recover.

Strategic alliances

Airlines provide an example of firms that compete with each other for passengers (bottom-right), perhaps even on the same routes, but enter strategic alliances to co-operate to offer Frequent Flier deals to their customers and share back office functions to save costs (top-right).

All the NHS trusts in a region may co-operate to set up a recruiting drive in another country then compete for any applicants this generates.

Every year the NFL (National Football League) in the USA showcases the rising stars of college football. They start by co-operating to allow the lowest performing teams in the league to have the first pick of the new players, and only after that do they compete for players.

The consultation

Most patients and doctors hope that each consultation will include a process in which the goal of the consultation is established – that is to say, that the consultation will move rapidly from the bottom-right (where each has their own expectations of the purpose of the consultation) to the left hand side of the framework. Sometimes the problem is a tame one but more often it is wicked, with both the solution and even the nature of the problem still to be explored.

Sometimes consultations get stuck in the bottom-right, with either the doctor or the patient knowing what the result of the consultation should be, and one or both goes away dissatisfied. Where doctor and patient have a series of consultations over a period of time, not only can each come to understand the other better but there is the possibility of increasing give-and-take as co-operation arises (moving into the top-right), opening the way for the establishment of a shared goal.

Developing and implementing policy

Over the course of ten years, four reports identified that doctors had difficulties accessing health services for themselves, particularly when they had problems with mental health or substance use. A small group of psychiatrists had been lobbying the Department of Health (DH) for improved access to health services for doctors. A senior clinician at DH was supportive. The reports and the lobbying were attempts to build from the goals of individuals (bottom right) to a desired shared goal (left).

The DH clinician had one of his regular meetings with the Medical Director of the National Clinical Assessment Service (NCAS), which provides an assessment and advice service where there are concerns about the performance of doctors. In their wide-ranging discussion, the question of the health of doctors came up. The Medical Director was aware that 25% of doctors using his service had health problems – and that NCAS had difficulty signposting suitable services – and offered to explore ways of tackling the problem. This conversation had led to co-operation that could serve both of their individual goals (top right), and characteristically took place in the interstices of a meeting that had a different purpose.

The Medical Director recognised that different individuals and organisations (the General Medical Council, doctors who had been patients, employers, psychiatrists providing services) had somewhat different views and priorities relating to this issue. Under his direction, staff in his organisation used the opportunity of an international conference on doctors' health to work with an informal group committed to making something happen. He had effectively recognised that this was a wicked problem and took the essential first step of bringing together those who were passionate about the issue (top left). Each member of this group went back into their own spheres of influence to do whatever they could to move things forward, from advocating to the Secretary of State to sounding out existing providers.

They decided to bring together a working group to think about possible models for a service to meet needs that were not being met. There was no off-the-shelf model, and some strong views about what would be appropriate. The working group deliberately expanded the breadth of interests to include deaneries, psychiatrists, occupational health physicians, addiction specialists, managers and doctors who had provided services for doctors, and ex-users of services for doctors. They met several times and their conversations were exploratory, eventually reaching agreement on a proposed service model (by doing the necessary work in the top left they tamed the problem sufficiently to take their work back into the bottom left). The secretariat of the group wrote a report which was submitted to DH, which committed funding for a pilot. They then encountered a delay while they identified a commissioner (unsurprising, as they had not included a commissioner in their working group), and then together they wrote a specification for the service – a relatively straightforward task because of the extensive discussions that had taken place in the working group. This was then put out to tender (bottom right) and a successful service provided.

Trying co-ordination first

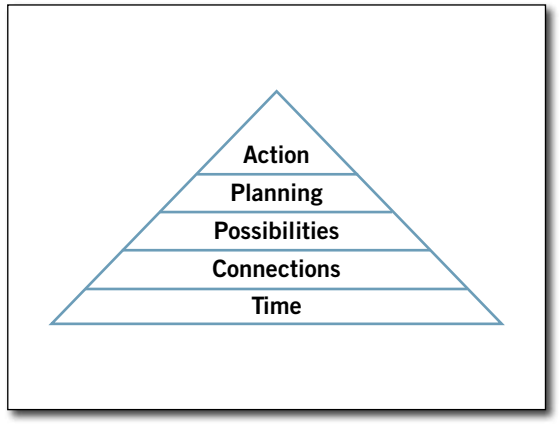
Drug Action Teams were set up to coordinate the activities of local agencies based on evidence–based good practice in reducing drug use and the harm brought about by drug use. This worked well enough in a small city where some progress was made e.g. setting up needle exchanges in new settings. However, the chief police officer, a local clinical specialist and the chief executive of the local primary care trust reached the conclusion that these interventions would not be sufficient to get the outcomes they wanted. None of them was sure what to do next. Everything they could think of was highly contentious. They were in an ice-field, and moving away from described good practice was a different order of risk and politically dangerous.

They agreed, in the first instance, to support each other in meetings where resistance to their opinion was anticipated (roped together for safety). So both the clinician and the PCT chief executive attended the Police Authority meetings to chip in and support their colleague, and vice versa. Gradually it became clear that others shared their views and wanted to try and make a difference. This heterogeneous collection of potential collaborators expanded slowly and created 'the space' to try some politically risky initiatives e.g. not charging people caught with small quantities of cannabis. This has been mainstreamed in many places now.

