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Briefing Paper

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Is there a need for certainty in landscape design and construction projects?

Or just a need for authentic conversation between client, landscaper and the land?

Figure 1 A landscape of uncertainty.

Table of Contents:

Page

Overview - A need for certainty

During my time as a garden designer and constructor I have witnessed a prevailing client discourse of a need for certainty over what works are going to take place and how much finance the project will require, before anything begins. On face value this seems more than reasonable as an expectation. However I feel this linear way of appreciating the situation is to an extent counter-productive to successfully managing changing landscapes that will continue to flourish and evolve as they transform. We cannot know at the beginning what these changes will be, so to decide at the start how it is going to end is at best misguided and most likely to fail in some indeterminable way.

This briefing paper seeks to outline the intrinsic uncertainty brought about through land-use interaction in an 'outdoors' environment. Garden projects need to be tackled with an agreed combination of predetermined systematic approaches (such as schedule of works and bills of quantities) along with an open ended systemic approach (social learning and communities of practice). I will explain these concepts as we proceed.

There is nothing wrong with having works and costs agreed and fixed up front. It works well in many situations such as having a kitchen fitted, but if it is the only 'game in town', then we have lost the ability to adapt and benefit in more dynamic environments, as our situation changes and evolves.

Moving from a traditional systematic approach towards a more systemic way of understanding

Throughout this paper, I use the terms systematic and systemic which sound very similar in concept. They are, however, very different. 'Systematic' is a linear approach that reduces a situation into component parts (e.g. following a recipe) and is largely utilised as an efficient and effective method for delivering a project on time and on budget. Being systematic, however, is just one important part of an overall whole.

'Systemic' is a holistic approach, in other words, treating your subject in its entirety, as a whole, rather than breaking it down into individual parts as happens in systematic processes. This difference in approach is becoming recognised as very important when dealing with complexity and uncertainty. Both of these approaches, however, contain the word system.

Systems or systems thinking in the context of this briefing paper actually allows you to be the fully embodied centre of your own universe, with all the emotions and concepts you have, about everything, accepted and allowed, as long as it is authentic. This is what a system is to you the reader; it is everything from your perspective. A systemic approach therefore is an approach to your whole system, while a systematic approach applies to a specified and organised part of your whole system.

‘Encourage the abandonment of uncertainty’ (Ison R , 2010)

Uncertainty during change often brings with it a reduction in trust and understanding, and a strengthening of the boundaries between how different stakeholders (clients, contractors etc) view their situation of concern if it is approached in a systematic way, such as a predetermined project.

If, however, the situation is approached collectively amongst stakeholders in a more systemic way, where there is a shared development of awareness and understanding in regards to changing events and ideas, this shared appreciation of what is happening will go a lot further to helping maintain confidence in actions between stakeholders amongst the ‘flux’ of uncertainty. (Vickers G, 1965)

The situation of concern in this instance is landscape design and construction, or more specifically, garden design and construction. Gardens are often the front line between buildings and the surrounding landscape and form a direct link between humans and nature. This link is dynamic and as a result is subject to constant and unexpected change and with it, uncertainty.

Gardens - our own kind of nature

Gardens can be understood as our way to enjoy our outdoor environment in a controlled and certain way. Most people can appreciate the idea of a picnic in a hayfield but can also appreciate that the initial

idea hides the facts of biting bugs among the long grass or the human intrusion of a combine harvester. In gardens we have our grass very short indeed, use pesticides for the bugs and fences to keep intrusions out. We make the garden our own more certain nature.

The same can be said with other land-uses such as farming, forestry and national parks etc. As a traditional way of understanding in the West we need a sense of control and certainty within our environment (if only those wasps would disappear, summer would be great). I digress a little on purpose, to convey how strong this paradigm (outlook) of a need for control and certainty within our environment actually is, as well as how difficult it truly is to authentically embrace uncertainty or even acknowledge it exists, to the levels that it does.

