

Conjectural ‘Landscape Cities’ and the Gap of Imagination

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This report discusses the results and layout of a design research studio focused on applying methods related to speculation and imagination. Three main findings are presented: a review of six methods that can direct designerly speculations; development of 11 ‘landscape city’ scenarios; and a discussion of the role design ‘challenges’ can play in studio research settings. These outcomes reveal that creative discoveries are not bound to elaborative final outcomes only. Some of the intermediate results, particularly those with explicit habit-breaking effects on the imagination of the designers involved, and the process-driven materials produced, are equally valuable. This report seeks a reconsideration of the presentation and sharing of research results through designing, moving from the familiar focus on high-end, ‘glossy’ finalisations towards those more revealing of intermediate and abstract products of inquiry. In conclusion, an argument is made as to what can be framed as an ‘imagination gap’ that suggests possibility operates as a counterpoint to empiricism.

Landscape architecture has a speculative role in imagining diverse, innovative and environmentally responsive futures (Waldheim, 2012; Weller, 2009). In its research, the discipline is prone to critique by a scientific community that either disqualifies speculative approaches or does not know how to assess the associative imaginations on which most design processes depend. Such critique is constructive as it urges clarification of what is both unique and systematic about design-directed research.

As part of an examination of this capacity we, as a group of researchers spanning both contexts (from Lincoln University, New Zealand and Wageningen University, Netherlands), proposed an imaginative question: how could Canterbury, New Zealand – with its current population of 600,000 people and an area equal to that of the Netherlands – flourish if its population was similar in size to the Netherlands’ 16 million people?

The parallels between Canterbury and the Netherlands presented a number of possibilities for the research studio. First, as noted above, the two places are similar in total area. Likewise both places rely on agriculture-driven economies, particularly dairy, which is vulnerable to rapidly changing requirements to mitigate environmental impacts (McKnight, 2013). However, unlike Canterbury, the Netherlands has an explicit urban focus and a much larger population, which in turn is connected to the infrastructure networks and dense populations of neighbouring countries. These twinned possibilities of similarity and difference drove the development of a more specific research question: what forms of dwelling and integrative landscapes might develop if the Canterbury region was inhabited by 16 million people?

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REPORT

Responding to this question required challenging the prevailing, yet often limiting paradigm of New World landscapes: that intensively farmed landscapes and landscapes of outstanding natural significance cannot be located at the same site (Macfie, 2016); that places of beauty cannot be places of industry and economic success; and that places of high production cannot be ecologically rich (Abbott et al, 2018). Using design, we sought to identify landscape forms in which ecological integrity and prosperity could be mutually achieved.

Provisional findings focus on three aspects of the research: an expanding typology of design methods in academic research; landscape typologies that might afford potential for urban form; and an assessment of the role of design-directed research within academic inquiry.

The design studio

The role of the design studio has been the subject of examination in terms of its suitable scope and the manner of findings that result (Abbott and Bowring, 2018). This study operated on an understanding that different studio structures, which considered the range of tasks, types of activity in terms of individual and collaborative design work, and the order and tempo of sequencing, have the capacity to instrumentally shape the content and form of findings.

The study developed within a five-week immersive design research studio that involved 12 senior landscape architecture students and four academic staff, who together examined the overarching research question. Throughout the studio, the knowledge space was concentrated on generating and extending the spread of possibilities, rather than seeking a single solution. This located the studio within a 'material thinking' paradigm that seeks, as Paul Carter (2004) observes, to 'make possible a new conversation' (p 5).

Processes of designing provided the core tools and focus for the studio, with strategies and methods tuned to ensure prolific outputs that were rich in form, content and variance. In addition, the processes were content to remain in a provisional space that, in John Law's (1999) words, 'lies in a modest willingness to live, to know, and to practice in the complexities of tension' (p 12). This included use of a rotating structuring of both the design teams and their respective tasks as an explicit device to seek out innovative and unpredictable outcomes. Throughout, a process of reflective practice was employed (Schön, 1992) as a means to: examine the role of specific design methods used in the research; review the forms of 'landscape cities' generated through these methods; and consider the manner in which designing can direct and shape academic research and the ways it is framed.