Getting to action

Some people are naturally adept at moving between different approaches depending on the task in hand – an obvious example is the ability to explore possibilities in ways that are inclusive and open-ended, and then delegate detailed planning and execution to a group with a clear remit and tight timeline. But you only have to sit through a meeting at which people are trying to explore possibilities and commit to action at the same time to realise how frustrating it can be, and how these two different purposes require different ways of designing and conducting meetings.

The following illustration[11] is intended to show that action, if it is to be well-directed and sustainable, has to rest on the foundation of planning which itself requires the exploration of possibilities. It reminds us that the exploration of possibilities means that players will have to put in time and use it to grow connections amongst themselves. The original use of the triangle is derived from the recognition that those organisations which successfully manage change in turbulent times are committed to action but know that they have to make exploring possibilities 'real work' if they are to get the best range of potential plans.



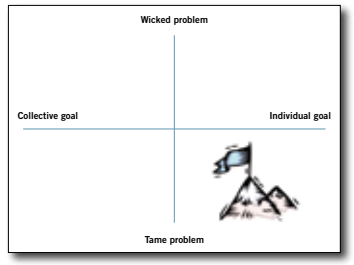
We find that when people share an understanding of the landscapes framework it can provide a quick and easy way to communicate about fundamental assumptions, and this in turn may make it easier to work together. It can be a neutral way of describing the shifting ground of their experiences of working together.

Practices that work well in one of the four landscapes may be counterproductive in others, and to be effective you need to know where you are and adjust your behaviour accordingly. The framework clarifies which ways of working are effective in each landscape, and these are described in more detail in the next section.

4. Acting effectively: making use of the Landscapes Framework

If the description of the framework resonates with the worlds you operate in the next question is: 'how can you operate purposefully and effectively when you find yourself in each of the landscapes?' In this chapter we re-visit the landscapes and set out briefly the ways of working that are likely to be effective in each. We do this from the perspective of an animateur (see page 5) and a player.

Competition



Competition can give rise to purposeful and coherent behaviour within this landscape where each player is pursuing their own goal. When certain conditions are in place competition is a good strategy; for example when success is measurable and recognisable (everyone has to climb the same peak), when the motivation of players is not in doubt, when the rules of the game can be specified and enforced. It requires active players and an animateur who is well enough informed to specify what success looks like and offer a set of rules that are coherent and plain for all to see. Providing it has been set up wisely, competition can be relied upon to stimulate the self-interest and creativity of players.

In order to shape the landscape an animateur has to:

- Define success and clarify what winning means (no moving goalposts)
- Specify and publicise entry criteria to encourage entry
- Trust the creativity of players
- Set out and enforce regulations
- Review consequences for the system as a whole, and for the players

There are a number of caveats. Although it is relatively easy to promote competition when success can be defined precisely, as for a widget, it is much less easy for something like an educational programme. There is a risk, though, of over specification – if the commissioner of a competition feels the need to specify how they want success to be achieved, rather than what success looks like, they will fail to make use of the wisdom of players in imagining what could be provided. An architectural competition, for example, will release the greatest amount of creativity if the brief describes in detail the use to which the building will be put and, in general terms, the desirable attributes like longevity, energy efficiency, cost – but not the materials, design, layout and so on.

There are many ways of defining winning – personal best, first past the post, all who meet a standard – and they impact on the system as a whole in different ways. Selecting all those who reach a threshold, rather than a single winner, is a means of increasing the pool of potential players. An example is the popularity of marathon running in recent years. Being a marathon winner has always been an achievement but when success was re-defined to include completing the distance, this led to a great increase in the number of people entering the competition and capable of winning. Winner-takes-all, on the other hand, can lead to the elimination of all but the most successful. The unintended consequence can be that the best becomes the enemy of the good, and the gap between the best and the rest widens. The impact on the system as a whole can be a reduction in variety, robustness and innovation.

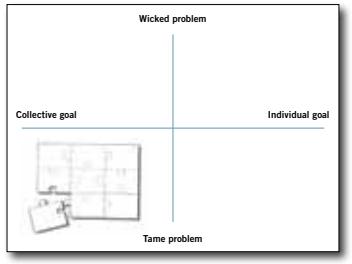
As a player in this landscape the key tasks are to:

- Understand what counts as success
- Concentrate on improving your own performance
- Consider what happens if you lose
- Negotiate your entry

One of the caveats here is that although taking part in competition can motivate players to raise their game, the costs of competing may outweigh the benefits. If everyone has to complete a full tender, there is a lot of wasted effort and players either become highly selective in the contracts they tender for or increase their fees to cover the cost of bidding. When a contract is to be awarded to just one of a dozen players, the chance of winning is low. Players may find themselves subject to a lot of uncertainty in the contracts they win and these risks are passed on down the line e.g. through short-term employment contracts.

Competition has to be regulated to be fair, and be seen to be fair. Usually this important feedback loop is the responsibility of the animateur, but bad behaviour is not always visible to them and all players need to be able to blow the whistle when necessary.

Coordination



In this landscape players have a shared goal and each knows the part they are expected to play in order to achieve it. Coordination is a good way of delivering complicated projects. Planning is the organising mechanism and this requires an animateur to be given authority to take an overview of the whole, to assume executive power, direct the planning and manage the project. In public services this function is often filled by a group with legitimate authority delegated to them, often by central or local government.

The necessary conditions for coordination to work well include a shared picture of how things could be (not just should be) based on past experience of good practice, real consensus on how to do it and shared belief that the task can be completed if everyone plays their part. Active project management is required and that means prior agreement on clear goals, methods of resource allocation, timelines, risk management, deliverables, anticipated organisational impact and an exit strategy[12]. Project management is a way of working with interdependencies so that the contributions of players are ordered and sequenced effectively.

