

# Placing Design, and Designing's Place, in Landscape Architecture Research

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In European-based discussions concerning landscape architecture research methods, there is strong advocacy for the term 'research through designing' and its acronym RTD (Lenzholzer et al, 2013). Given an agreed lack of clarity regarding the role of design in landscape architecture research, the suggestion of certainty contained in the term RTD is inviting.

However, could this directness of phrasing prevent design from expanding its scope in landscape architecture research at a time when only a small number of published studies on the topic exist? Advocacy for RTD is part of a continued skirmishing with design's potential in creative research that is manifest in sporadic articles in journals like *Design Issues*, *Design Research*, *Design Philosophy Papers*, *Architectural Design Research*, *Journal of Architectural Education* and *Landscape Review*, and studies within wider texts by Deming and Swaffield (2011) and van den Brink et al (2016). These works attempt to shape theoretical models and provide exemplars for design's role in academic research that is supported with an expanding number of international interdisciplinary conferences, as well as panel and workshop discussions at recent Council of Educators in Landscape Architecture (2017) and European Council of Landscape Architecture Schools (2017) conferences.

The complex place of design and designing in landscape architecture research suggests a more invitational orientation continues to be needed so greater richness and diversity of thinking can continue to be fostered. This paper is an abridged version of a key chapter in my doctoral research into a phenomenological design of wilderness (Abbott, 2008). Developed between 2006 and 2008, its lineage can be traced back to prior work that used design and designing to express positions the poststructuralist philosopher Jacques Derrida, the mathematician Benoit Mandelbrot and the architect Aldo Rossi had been articulating during postmodernism's zenith in the 1980s. As this paper makes clear, the processual qualities of design are prioritised, but not exclusively, especially given design's capacity to provocatively and instrumentally intervene in a range of settings, including those at the interface of people's behaviours and place. Over the last 10 years, this chapter on design-directed research has been regularly referred to in postgraduate research at Lincoln University, New Zealand (Blackburne, 2014; Copley, 2014; Pickett, 2016; Rae, 2015), in terms of providing a theoretical framing from which to undertake design-directed research, and it is included in this issue to extend the number of available studies that frame the role of designing and design in landscape architecture research. For ease of understanding, it has been abridged to remove specific references to the wilderness context that the thesis focused on.

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## KEY WORDS

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## REPORT

A fundamental question for the discipline of landscape architecture, particularly as it seeks to define itself as an independent discipline, is whether landscape architecture provides only the context for academic research or whether it also offers distinctive research methods that have a broader application.

According to Corner (1997), it is an awareness of landscape's process-driven qualities, such as temporality and agency, that has led the discipline of landscape architecture to be increasingly located at the interface of an 'ecology and creativity [that] speaks not of fixed and rigid realities but of movement, passage, genesis, and autonomy, of *propulsive life unfolding in time*' (p 181). While landscape has broad academic appeal – being discussed in disciplines as diverse as aesthetics, art history, environmental psychology, anthropology, ecology, theology, history and sociology (Stephenson, 2005) – it is in landscape architecture that landscape and creativity explicitly meet.

Corner (1997) argues the discipline must be oriented to the concerns of method and process rather than outcome: 'a landscape architecture that has yet to fully appear, one that is less preoccupied with ameliorative, stylistic, or pictorial concerns and more actively engaged with imaginative, enabling, and diversifying practices – *practices of the wild*' (p 105). Using examples from other fields, Corner (1999) illustrates how a creative engagement of landscape might be enabled. While he includes work from artists and cartographers, it is clear the greatest affinity for his own work is not with the field of landscape architecture, but instead with architecture and the work of Koolhaas, Tschumi and MVRDV (Corner, 1999).

However, to suggest that a programme that engages landscape's agency will develop out of the field of architecture is problematic. To argue that landscape architecture can simply be split between its context (landscape) and method of engagement (architecture) revisits the antagonism between two unequal relations. As John Dixon Hunt (2000) states:

... professional landscapers' inclusion of the word *architecture* seems largely the result of a feeling of acute inferiority, an inferiority that many architects have done little to rethink, including their rather patronising assumption that landscape architects are the ones who put the flowers and shrubs around *their* finished buildings. (p 1)

Nor, on a deeper level, is it helpful to suggest architecture embodies landscape architecture's creative mode, as it merely conflates both context and creative method into a single term: a making of architecture through architecture (Wigley, 1998).