Design methods

The following methods of designing were identified as instrumental in generating a spread of 'landscape city' forms.

Design and critique

Iterative cycles of *design and critique* allowed the rapid and prolific generation of a spread of key concepts (figure 1). The approach involved providing teams of three to four designers with different design challenges that had to be rapidly designed into the same landscape setting. After 60 to 90 minutes these findings were critiqued by other groups.



Figure 1: Design and critique cycles at work. (Image: Tenille Pickett.)

This critique was approached in two ways. At times the individual designer/researcher would examine the design process work and outputs from their own individual positions. At other times they would take an explicit position based on a specific, previously studied, framing of landscape. For instance, Massey's framing of 'landscape as an event' (2005), Ingold's articulation of 'landscape as a never ending conversation' (2000), Meyer's placing of aesthetics and 'sustaining beauty' (2008), Nassauer's 'cues to care' (1995), Roncken's 'fremdkorper' (Roncken et al, 2014) and Abbott's 'being landscape' (2011) were each used as specific positions from which to critique and subsequently design. In this process, formative design work, provisional outcomes and critique melded, with identification of both gaps in the outcomes and opportunities to develop a contrasting position, so a different mix of designers could take these as prompts for further design development.

Scenario generation

Scenario generation was used to generate further themes throughout the studio. Jonas (2001) argues futures can be engaged in three interconnected ways. The first approach 'forecasts' the future, as a continuation of past trajectories already under way. The second articulates a single future position that, through planning and management mechanisms, is then 'backcast' to identify the necessary steps to ensure its achievement. The third approach, which was the primary focus of this method, is based on building scenarios of the future – 'images of possible, probable, or preferable futures or futures to be avoided' (ibid, p 76). In this design's task is the creation of a number of potential futures 'in different directions and time scales' (ibid, p 66). This positioning resists a sense of closure and completeness in both processes and provisional outcomes so that its multiple forms can maintain their generativity and sense of possibility. Such scenarios could be expressed graphically, schematically and in text-based form (figure 2).

It was during this phase that the metaphor of 'landscape cities' was used and developed as a means to ensure a wide spread of options. Inspired by Italo Calvino's (1974) presentation of his *Invisible Cities*, the deliberately hybrid term of 'landscape cities' prompted the forced association of urban density requirements with dominant landscape forms and uses in the Canterbury region (figure 3).