In order to shape the landscape an animateur has to:

- Set up real negotiation on both strategic and operational goals
- Clarify which goals really are collective
- Invest in active project management
- Expect surprises and plan what triggers a review
- Invest in dealing with misfit and re-fit

In commercial contracts the animateur motivates players with money. Contractors are usually happy to do their bit as long as they are paid, and may be kept to time by penalty clauses. In many public sector contracts the incentive is a strategic goal – some aspect of the public good – and the animateur has to articulate this clearly enough and often enough to motivate players to carry on doing their bit, despite the inevitability of other demands and priorities.

Sometimes, if plans are to be carried through and indeed to be financed in the first place, goals have to be presented and treated as though they were tame. This requires a judgement that the assumptions are reasonable enough to set off hopefully, rather than a judgement that they will continue to be valid throughout. Surprises along the way are inevitable and the paradox is to expect the unexpected. Deciding what should trigger a review is easier done in advance than in a crisis.

The key tasks for players in this landscape are to:

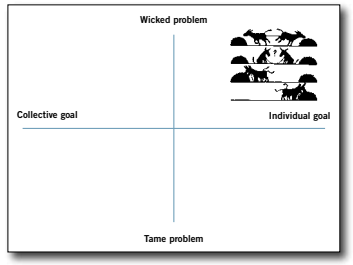
- Negotiate goals and targets robustly, and the steps to achieve them
- Deliver your piece of the jig-saw
- Respect the needs of other players – you want them to deliver their piece
- Challenge others who don't deliver

Playing your part means both delivering your piece of the jig-saw and paying attention to the boundaries with other players. This is like a relay race in which each player has to run, and also manage the handovers. Each piece of the jig-saw articulates with its neighbours, and each player will need to understand the roles and responsibilities of those working in the departments they connect with. This is not about directories of names and job titles, but real communication about what is important to them and which behaviours help or hinder.

> Service failures so often occur at the boundaries between departments or professions or organisations e.g. when patients are transferred between hospital departments, when children make the transition from primary to secondary school, when young people with mental health problems are left in limbo as they become too old for child and adolescent mental health services.

One of the challenges in this landscape is that while it may not be difficult to reach agreement at board level, it is at the operational level that any agreement has to be made to work. This requires robust negotiation at the outset between the animateur and players who can deliver their piece, and amongst players themselves, so it pays to invest time in understanding each other's circumstances from the start.

Co-operation



The basis of co-operation is a gift economy in which players make offers in the expectation that their gift or favour will in due course be reciprocated by another, in other words what-goes-around-comes-around. This expectation may not be explicit and is quite different from the trading behaviour of a market economy where goods and services are exchanged in a series of transactions that are each complete in themselves. Co-operation is voluntary and the aim is to get more of what you want by triggering helpful behaviour in others. A player in the role of animateur would recognise that it requires less commitment and maintenance than the other landscapes – no tendering or contract management and no need to agree collective goals.

Co-operation is not usually planned or designed-in but arises when certain conditions are in place. These conditions have been extensively studied in game theory[13]. In order to shape the landscape an animateur has to:

- Provide opportunities for players to meet and get to know each other
- Emphasise when futures are linked
- Create opportunities for repeated interactions between players
- Change the pay-off structure to reward co-operation and make it clear to all
- Invest in teaching people the guiding principles of co-operation
- Tell stories of co-operative behaviour and 'how we do things here'

Expressions like you-scratch-my-back-and-I'll-scratch-yours may remind us of the opportunities for corrupt as well as beneficial purposes. It is important for an animateur to be aware of these risks and from time to time to return players either to the landscapes below the line, where there is greater transparency, or to the left of the line where there are explicit collective goals.

> Staff in hospitals may cooperate to organise their work rotas in a way that provides them with long stretches off duty, even though the concomitant long spells on duty may not lead to high-quality patient care.

The key tasks for players in this landscape are to:

- Try cooperating first
- Don't try to beat the others (the possibility is a win/win)
- Make requests and offers
- Reward co-operative behaviour in others
- Punish unco-operative behaviour in others
- Be forgiving (don't hold a grudge)
- Build a reputation for co-operation

Growing a reputation matters and cannot be taken on trust; being seen as trustworthy arises from observed behaviour. One way to trigger co-operation is to make offers to other players, but our experience is that people working in public services often do not know enough about each other's work for these offers to be meaningful. This means players need to make honest requests.

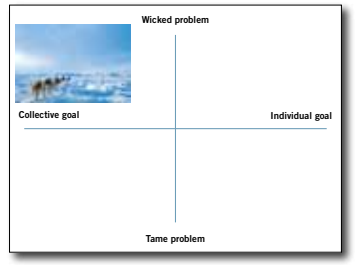
> During a break in a meeting between elected members of a local authority and primary care trust non-executives, one of the non-execs said to a member that the local authority had done really well the previous winter in providing the home care that was needed to prevent delayed discharge from hospital. The member asked why the PCT hadn't said so at the time, and the non-exec protested that he was sure that staff had been very appreciative.
>
> 'That's not what I mean' said the member 'you didn't write to the local paper. That would have been worth its weight in gold in an election year'. The non-exec realised that it had never crossed his mind to do so, but that it would in the future.

Trading behaviour is the norm in our market economy. It is surprisingly difficult to make offers and requests that are unrelated to each other, but it can produce quick results.