Such issues suggest design is a more useful term for discussing the discipline's creative processes. While design might be considered both a context and a method, the ease with which it can be expressed as a verb – designing – aids investigation of landscape architecture's methodological significance. The term also unlocks inherent tautologies: rather than the indistinct 'landscape architecture produces landscape architecture by a method of landscape architecture', more straightforward is 'landscape architecture produces designed landscapes through designing'. Here landscape can be both the context and outcome while designing is the method by which such contexts are transformed into outcomes.

## Landscape architecture research

The practice and teaching of landscape architecture are generally agreed to be directed and driven by design. Teaching programmes and monographs emphasise its role as the foundational method by which productive and meaningful outcomes are developed. Yet the same approach is not the norm for landscape architecture's programmes of academic research, with far less readiness to enlist these same creative strategies and processes when undertaking academic inquiry. Instead the tendency is to enlist any number of methods other than designing. Given the discipline's distinctiveness is dependent on its designerly attributes, this reticence is perplexing, especially when creativity and design are elsewhere often considered integral to research. For example, Michael Crang (2003), whose research is based in the humanities, states, 'producing order out of our materials, of making sense ... is a creative process' (p 117). Similarly, geographer Sarah Whatmore (2003) considers the research process relies on 'the creative and sometimes contrary possibilities generated in and by exchanges between researcher and researched' (p 103).

Paul Carter (2004a), an academic whose career has developed from literature and history and more recently from design theory and practice, states:

... 'creative research' [is] a phrase that ought to be an acknowledged tautology. If research implies finding something that was not there before, it ought to be obvious that it involves imagination ... [Hence] as a method of materialising ideas, research is unavoidably creative. This is why, Michel Serres claims, 'Invention is the only true intellectual act'. (p 7)

Yet, as Carter continues:

... while 'creative research' *ought* to be a tautology, in its present cultural climate it is in fact an oxymoron. A research paradigm prevails in which knowledge and creativity are conceived as mutually exclusive ... A narrowly reductive empiricist notion of research, which, by insisting on describing the outcomes in advance, defines the new in terms of a 'present more extreme', now influences the framing of research questions across all disciplines. Interpretative sciences (traditionally the humanities), and even applied disciplines, architecture and design, find they can describe what they do only on condition that they leave out invention. (ibid, pp 7–8, original emphasis)

Arguably it is the lack of enthusiasm by design-led disciplines to use design as a cornerstone method of research inquiry that has limited their academic scope. Instead, as Catherin Bull observes, 'scholarship and research in these fields, where it does occur, is "about" them, rather than "of" them' (cited in Carter, 2004a, p 8). Almost always absent in the methodological mix is the very characteristic that gives creative disciplines their distinctiveness – namely design.<sup>1</sup> Consequently, the field of landscape architecture exhibits a paucity of scholarly research that attempts to use design as its primary research method: a dearth that tends to be self-perpetuating.

Moreover, an observation from Klaus Krippendorf is that 'probably the most notable pathology of design discourses is its openness to colonisation by other discourses' (cited in Findeli, 2000, p 2). As a result, historians, plant ecologists, social scientists, educators, geologists, planners, mathematicians and geographers,

while competently exploring topics of landscape architecture, do so from a methodologically external position – where the corpus of landscape architecture is understood, and defined, from the outside looking in (Foster and Lorimer, 2007). While such an ecumenical approach could be considered a positive expression of multidisciplinary, less certain is how other disciplines would respond if the roles were reversed; for example, if creative methods distinctive to a design-led discipline like landscape architecture were applied to academic investigations outside landscape architecture. Or, as Nigel Cross (2001) writes:

... we must concentrate on the ‘designerly’ ways of knowing, thinking and acting ... Design practice does indeed have its own strong and appropriate intellectual culture, and ... we must avoid swamping our own design research with different cultures imported either from the sciences or the arts. (p 56)

### Researching after designing

If one form of academic research in landscape architecture can be characterised as outside methods looking in, then a second form is the critiquing of processes and outcomes pertinent to the discipline *after* designing has occurred. Mark Francis (2001) argues for the prominence of the case study as a method that ‘inform[s] their colleagues and public about [the landscape architect’s] work’ (p 15). A template with common categories is proposed with which to examine specific ‘best-case’ outcomes of the discipline, so producing more robust results from individual and comparative analyses. Later case studies’ suitability as a framework for design-directed research is considered, but the key point here is research begins *after* designing is complete. In an emerging academic discipline like landscape architecture, this can result in positivist articulations of the already resolved (and often already built).