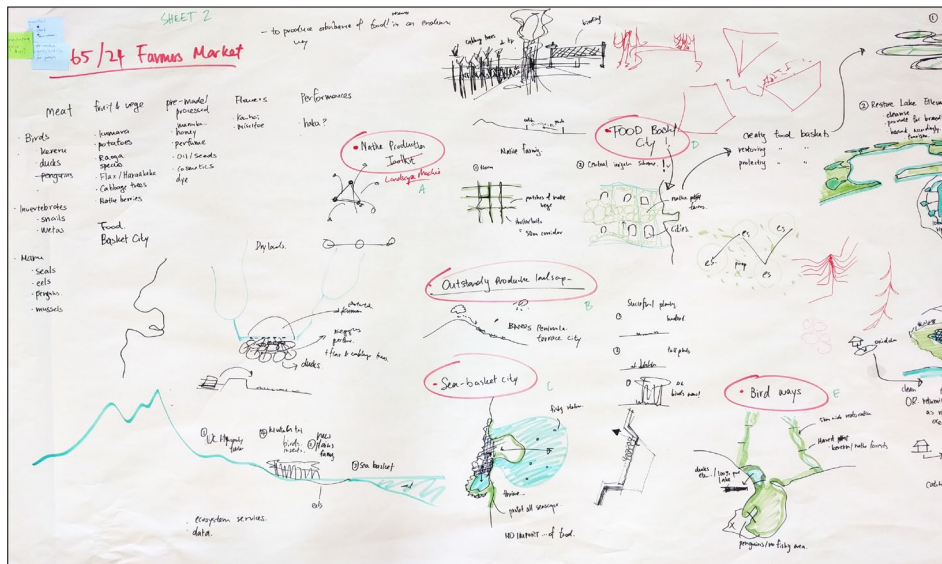


Figure 2: This scenario imagines a farmers' market extended across a wide landscape and running 24/7 and 365 days a year. (Image: Woody Lee and Tenille Pickett.)

Manifesto making

Within design disciplines is a tendency to make declarative statements concerning the products and processes of design (Meyer, 2008; Weller and Hands, 2014). A process of *manifesto making* was used to frame desirable, positivist outcomes that each scenario might achieve, even if no mechanism for delivering this attribute had yet been identified (figure 4). Its purpose was twofold: first as a tool for reflecting on an already developed scenario's potential and usefulness; and second as a design prompt to stimulate the further designing of landscapes, interactions, behaviours and changed understandings.

Thick inventory

A *thick inventory* method allows inclusion of a variety of cultural aspects (Geertz, 1994) that could more strongly support the melding of ecological, agrarian, recreational and urban aspects. This provided a more elaborative approach to building an inventory of the qualities of the existing landscape as first identified by McHarg and Mumford (1969). This includes four categories that synthesise into a thick inventory: to examine what it is that *confines* different landscape types; to examine what external influences cause these landscape types to be *open* at the same time (for example, economy or migration); to examine what previous characteristics of human behaviour have affected the landscape (the current and previous *ontic* state of the landscape); and to examine what *systemic* interactions determine the current 'steady state' of the included ecological systems (Roncken et al, 2014).

Projective densities

A process of designing *projective densities* prompted the development of diverse landscape forms that could generate productive landscape values within a mix of population densities. Here, a typology of built forms was incorporated into an ecological milieu. In this process, landscape was examined as both the generator and the expression of changing population densities meeting diverse 'landscape city' types.