Inside the home this established sense of control is even more palpable as it is within a human-made environment designed just for that purpose (the house). This supports our sense of certainty and allows for the successful implementation of many individual projects within the house in an effective and efficient systematic approach. However, the house has itself been built outdoors and is very much subject to the uncertainties aforementioned. These I feel can be represented by the inevitable snagging lists and cursing of un-straight walls. These snagging lists or issues are generated by uncertainty but are developed for the purposes of achieving certainty, or, as I feel, the greatest of all language traps (Ison R, 2010, pg 271) is perfection. Perfection as a word I feel

traps our thinking because very few things are truly determinable to the point of full control; more often situations are indeterminable, complex and adaptive.

Gardens as complex adaptive systems (CAS) – or the 'the rock and the bird'

A great metaphor was used by Richard Dawkins to describe the nature of complex adaptive systems, of which a garden landscape is certainly one.

Dawkins describes having a confidence in successfully throwing a rock to where he wishes to, based on the weight, wind, strength and accuracy of his throw technique etc. When he substitutes the rock for a living bird of the same weight, etc, though, it does not matter how much planning / analysis goes in to his practice, the bird will follow whichever path it chooses and not the one determined for it, and this will differ every time. (Dawkins R, 2009, pg 131)

This metaphor demonstrates in a simple and encompassing way how so much effort can be wasted by forcing a method onto a context (Ison R, 2010, pg 166), or in other words, tackling an ever changing situation with a tried and tested 'this is how we do things' approach. Vickers states that:

"*The clearest evidence of being stuck is when you find yourself in a situation that you have faced before and all you can think of doing is what didn't work the first time around*." (Vickers, 1965)

Recognising gardens and other landscape projects as forms of complex adaptive systems is a first step towards abandoning a need for certainty and embracing uncertainty. It is also a step towards adopting a more systemic way of understanding landscapes as a situation of concern.

Gardens as 'Outside Rooms'

Figure 2 – Outside room in a Woodland.

Garden design and construction projects are often perceived to be adding an extra room to the house. In many aspects this is true in the sense that a garden is usually enclosed by four walls/fences with door/gate access, etc. It is this 'outside room' concept as a metaphor which helps to sustain a sense of certainty and control within what can be a chaotic environment (such as the woodland shown in figure 2). Although metaphors are excellent language tools to help build a picture of what to expect, they are, however, just as effective at hiding what it is you don't expect (bugs in the long grass ruining your picnic, honey fungus in the woodland etc). (Ison R , 2010. Pg 169)

Installing an actual room in the house such as a new kitchen also comes with many issues with regard to works required to be carried out, and what the cost implications will be. As a project, it can have many unexpected twists and turns, e.g. water source in the wrong location, electric wiring needing upgraded for new technologies, achieving safe ventilation etc. Most of these eventualities can to a large extent be mitigated for as determinable difficulties. The kitchen is enclosed within a human-made box (the house) protected from the outside environment, and only rarely subject to direct change by nature through such dramatic forces such as flooding, fire and earth movement. This contained environment, although not without issues is to a great extent predictable and as such lends itself well to a systematic approach.

Problems arise when this way of doing things is taken wholeheartedly out into the garden and implemented as the best way to design and install the garden. There are certainly many similarities in some of the construction methods used, and a systematic approach works well in many areas but not alone and in isolation.

Outside the house is an organic and changing environment and before even the first transforming action takes place, there are many unknowns – e.g. what is under the turf and behind all the bushes, what happens in summer, what happens in winter, are there invasive species, what involvement will the neighbours have? These interconnections can be determined and known in greater detail but would require a lot of time

and incur cost impacts before any works commence, which in my experience is not generally seen as acceptable by many clients. Even then, there will still be a lot of uncertainty involved.

My own understanding of what is involved within a garden space increases greatly through experiential learning as an agreed garden project gets underway. It does not matter how long I have studied the space beforehand, the substantive amount of increased awareness and understanding comes through the practice of doing the work and reflecting upon the work I have just done.