> In Palestine, towards the end of a workshop using the Landscapes Framework, a session on Requests and Offers resulted in several deals being made. One involved a Fatah-run hospital offering space to a Hamas-run service. Another offer resulted in a mobile service allowing a hospital to follow up its patients when it was not able to gain access to the area.

Deal-making can be seen as a form of corruption especially when we value the transparency and attention to due process that are among the strengths of designed systems. Yet those at the top of hierarchies often feel able to do deals, as do those on the frontline. (It seems to be harder for those in the middle). Building personal relationships with others at similar level is implicitly about building co-operation. Put another way, one of the barriers to developing co-operation is the lack of continuity of relationships. If people move frequently from job to job, there is little opportunity for the repeated interactions that can trigger co-operation.

Co-evolution



Players in this landscape understand that this is about exploration, and that it's not possible to know at the outset what the solution is, or how to get there, or when you will arrive. They do not expect the answer to lie in a strategy of 'one more heave'. The opportunity here is to slow down, acknowledge that there are different ways of seeing the problem, invest time in constructive dialogue and recognise that, in the process, they are all likely to co-evolve together. This is not in order to be nice, but to be effective. It sounds simple but is challenging and, in many situations, counter-cultural.

Work in this landscape may lead to several different sorts of outcome. One of the possible consequences of spending time understanding the perspectives of other players is a change in the culture, in the 'way we do things around here'. Another is that proposals that are already known to the system and may have been discussed for a long time suddenly materialise – actions that we call 'pop-ups'. Yet another is that players move back into the designed structures (below the line) and implement an agreed solution in their own organisation or team.

The conditions necessary for successful outcomes here include a will to achieve a high-level goal but no agreement on how to reach it, some understanding of inter-dependence, no single boss who can fix it and no player committed to imposing their own solution. Players who recognise themselves to be in the ice field have to begin by reaching out to others who share their passion to make a difference to the issue in question. They have three key tasks: to find a way to clarify their purpose; to invite in all those who share that purpose and want to work together to achieve it; and to design their conversations so that they generate possibilities for action[9].

In order to shape the landscape an animateur has to:

- Draw in people with different perspectives on the nature of the problem
- Work with purpose and language (concentrate on why and what for)
- Encourage people to explore possibilities
- Allow time for dialogue
- Build connections and amplify the sense of 'being in this together'
- Trust people's wisdom and capacity to do what's needed.
- Promote sufficient connections for feedback loops

One of the tasks for an animateur is to slow things down and encourage players to begin by sharing their experience of 'how things are now'. Most of us don't know how others see things and yet a shared understanding of current reality is essential before moving towards 'how things could be'. Local conditions always matter.

Dialogue is the method used here. This requires time and space for 'the system to become aware of itself', which sounds simple but is one of the most demanding requirements in organisational life. Put another way, when we amplify a sense of 'being in this together' more outcomes emerge. Confidence in new possibilities grows and energy for change emerges from within, commonly in the form of re-combination of ideas already in the system rather than something generated externally[14].

Another task for the animateur is to engage the formal authority that is located in organisations and seek permission for the exploration of possibilities and for the implementing of solutions that have been found.

The key tasks for players in this landscape are to:

- Get involved as yourself, not as a representative of others, and only when you care about the issue
- Work with your experience, not just aggregate data
- Invite others to take part early on
- Work to understand each others' worlds
- Allow enough time for dialogue

The principle of self-organising sounds to many people to be either too woolly to get anything done or so uncontrolled as to be threatening. The motivation of players in the icefield, just as in the other landscapes, is to make a difference. They want to take action, but they know there are things they need to do to prepare for the action so that it has the desired effect.

One of the biggest challenges is recognising that it's not possible at the outset to know what to do. Owning up to the fact that it's not possible to know the solution, or the steps to be taken to get there, is particularly difficult for managers and professionals who are usually rewarded for 'fixes' when they operate in the designed system. There is a huge temptation to write a plan and set up the kind of structures and accountabilities appropriate for the jig-saw of coordination. This allows the fantasy of control, but if the problem truly is wicked then formal planning processes and micro-management will prove to be unable to deal with it.

The other big challenge is taking the time to clarify purpose. The temptation is either to seek early consensus, which simply closes down explorations of difference, or to go rapidly to problem-solving, which by-passes any challenge to the nature of the problem and can only ever optimise the status quo[15].

Example: Tackling Obesity

Mountain peak: Slimming magazines proliferate offering products and advice and prizes, such as 'slimmer of the year 'competitions. Weightwatchers attracts people to join and compete against their own target weight and all members support each other to 'win'. Catering contracts can specify healthy eating options in canteens. Contracts with suppliers of ingredients for school meals can specify reduced fat and sugar content in products. Another way is to select contractors who can demonstrate ways in which they promote a healthy workforce e.g. providing exercise facilities. There are programmes in which women win food vouchers when they do not put on excess weight in pregnancy and parents win payments when their children stay within healthy weight limits measured at regular checkups.

Jig-saw: The shared goal of improved population health will be supported by new training programmes for staff. Multidisciplinary teams are set up, sometimes with new roles like diet counsellors or peer mentors. Jamie Oliver's dinner lady training can be seen as one new possible piece of the jigsaw. The various activities that happen in school can be coordinated – classroom based health education programmes or geography lessons on the source of foods are linked to cooking lessons and the availability of healthy food options in school meals. Local authorities can coordinate their various departments to contribute to healthy living goals e.g. subsidies on access to leisure facilities, on fresh fruit, on bike purchase . Planning permission for fast food outlets near schools can be refused.