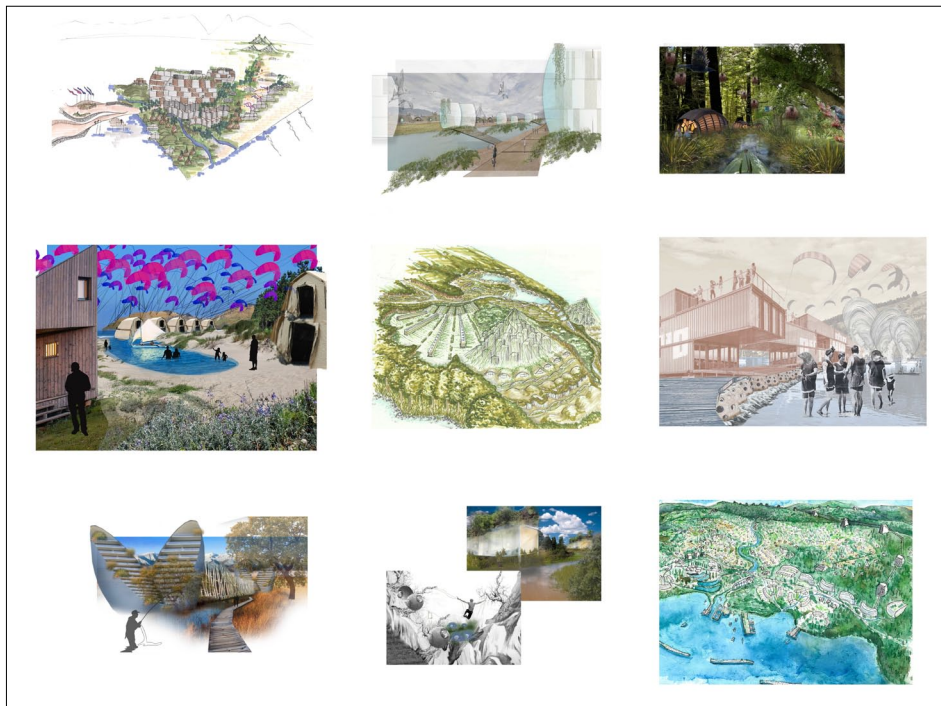


Figure 3: Selected 'landscape city' scenarios. (Images: Top – Christine Skipworth, Ellie Helliwell, Jordan Derecourt; Middle – Ryan Satria, Tom Steck, Fraser Graham; Bottom – Mees Van Wagtenonk, Mingrong Zhang, Heath Melville.)

For instance, in this process a matrix of low, medium and high habitat densities was examined for the ways these different densities might beneficially intensify attributes such as aquifers, forests, braided rivers, drylands and shrublands. These forms were then experimentally mapped onto prospective sites at those sections of the Canterbury landscape that supported the different 'landscape city' types (figure 5).

Game board

Game board processes allowed this exploration of habitat forms to be extended into the generation of conglomerate 'landscape cities'. Here four 'landscape cities' were played out over an environment through a process of using dice to randomly generate the city density level (and accompanying form). This went in turn with each city champion locating their diced city mix onto sites that might best support the desired functions of their specific city mix. Through this process it quickly became apparent which 'landscape city' forms and respective densities worked synergistically with other 'landscape city' forms and densities, and also those that were more isolationist in their constitution (figure 6).

This design process expresses the fractal qualities that the mathematician Benoit Mandelbrot (1983) developed. He concluded – following efforts to mathematically describe the coastline of Britain – that its form is an infinite edge made up of 'turns, returns etc' at every scale. From this process, distinctive landscape patterns emerged that became the subject of further study.

This suite of six methods reveals ways designing can generate innovative, interconnected and complex outcomes within speculative inquiry. When worked in combination, including by establishing different tempos of activity among and across different collaborative groupings, it can usefully direct and structure design activity across scales, settings, programmes and skill sets.

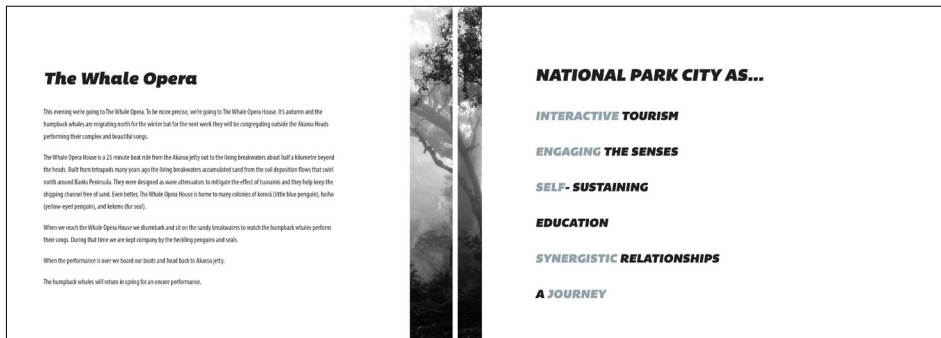


Figure 4: Left: 'The whale opera' manifesto describes an event taking place within 'Lively Harbour City'. (Image: Fraser Graham.)

Right: The 'National Park City' presents six key drivers that articulate that city's essence. (Image: Hannah Wilson.)

'Landscape cities'

As noted, Italo Calvino's (1974) presentation of his *Invisible Cities* generated a range of 'landscape city' forms that in turn seeks to imagine ways landscape can be a direct generator of habitat and urban form, and fecund in terms of both productivity and biodiversity. Throughout the process, these 'landscape cities' have maintained an emergent and morphing quality with the 11 identified below provisional in mix and content.