An example of experiential learning and early systemic awareness

A good example of experiential learning (Kolb D,1984, pg 45 - 54) and the early beginnings of a systemic approach to garden design and construction occurred on a recent garden project, where I discovered honey fungus in my clients' garden, through the unintended consequence of two newly introduced large and expensive Scots Pine trees suddenly looking sick and dying. My clients were very concerned, as indeed was I, not to mention the trees!

My initial concern (which I unauthentically kept to myself) was that I had introduced honey fungus to their garden. This was also the initial perspective of my clients. I took away a root sample to investigate further, as I was aware of the threat posed by honey fungus but not a great deal more. It was indeed honey fungus and a Google search (RHS,

2010) highlighted many horror stories about the difficulty of getting rid of it. Almost all of the potential solutions offered were systematic in approach, based around trial and error of digging deep ditches to stop roots spreading further and spraying herbicides (largely ineffective).

After much searching I found more information about the known habitat and purpose of honey fungi (of which there are at least seven types in the UK). Rather than being a problem, honey fungus in fact plays a vital role in the breaking up and rotting of wood. Without this, the wood would just pile up. Honey fungus can actually spread as one organism over 2 miles, so good luck with the trenches!

I took this new understanding back to the garden and discovered the honey fungus everywhere, and its headquarters in the adjoining woodland. Through many discussions with the clients, a bigger and more shared appreciation for our situation of concern was developing. This largely involved accepting the uncertainty as well as the reality posed by the honey fungus and the necessity to work alongside it as a natural part of the garden. The honey fungus viewed the two artificially pot grown pine trees as weak and dying and attacked them as it naturally does in woodlands, no malice, just an unintended consequence of our gardening practice.

A year later, with plenty feeding and care, the trees are actually looking slightly healthier if anything. The clients are carrying on developing their garden with increasing awareness and greater

understanding, as indeed am I. This aspect of shared social learning has saved both time and money for all stakeholders involved by not digging huge trenches and burning all infected plants (which could technically be everything) or indeed poisoning the surroundings with a hardcore pesticide. This open ended systemic approach and recognised sharing of responsibility and accountability allowed for continued authentic communication and experiential learning, with beneficial forms of action (in this case very little physical action). It also maintained trust and understanding in a situation where conflict and tension could easily have developed around our individual perspectives based within our own systems of interest (see rich picture Figure 3)

Allowing for emergence in garden projects

"*Everyone else made a presentation based on knowing what to do – You were the only ones who spoke about not knowing what to do while still remaining convincing, it was quite a relief*" (Ison R, 2010, pg 112)

The above quote is feedback given to a team's successful and alternative pitch for a project tender. Their success was based around their concepts such as "*making it legitimate in this situation not to be able to specify outcomes and a plan of action in advance...making not knowing an intelligent response*" and "*This approach helped to contain the anxiety of*

facing the real uncertainties of such a project together – it was an example of contracting for emergent properties". (Ison R, 2010, pg 113)

I have quoted these perspectives extensively as they ally very closely to how I see managing landscape projects in a more systemic way. With reference to the above quote, I see contracting for emergent properties as moving away from a 'room inside the house' systematic plan (kitchen blueprints) and towards a systemic garden design process or 'greenprint'.

A greenprint garden installation praxis (theory informed practice) is organic in structure, driven forward by all stakeholders in an evolving systemic approach and able to survive change by changing through self organisation (Meadows D, 1999, pg 71).

My knowledge of garden design and construction is good, but it is just that - my knowledge - and limited by that very aspect. Without creating a shared understanding (between client, designer, contractor, land etc) of both thinking and practice in regards to the changing landscape, then at the determined end (cost, time and need) of a traditional systematic project, most awareness and understanding of how the project has evolved also ends. This removes the potential of benefitting from any subsequent emergent properties from the landscape development as a system of interest. It also increases the risk from unintended consequences such as extra costs, time changing or new

needs. An example of this is the re-flourishing of those Scots Pine trees in my clients' garden.