Donkeys: People identify their own exercise buddies because it helps them to keep going to reach their own targets. Health insurance companies calculate that they can manage their risks better if they lower the premiums for people with 'healthy' body mass measurements. People set up social networking sites in their work places to help them find support to benefit from these savings. Employers want to reduce time taken off work and reduce the health insurance premiums they pay so they encourage staff to take a lunch break and use it to go for walks. Shopping malls who want to be recognised as 'community friendly' open their walkways before the shops open for people to walk out of the cold and dark on winter mornings. (This also brings in more shoppers). Overweight people may be offered free gym classes by their primary care trust or local authority on condition they agree to use them four times a month. A repeat offer is dependent on evidence of repeated use.

If we take the example of food labelling we can envisage many alliances for change, each with their own goals. Health services and insurance companies might be interested in disease reduction and health outcomes; green campaigners in reducing levels of non-biodegradable or toxic waste or reducing high water consumption in the production of some foods. One government department may be interested in increasing food security and another in economic development and they could achieve these by co-operating to encourage local food production.

Icefield: as we write, people are struggling to understand what effective interventions in this landscape might look like. As previous efforts are shown to have less impact than had been hoped, new ideas and possibilities can emerge in this landscape.

One way of intervening would be to change the language. For example, in the medical world the shift in language from 'curing cancer' (a tame problem) to 'living with cancer' (a wicked problem) allowed a reconfiguration of the system in which

solutions may lie (who is the system concerned with this formulation of the issue?). A shift in language from obese (a medical term linked to objective measurement) to fat or overweight (which recognises subjective meanings) would open similar possibilities. The chances are that more people will feel passionate about 'struggling with weight', 'eating healthily', 'feeling fit', 'living long and well' or 'feeling good about myself' than there are people energised by being labelled obese. If an inquiry were to be set up with the purpose of understanding the struggle and what helps and hinders us achieving what we seek, it is clear that the people doing the struggling would have to be part of it. If the problem were more bounded e.g. struggling with children's weight, then children would have to be present too (not have some one speak for them). This kind of participation is about co-producing solutions and is quite different from sequential methods like consultation or research that are then used to inform policy and action.

Another possibility is to start not with the changes you can already envisage but with an inquiry into what keeps the pattern the way it is; what is it about the current system that generates the present pattern?

Another possibility is to create 'nudges' to make healthier choices the easier choices. (Nudge is a term used to describe an external intervention that helps you to do what you really want[16]). What distinguishes this from coercion or prohibition is the way these interventions are developed. They are only nudges if you have communicated with people about what really counts to them. They are not imposed from above based on some expert analysis. They may need to be checked against available evidence but these measures are introduced **only** if dialogue identifies that a 'nudge' would be valued e.g. if we and our children want to avoid purchasing fizzy sweetened drink and salty snacks in school we can regulate the availability of vending machines. (This contrasts with the trouble Jamie Oliver had with some parents and children when he imposed his well-intentioned nutrition standards).

If our underlying purpose is not to reduce body mass but is really to reduce premature morbidity and mortality then we may find this takes us into many systems and is a truly wicked problem.

In summary

This paper is about taking action that is effective. When you recognise that you can't resolve an issue on your own and you have to find a way of getting the system as a whole to operate differently – how do you go about it?

The Landscapes Framework offers a way of thinking about different types of situation in which people work together on a problem. Each calls for a different set of tactics in order to produce the successful behaviour that gets things done. Judgement about which landscape you find yourself in at any given time is just that, a judgement, and it can change. What is not in doubt is that you have to be able to operate in all of them as circumstances and purposes change. If you are not where you think you are you are unlikely to be effective, no matter how hard you work, because practices that work well in one do not necessarily work well in others.

Our starting point has been the continuing interest in the public sector in systems thinking and whole system approaches to tackling policy-resistant problems where, even with an agreed goal, a group of well-intentioned people will have quite different views on the nature of the problem, what may be causing it and how to resolve it. We distinguish between these 'wicked' problems and 'tame' problems that can be defined, broken into manageable chunks and solved.

Our contention is that thinking about theory is intensely practical because it helps you decide what to do. There are several ways of thinking about systems, each of which implies a very different theory of change – why and how particular actions and methods bring about changes in the way we do things. Anyone who wants to take action to make a difference in the world will employ a theory of change, even if this is implicit. Our theory of change is rooted in an understanding of the distinction between designed systems and adaptive systems. Each is a systems approach but the underlying mental model of how systems organise is different.

Both designed and adaptive systems are at play in organisational life and they constantly interact. Each requires us to pay attention to different features in order to act effectively. You can design ways of analysing, reorganising and reviewing in order to tackle a tame problem. But if the problem you face is wicked then you need to intervene in ways which focus on the capacity of teams, organisations and individuals to adapt.

Annex 1: Tame and Wicked Problems

The terminology of 'tame' and 'wicked' problems was introduced in 1973 by Horst Rittel and Melvin Webber[17] who asserted that there are a whole range of social planning problems, which they called 'wicked', that cannot be tackled by defining, locating and solving the problem. In 1974 Russell Ackoff made a similar distinction, between what he called a 'problem' and a 'mess'[18]. Another way to refer to the same basic distinction is to distinguish between issues arising in simple systems (including the complicated) and in complex systems.

Tame problems are potentially soluble. Rittel and Webber suggested that wicked problems can't be solved but that they can be resolved, or tamed, for a while.