The *Coastal City* imagines a beach-dweller people whose lives are shaped by the sand, the wind and the water. This inherent unpredictability provides residents with the daily, seasonal routine of perpetual adaptation and readaptation in this constantly changing landscape.

The residents of the *Tree City* live within a vertical natural world in which cycles of planting and harvesting materials match people and resources in a virtuous system that generates a deep awareness of the forest.

The *Drylands City* exists in a resource-sensitive environment in which water is made precious by its scarcity.

The *Lively Harbour City* is more pleasant than pressured. Its inhabitants draw and express their identity from the birds and wildlife.

The *Braided River City* draws its life from the river's changing banks and seasonal changes in water levels.

A highly developed permaculture system underpins *Aquifer City* with a keen focus on innovative food production.

The brackish water margin provides the opportunity for *River Mouth City's* tidal aquaculture.

The *Wetland City* is rich in food and other resources, with water providing its foundations.

Alpine City seeks its locations in remote valleys and on steps above the more productive valley floor. Gondolas rather than roads provide connectivity and some core services move from place to place across the day.

Irrigation City is not just about living with water, but also about using innovative technologies and growing structures. These structures include hydroponic food webs that are suspended between buildings and are harvested by drones.

National Park City is a place made by volunteers for volunteers. It is a landscape that enables human survival and nature conservation such that the more people that inhabit it, the better the environmental outcomes are.



Figure 5: A map of Canterbury identifying a diverse set of 10 x 10 kilometre areas (Image: Tenille Pickett.)

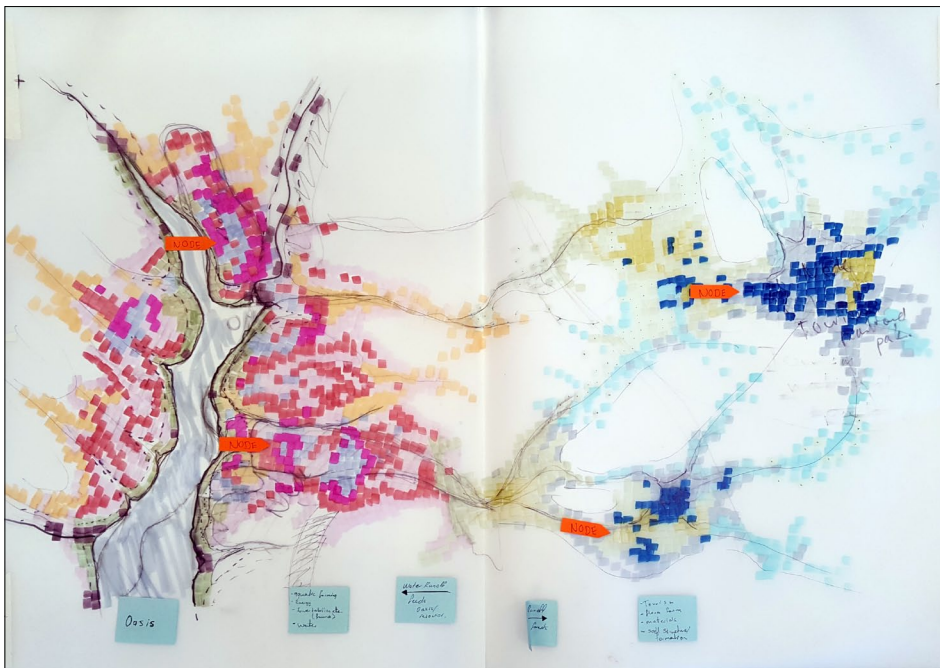
The above ‘landscape cities’ establish opportunities for subsequently interrogating the manner and effectiveness of the activities, economies, food production, ecosystem services, scales and connectivity they afford. Each takes the form of a hypothesis that, rather than setting out a position to be defended, becomes a tool from which to find firmer ground. Designing becomes a tool for exploration rather than resolution as alternative expressions are teased out.