This quality of closure is also evident in research examining the process of learning and practising design. In such studies, themes extensively developed in other academic paradigms, like post-structural philosophy, and concepts of narrativity and semiotics are examined for their capacity to produce either better formal and usually site-specific design solutions or better processes to deliver such outcomes (Alon-Mozes, 2006). However, their intent is to bring into landscape architecture’s fold ideas developed outside the field rather than extending their application into other disciplines.

Such introspection means it is neither surprising nor unusual that Francis’s argument for a case study approach ignores the possibility of linking his templates with similar frameworks found in other design disciplines, or applying his concepts outside of landscape architecture productions. Is it possible such activity, by asserting the distinctive identity and value of each discipline, reinforces territorial disputes between architecture and landscape architecture? And is it the reason why, for example, landscape architecture-oriented conferences are more likely to be attended by planners, ecologists and policy makers than architects, industrial designers and communication designers – just as architecture and design conferences are similarly insular?

## Research and designing

These inward-looking attempts at disciplinary self-definition – whether derived from landscape architecture marking out its territory or from the study of landscape architecture using methods founded in other disciplines – can be characterised as research *into* the field of design. Counter to such approaches, what is the potential of designing to provide a distinctive research method for landscape architecture with which to engage and inform the research of other disciplines? How could creativity be a method of research or, put another way, what is research that is directed by designing, rather than research focused on design's productions?

Examining the peer-reviewed landscape design studio, Alan Berger and his collaborators (2003) identify that “research by design” is an emerging field with many questions to ask and traditions to establish’ (p 2). However, landscape architecture’s nascent condition in university scholarship, as it shifts from its professional pedagogical purpose to one also with academic substance, means peer-reviewed academic and postgraduate research, regardless of method, is relatively recent. Variety rather than clarity of methodological approach appears to prevail, such that most substantial research in landscape architecture is likely to involve an implicit inquiry of method rather than just the application of an already accepted approach. The result is considerable ongoing academic debate over the relationship between practice and research as definitions of each iteratively reverberate through various academic channels. Academic inclination to debate and investigate this situation is evident. For instance, *Landscape Review* sought ‘to uncover and develop new areas of knowledge to inform the education and practice of design’ through a series of articles on the refereed design studio (ibid, p 1). The *Journal of Landscape Architecture* and *Landscape Review* include special categories of peer-reviewed, design-directed research.<sup>2</sup> Also, current emphasis on linking institutional funding to measures of research performance has strengthened research’s value for academics securing resources through careful framing of research to what may previously have been considered practice.

Nonetheless, such approaches are not the prevailing position. Paul Carter (2004a) states ‘creative research ... has been intellectually a rather under-resourced debate’ (p 7). In his view, the intent of most studies is to ‘extend’ and ‘intensify’ the already known. The ‘criteria of success are simplification, resolution, closure. In the process of conducting research, new problems “emerge”; but they are treated the same way’ (ibid, p 13). It is this situation that leads him to provocatively declare that, for many in our academic institutions, ‘it is self-evident that a research question without a simple answer is not a proper subject for research’ (ibid).

Yet arguably it is questions for which any answer is complex and provisional that define scholarship (Buchanan, 1992). Sarah Whatmore (2003) calls this ‘the joy of *not* knowing’ (p 98); the outcomes, as John Law (2004) lists, can be ‘slippery, indistinct, elusive, complex, diffuse, messy, textured, vague, unspecific, confused, disordered, emotional, painful, pleasurable, hopeful, horrific, lost, redeemed, visionary, angelic, demonic, mundane, intuitive, sliding and unpredictable’ (p 19). Given the level of discussion and the shifting of positions,

it is overly ambitious to suggest that any attempt to apply a methodology based on research through designing could be definitive. Indeed, a more likely result might be to suggest possible and potentially viable approaches for further inquiry alongside what appear as dead ends.