Tame problems

A tame or benign problem:

- Is described by a clear problem statement
- Has an definitive and optimal solution that is transferable
- Has a clear stopping point – we know when a solution has been reached
- Can be objectively evaluated

It's usually fairly straightforward to recognise when you have encountered a tame problem. You find it convincing when somebody claims that they know exactly what to do. One way to put it to the test is to try applying the Logical Framework Approach[19]. This approach links a description of actions (activities) to a goal through a series of 'if… and… then' statements that constitute its "temporal logic model". In a truncated form:

- If these Activities are implemented, and these Assumptions hold, then these Outputs will be delivered
- If these Outputs are delivered, and these Assumptions hold, then this Purpose will be achieved

If you can put your hand on your heart and write down 'if... and… then' statements for the task in hand, and believe that the assumptions are realistic, then you can assume that you know what to do and that the problem you are tackling is a tame one. This allows you to create a project plan to achieve your desired purpose.

Of course it is wishful thinking to expect that things will always go to plan. Unexpected events may arise that may make the original plan, or even the goal, inappropriate. The usual way of handling risk and uncertainty is to identify where these may arise, minimise/manage risk where this is possible and expect that it may be necessary to review and change plans and goals. But the assumption all the way through is that you **can** know what to do, even if the 'what' has to be reviewed and changed as surprises occur.

Wicked problems

A wicked problem has none of the clarity of a tame problem. There may be a broad statement of the problem, but there are multiple perspectives on what the detailed description of the problem might be. It has no final and optimal solution. Indeed no solution is ever reached, just a better resolution than last time round. And there is often not even enough agreement about what success would look like for there to be any agreement about whether success has been achieved.

The ten distinguishing properties of wicked problems

1 **There is no definitive formulation of a wicked problem** that provides the problem-solver with all the information needed to formulate the problem, break it into manageable chunks and solve it.

2 **Wicked problems have no stopping rule.** You can't say that you have solved a wicked problem, just that you have run out of time or money or patience.

3 **Solutions to wicked problems are not true-or-false, but good-or-bad.** Evaluation can never be objective and always requires judgement.

4 **There is no immediate and no ultimate test of a solution to a wicked problem.** Cause and effect are distantly connected, and there are always unexpected consequences.

5 **Every solution to a wicked problem is a 'one-shot operation'; because there is no opportunity to learn by trial and error, every attempt counts significantly.** The consequences of intervention cannot be undone. History matters and provides the context for the next intervention.

6 **Wicked problems do not have an exhaustively describable set of potential solutions**, nor is there a well-described set of permissible operations that may be incorporated into the plan.

7 **Every wicked problem is essentially unique.** Solutions are not transferable from one time and place to another. It is possible to learn from experience about the processes of problem-finding and solution-finding, but not about the content of a solution.

8 **Every wicked problem can be considered to be a symptom of another problem.** Wicked problems are intertwined.

9 **The existence of a discrepancy representing a wicked problem can be explained in numerous ways.** The choice of explanation determines the nature of the problem's resolution. Each stakeholder will have their own perspective on the nature of the problem and the solution.

10 **The planner has no right to be wrong.** You will be held responsible because your actions are difficult to justify and have a big impact.

Annex 2: Action planning in all four landscapes

Factors such as risk management, timelines, stocks and flows, outcomes, use of resources and the time taken by meetings have to be managed in all four landscapes. It is tempting to think there is one best way of doing this but their appropriate management varies in each of the landscapes.

Risk Management

Mountain/Competition: Competition transfers the risk of failure from a commissioner onto the players. The detailed specification of goods and services is what helps to diminish risk in this landscape. Safety for a player comes from a clear understanding of what counts as success, and will not be subject to change. Safety for a commissioner comes from quality controls on the goods and services delivered.

Jig-saw/ Coordination: Many of the risks here are about operational targets, which require each player to deliver their piece in a sequence and manner that allows the others to do their bit. Risks to the animateur are reduced by the specification and assessment of clear deliverables, monitoring against agreed timelines and active project management. Risk registers may be created but there may not be enough past experience to estimate risks or mitigate them – for example, the oil spillage in the Gulf of Mexico.

Donkeys /Co-operation: Developing co-operative relationships is low-risk for both players and animateur because the amount of time and resources invested is relatively low, particularly at the start. This is an environment where it is possible to pursue safe experimentation, but only if non-co-operators are punished (otherwise you run the risk of being taken for a ride). So the main risks to players are reputational, and this may extend to exclusion from a co-operative nexus and missing out on future possibilities.

Icefield /Co-evolution: Here you reduce risk by 'roping up' with others rather than going-it-alone, which means dialogue in which players think together and build rapid feedback loops. There is a risk that the system starts to evolve in a direction that is not acceptable to those with the power to stop it – this risk can be reduced by ensuring that those in positions of power are actively involved or that they delegate to a trusted colleague. There is also a risk that the exploration does not reach its goal. Sometimes this is unavoidable; sometimes the passion of players is not enough to sustain them in the face of indifference and opposition. The risks can be minimised by checking that there is a real variety of perspectives amongst the players, that they re-visit and if necessary revise their purpose, that they allow enough time for dialogue and that each meeting or other activity is valuable in itself, not just a preparation for something else.

Timelines

Mountain / Competition: Start-up costs are high in terms of time. Drafting a good specification (the rules of the game, the invitation to tender) takes a lot of time, as does preparing for the competition (training, drafting a good tender document). This time is not generally visible to others and may be underestimated by both sides. Later stages may require commitment to regular, intermittent monitoring (e.g. contract management).