Design challenges

In this study, creative processes operated within the well-known pedagogical structure of the reflective practitioner and studio (Schön, 1985). In line with Dewey’s (1938) understanding, learning is related to social response and communication that is established through dynamically creating experience (Lund, 2015). Design competitions set stimulating challenges as a means to provoke and shift notions in design thinking (for example, Parc de la Villette (1982–1983) and Parc Downsview Park (2000)). On a superficial level, a competition offers a contested mode, time pressure and a collaborative structure that allows fresh relationships to be built. Similar conditions are present in landscape architecture education, in which design briefs are formulated as challenges that can manifest the creative talents of the participants. The word ‘challenge’ is different to the conventional ‘objective’ (or ‘aim’) used in other scientific communities, with the latter arguably closely matched to expected forms of ‘research methods’ (Deming and Swaffield, 2011; Lenzholzer et al, 2013; van den Brink et al, 2016).

The formulation of an ‘objective’, whatever the qualities of the person involved, should follow predetermined and predefined research methods and procedures. By general scientific demands, the same results would be found independent of the person involved. In designing, however, the personality and personal capacity (for example, creativity) of the designer also direct the outcomes of

Figure 6: Landscape cities game board development. (Image: Tenille Pickett.)



the investigation (Deming and Swaffield, 2011, p 8). This reflexive approach includes the effect of the personality or presence of the researcher on what is being investigated and vice versa. Further, in design, any initial objective will change and be modified during the design process, as this provisionality is one of the consequences of creative explorations. In the 'landscape cities' research studio, a series of very different design processes allowed participants to both individually and at times collaboratively discover, test and consciously direct the ways their personality and creative capacities could shape and be shaped by the design 'challenge'. In the process, both design and designer were shaped. As a result, we have observed if a key research 'objective' is to provoke discoveries, then a key design 'challenge' is to stimulate and progress the creative capacities of the designer and design-team involved.

A similar approach of challenging landscape was also adopted. The second aspect is to recognise landscape architecture's capacities to integrate natural, technological and cultural components. Instead of focusing on one specific natural or technological or cultural objective, a landscape design challenge can address the synthesising potential of all three components. In the 'landscape cities' studio, imaginative 'what if' scenarios were used to consciously modulate different mixes of natural, technological and cultural component. Their intent was located as a means to, as Dunne and Raby formulate:

... open up spaces of debate and discussion thereby they are by necessity provocative, intentionally simplified, and fictional. Their fictional nature requires viewers to suspend their disbelief and allow their imaginations to wander, to momentarily forget how things are now, and wonder how things could be. (Dunne and Raby, 2013, p 3)

This helps further differentiate between a research objective and a design challenge. A typical scientific objective is not served by 'forgetting how things are' but rather seeks to understand and clarify how things are. The permission to

imaginatively wander that Dunne and Raby advocate for is 'to open up spaces of debate and discussion' (ibid). In this, designing cannot lay claim to an objectivity that still prevails in some scientific domains. Design explicitly addresses the alignment of the subjective and the objective by provoking the speculative and the fictional within a full spectrum of possibility.

Design's position in this research does not signal a rejection of its many other forms, such as its capacity to efficiently solve perceived problems (Owen, 2001). Nevertheless, the type of landscape design articulated here suggests a discipline with design tools that can generate, meld and condense complex, integral and large-scale landscapes in ways that envision future-and-imaginative-and-provocative expressions of living systems that integrate a full spectrum of the urban, rural and wild. Linked to this is an advocacy for forms of research that both: increase the capacity of the designer and design teams beyond default settings as an explicit mechanism to provoke discovery; and critically (re-)align landscape's natural, technological and cultural dimensions through the use of designing as a tool for discovery.

NOTES

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