Importance of context

It is important not to treat a 'greenprint' approach as a one size fits all solution. In this sense I feel a blueprint and a greenprint are very much like systematic and systemic; they need to work together rather than as conflicting opposites. As a result the greenprint does have, and needs, a 'blueprint' approach within its overall practice. How this approach engages with the situation of concern is very much context specific and needs to be adapted on a case by case basis, rather than 'rolled out' across the board.

Crossing boundaries

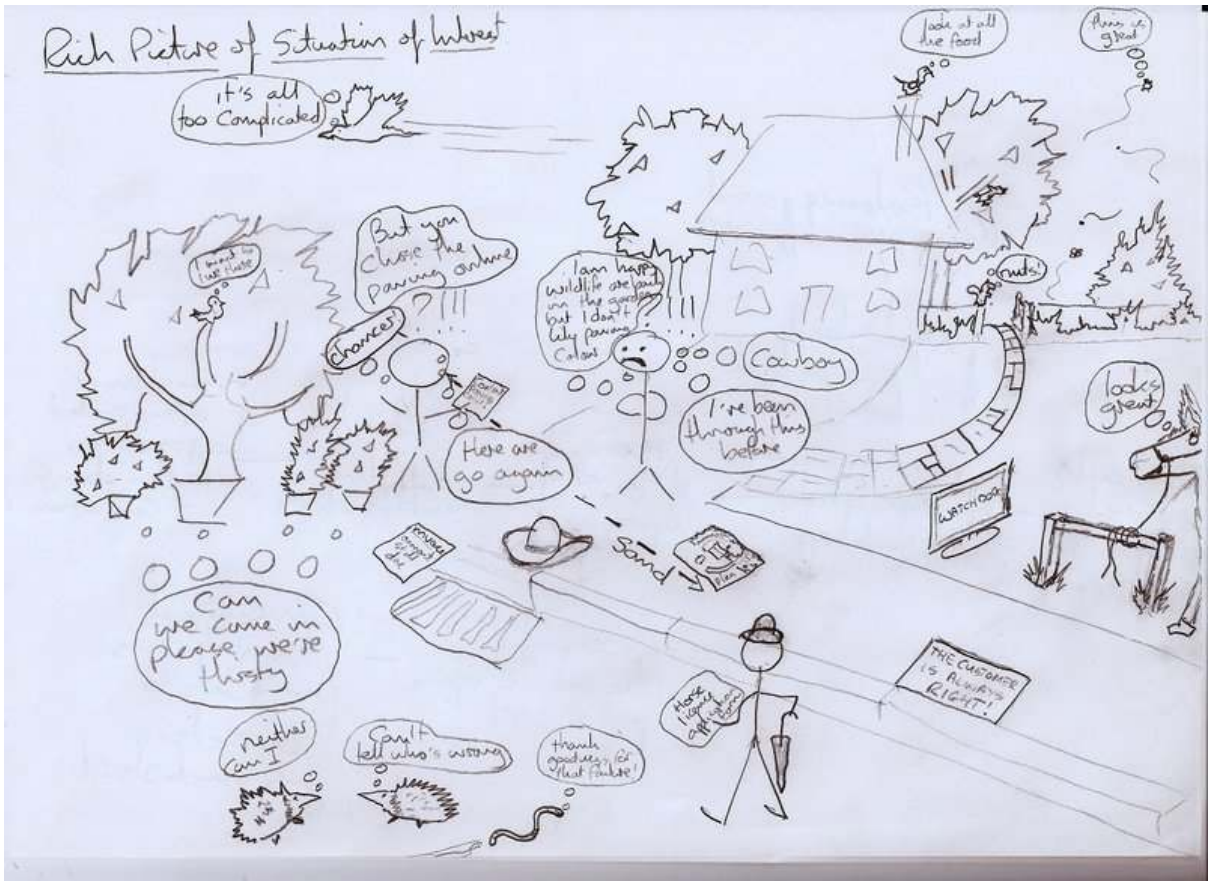

Fig 3 – Rich Picture - Garden boundary tension of difference.