Jig-saw/Coordination: It takes time to establish the initial shared purpose, to negotiate terms and to build trust among players. Once these are complete the project requires a predictable timeline to be set out, and the players to stick to it. Active project management is essential in keeping players to time and to task, and in co-ordinating their contributions.

Donkeys /Co-operation: Co-operation grows over time through repeated interactions and in ways that are not predictable. It is not possible to set out a timeline at the outset but time is important in other ways in this landscape. The past is significant as trust and reputations require a memory of previous interactions. The future is important because belief in 'the shadow of the future' is what makes co-operation rational behaviour.

Icefield / Co-evolution: Here players have to invest time early on to understand each other's worlds, establish shared purpose and to grow connections amongst an often large, disparate group of people. But once groups of 'explorers' have done this work they can gain acceptance for their proposals, and put programmes into action, in a short space of time.

Stocks and Flows

Mountain / Competition: The stock of expertise lies with players. The key flows are a vertical flow of money from commissioner to provider, and a vertical flow of information in which players receive feedback on their performance, often in public. There are also horizontal flows of information as each player seeks to learn from and adapt to their competitors. In theory this is strictly limited to prevent collusion. In reality there is much more communication than is usually conceded e.g. cooperating to fix prices, poaching employees from competitors or regulators, industrial espionage.

Jig-saw / Coordination: There may be vertical flows of money here. There are also vertical flows of information between players, project manager and steering group. This is required for three purposes – motivation (downward flow) monitoring (upward and horizontal) and learning (upward and downward). Information for monitoring is critical here because there are likely to be time-dependencies which mean the project manager needs honest information about progress, and delays. Players need to communicate horizontally with their neighbours on the jig-saw, giving and receiving feedback on timing and quality as far as this affects adjacent parts. And they need information about whether they are judged to have succeeded.

Donkeys / Co-operation: The most significant flow here is of gifts and acts of goodwill, freely offered not in direct exchange but in expectation that 'what goes around will come around'. Currencies here include offers of time, expertise, access to equipment or space or other resources. If players understood each other's needs perfectly then offers would be perfectly matched to these needs. In reality, there has to be a flow of requests to shape offers. And these are not requests that carry any expectation of being met, just as the offers are just offers. The stock that matters here is reputation and trust.

Icefield / Co-evolution: The most important flow here is stories, which are significant for several reasons – because they are contributed and understood by everyone, because stories encompass our beliefs about cause and effect and because a story has the capacity to illuminate 'the whole'. Meaning grows through the flow of stories. One stock that matters here is the understanding that each player develops of the other players and the shared purpose that they develop. Another stock is the behaviours, shaped by guiding principles or 'rules of thumb' that make up the culture of an organisation, network or community. For example, the guiding principles that have shaped, and continue to shape, the extraordinary creativity of the worldwide scientific community are:

- Generate testable hypotheses
- Design reproducible experiments to test the hypothesis
- Make public the details of experimental methods and their results

Other stocks in this environment are energy, shared meaning, common purpose and new possibilities. Co-evolution requires each player to bring their own energy, and exposure to energy is itself energising.

Outcomes, goals and measures

Mountain / Competition: Measurable or observable goals – being able to see the mountain peak – are essential here. Outcomes can be predicted in advance. The rules of the game must be capable of being judged so that everyone can see that the winner has won. Deliverables and indicators are specified at the outset and play a key role in shaping the behaviour of players.

Jig-saw / Coordination: Outcomes can be predicted in advance. Here the planner has to be in a position to define both strategic and operational goals precisely, and they almost certainly have to go through an initial stage of negotiation. There is some room for players to negotiate the part they will play.

Donkeys / Co-operation: The goals here are individual, and the measure of success is the extent to which a player can trigger behaviour in others in order to achieve the player's own goal. Short-term goals can get in the way because co-operation takes place over time and many cycles of engagement. Outcomes cannot be predicted in advance.

Icefield / Co-evolution: The goal here serves to enable players to decide whether this is something they want to commit to. What is needed therefore is a broad goal and an avoidance of premature commitment to operational goals. Measures of progress are the engagement of unusual mixes of people, deeper understanding of each other's perspective and the surfacing of some sense of shared purpose. Outcomes cannot be predicted in advance.

Use of Resources

Mountain / Competition: Inputs cannot be specified at the outset by a commissioner because these depend on the methods the players choose to deploy. During the phase of active competition the commissioner commits considerable resources to developing a specification, devising rules and publicising them, regulating players and judging success. For players, too, this is resource-intensive because each has to develop their own 'offering' even though only one (or a small number) will succeed. From the point of view of the system as a whole this approach is far from efficient during the stage of active competition. It is only after a winner has emerged that the cost advantages of monopolies and oligopolies appear.

Jig-saw / Coordination: The resources that will be needed have to be known in advance and specified at the outset. This includes resources for anticipated re-fits as the work progresses. One danger is that if there is inadequate agreement early on, particularly on operational goals, resources get sucked in later to compensate.

Donkeys / Co-operation: Co-operation is fuelled by offers and gifts that arise out of an understanding of what is helpful to other players, and cannot be specified in advance. They will often be relatively low-cost to the giver and valuable to the recipient, if co-operation is to be sustainable.

Icefield / Co-evolution: The main resource to be used here is people's individual passion, energy and time for the issues being explored.

Meetings

Much of the work of organisations gets done in meetings, yet 'meetings bloody meetings' is a familiar refrain of dissatisfaction. We have all experienced meetings that are useful and those that are not.

Mountain / Competition: In this landscape it is possible, and may even be desirable, to avoid most meetings between competing providers. The necessary communications – such as invitations to tender, bids, project plans and progress reports – can all be made in a written form at pre-determined intervals.

Once a contract has been awarded, the main purpose of communication is to ensure that there is compliance with the contract and that any exceptions are reported. It is only after exception reporting that a meeting to negotiate a variation might be triggered. Face-to-face meetings may take place between contract managers and players with the purpose of seeking clarification and holding to account. Responsible behaviour consists of honest question and answer about the bid and about the progress of the work.

In spite of this, there do seem to be a lot of meetings in this landscape. Very often this is because there is not enough clarity in the Invitation to Tender, or because the process of developing a Project Initiation Document (PID) does not lead to early sharing of understanding between commissioner and provider and this has to be re-visited. Another dysfunctional reason for meetings is the lack of real sanctions by the commissioner, which leads to meetings in which the commissioner attempts to cajole the provider.

One good reason for meeting in this landscape would be to provide feedback to unsuccessful competitors, though this option is rarely offered in a way that enables players to compete better (rather than just trying to make them feel better).

Jig-saw / Co-ordination: In this landscape the work is done between meetings. A series of bilaterals between each player and the project manager could be carried out by regular email updates, though phone calls provide closer monitoring and face-to-face meetings may be needed to enforce compliance as well as providing opportunities for communication amongst the players. Meetings may also be needed to motivate people to adhere to the plans – 'cascading' or 'getting ownership' are phrases commonly used for this process.

Steering group meetings are about making decisions and holding to account and are supplied with reports, background papers and option appraisals. Responsible behaviour is to abide by the structure for the meeting, make decisions and record them in the minutes.

Donkeys / Co-operation: Here communications are mainly bilateral, involving just two players. These meetings are often invisible to others and often unplanned, taking place when players' paths cross (sometimes called coffee break or corridor meetings). They may emerge as the unintended consequences of other meetings, which might explain why people often ask who else is attending a meeting (this could be about status but is often scanning to see if there is any one it would be useful to talk with to make a deal). There are great advantages to face-to-face meetings as players need to pick up subtle clues and read body language if they are to make judgements about other players, but when players know each other well these meetings do not need to be face-to-face.

Icefield / Co-evolution: The purpose of meetings in this environment is for participants to understand the perspectives of other players, to identify areas of shared purpose and to explore possibilities. This requires time for conversations that develop understanding of how other players make sense of the world. For players who are used to operating in the jig-saw landscape this may feel like a time-wasting preamble because no decisions are made or minuted. But these conversations are the antithesis of preamble – it is in these meetings for conversation that the work of exploration is being done.

These are face-to-face meetings that require a range of people who care about the issue in question (and almost certainly include people who don't usually have the opportunities for such conversations). They require a meeting design that enables everyone to contribute by drawing on their experience, rather than analysis or aggregated data. They require enough time to examine purpose (what is important to them) and meaning (why it is important). Responsible behaviour is to join in only when you are passionate about the issue, participate as an individual (not as a representative), contribute stories of your own experience and take responsibility for any commitments that you make in the meeting.

References

[1] Benington, John & Hartley, Jean (2009) *Whole systems go!: improving leadership across the whole public service system* National school of government

[2] Department of Health (1998) *Partnership in Action*. London, Department of Health

[3] Pratt, Julian; Plamping, Diane & Gordon, Pat (1999) *Partnership: fit for purpose?* London, King's Fund

[4] Sweeney, Keiran & Griffiths, Frances (2002) *Complexity and Health Care* Abingdon, Radcliffe

[5] Kernick, David (2004) *Complexity and health care organisation: a view from the street* Abingdon, Radcliffe

[6] Plamping, Diane; Gordon, Pat and Pratt, Julian (2010) *Supporting change in complex adaptive systems* London, The Health Foundation

[7] Morgan, Gareth (1986) *Images of organization* Sage Publications, Newbury Park

[8] Christakis, Nicholas (2010) *Connected: the amazing power of social networks and how they shape our lives* Harper Press

[9] Pratt, Julian; Gordon, Pat & Plamping, Diane (1999/2005) *Working whole systems: putting theory into practice in organisations* Abingdon, Radcliffe Publishing

[10] Tenner, Edward (1996) *Why things bite back: new technology and the revenge effect.* London, Fourth Estate

[11] Newmarsh, Shelley personal communication

[12] Harries, John *The trouble with projects: why working in organisations is not like having a baby* personal communication

[13] Axelrod, Robert (1990) *The evolution of co-operation* London, Penguin

[14] Plamping, Diane; Gordon, Pat & Pratt, Julian (2009) Innovation and public services: insights from evolution Leeds, CIHM Whole Systems Working Papers

[15] Darwin, John (2004) *Preventing premature agreement* Reason in Practice: The Journal of Philosophy in Management 4:1

[16] Thaler, Richard & Sunstein, Cass (2009) *Nudge: improving decisions about health, wealth and happiness* London, Penguin

[17] Rittel, Horst & Webber, Melvin (1973) *Dilemmas in a general theory of planning* Policy Sciences 4 155-169

[18] Ackoff, Russell (1974) *Redesigning the future: a systems approach to societal planning* New York, Wiley

[19] Australian Government AusAID (2005) *The Logical Framework Analysis Ausguideline* www.ausaid.gov.au/ausguide/pdf/ausguideline3.3.pdf

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