Boundaries are formed in the making of your system (as described in section 2); you decide consciously and subconsciously where they lie. They mark the point at where one component of your system ends and another begins.

One such boundary could be between client and contractor (see rich picture Figure 3 above). There are often differing responsibilities and accountabilities expected of each agent within the shared system of interest (in this case landscaping). These are, however, just concepts or

social constructs established over time and are boundaries that are able to be crossed, through authentic conversation and sharing awareness.

This kind of social interaction or indeed social learning system (Ison R,2010, pg 83) is moving towards what Wenger (Wenger E,1998,pg179-197) describes as Communities of Practice, where experience and practice are equally and authentically integrated amongst those with a shared interest in doing so.

A Community of Practice is an interaction between stakeholders with a shared interest and evolves voluntarily. It cannot be implemented as a form of best practice by an outside agent. Preparation for its healthy evolution can I feel be predetermined, in much the same way as setting up and starting a fire – the fire itself cannot be controlled, just nurtured or extinguished.

It is not just the interactions of Nature that bring complexity, uncertainty and indeterminacy to landscape systems, as gardens are a human-made construct and this generates just as much uncertainty and complexity.

Another boundary (both physical as well as metaphorical) is the garden fence, or, more specifically garden fence disputes. These disputes or 'tensions of difference' (Bawden R, 2010, pg 215) are often an indication of systemic failing generated through non-recognition of conflicting worldviews (outlooks), an entrenching of individual ways of knowing and strengthening of the boundary.

Putting in high hedges is a classic example of this; the physical boundary of a fence is a purposive action that has been determined by a third party outwith the situation of interest and is not the same as a boundary in the systems sense, as it has not been authentically formed from the perspective of the stakeholders involved. This imposed barrier can work as a means to reduce communication and block authentic conversation.

This ultimately allows the complexity brought by differing ways of knowing things (worldviews) to cause conflict that continues to grow and adapt to the point where it is no longer a difficulty anymore, but in fact a Mess. (Rittel + Webber, 1973)

What does it all mean?

This briefing paper has set out to establish that a new way of thinking and practicing in regards to our garden landscape is needed. There is a requirement by all stakeholders to abandon a need for certainty (Ison R, 2010) and instead to embrace uncertainty as a day to day reality of landscape interaction. People involved need to recognise gardens as complex adaptive systems and how to adapt and change along with this complexity themselves. This approach is reflected in conclusions made by Martin Prominski, a professor of landscape design:

"*Contemporary landscape architecture projects deal with the problem of determinacy vs. indeterminacy, the integration of time in design and the*

systemic openness for changes in the design environment …the ability of design to deal with uncertainty, complexity, uniqueness and value conflicts as described by Donald Schon." (Prominski M, 2004)

Donald Schon talks about "*staying on the high ground of technical rationality*" or descending into "*the swamp of real life issues*" in his reflections on professional practice (Schon D,1995, pg 129). This, I feel, is a good metaphor for both the garden design practice of a 'blueprint approach' or a 'greenprint approach'. I feel the combination of both approaches, determined by context and how best to engage, is what is required. How this is achieved is described well by Donella Meadows:

"We can't control systems or figure them out, but we can learn to dance with them! … I had learned about dancing from great powers, from white water rafting, from gardening …" (Meadows D, 2002. Pg 114)

Meadows, I feel, captures the simplicity and open ended approach to complexity required for managing garden landscape projects systemically.

To 'dance systemically' will involve departing from the powerful traditional roles of client and contractor, and recognising each as an equal stakeholder in the system as a whole, with a lot to contribute in all areas of approach.

A shared understanding and awareness of all that is going on will lead to better dancing as an emergent property, and, in this situation of concern, a flourishing garden landscape system.

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