Confusing as it may seem, this is nonetheless what design-directed research currently is. It is the subject of much debate that shows no signs of resolution. In an inquiry on 'Design as Research', in which the *Journal of Architectural Education* launched a new category of contribution, Lily Chi posed five interrelated questions for designerly research that continue to resonate:

[First,] in what ways can design work's very specificity and finitude offer a medium of investigation for questions of broad concern? [Second,] how do the creative and discursive interact? [Third,] how does individual imagination figure in the deliberation of sociocultural matters? [Fourth,] what role does the created artefact play in the conjectural process? [Fifth,] how, in short, can design *as design* be practised – and read – as a pursuit of knowledge, understanding? (Chi, 2001, p 250)

She concludes such 'questions invite not definitive answers, but reflection' (ibid). Yet while research through designing is uncertain and potentially risky, the question as to what design-directed research specifically could be remains. It is useful to further break down the issues: first, what dimensions of design are to be used in design-directed research; and second, what form of framework could be used to structure such research?

## Designing

The first question, at its most bare, is, 'What is design?' In itself this topic is the subject of much scholarly comment about its form and processes, as well as design's expanding number of disciplinary fields.<sup>3</sup> This question alone sustains the field of design studies.

John Heskett (2002) presents design's syntactical breadth with the statement 'design is to design a design to produce a design' (p 5). In this single sentence, the meaning of design shifts from a disciplinary field, to an active process, to a potential prototype and finally to a fully realised form. Design in this sense is ubiquitous in its use and invocation.

Nonetheless, in terms of design-directed research, its scope can be narrowed. Design is inextricably tied to the notion of making: making products, communications, places and environments; and making marks and futures. For Heskett (2002), design is 'the human capacity to shape and make our environment in ways without precedent in nature, to serve our needs and give meaning to our lives' (p 7). For Simon (1996), it is the means by which we 'change existing situations into preferred ones' (p 112). Design, in each framing, is a process of transformation.

However, perhaps it is not overly useful to labour over different definitions. While each has merit, caution is required in undertaking any prolonged recursive analysis, both because such a task is itself not that designerly and because it suggests an agreed singular understanding of design is required before design's myriad dimensions can be used in research. For this reason, perhaps definitions of design should be considered not as a thesis to be defended but instead as a

point of departure from which to open up diverse design-directed investigations both within and beyond the current realms of landscape architecture research. In such an understanding, the following definition is proposed:

*Design* is an iterative, associative and synthetic process that attempts to build possibility out of diverse elements.

In this statement, design's processual character – Heskett's (2002) 'to design' – is emphasised. While outcomes, products and archetypes can all be forms of possibility, this definition has as its focus methods of transformation, creativity, making *and* designing. The notion of synthesis is critical. Carter (2004a) states to 're-member' disparity one 'has to be a specialist in alloying' (p 179) and of combining elements together. Like cannot be usefully mixed with like: 'the dialogue has no purchase unless its materials are heterogeneous' (ibid). He cites Heraclitus to evoke this spirit of the synthetic: 'Things which are cut in opposite directions fit together. The fairest harmony is born of things different, and discord is what produces all things ... Let us unite wholes and not-wholes, convergence and divergence, harmony and discord of voices' (ibid, p 11). Or, as he also states, 'invention, after all, depends on equivocation – the possibility that something might mean *something else*' (ibid, p 10).

Carter (2004a) terms this sense of emergence from the combination of two elements a 'third apprehension'. Others also articulate this method of hybridisation. Communication designer Bruce Mau calls it the 'third event': something that 'occurs between images' (Mau et al, 2000, p 326). Burroughs and Gysin (1978) call it 'the third mind'. For Whatmore (2003), the interface of the researcher and researched produces a 'third party' (p 99).

It is through such 'alloying' and transformation that new possibilities develop. For architect Peter Eisenman (1999), these possibilities have 'nothing to do with the actual physical character of the form but with something implied in the relationship between forms' and, among other things, may involve 'blurring', 'twisting', 'interweaving' and 'displacing' (p 52). It is in this *process* of building emergence, based on ways to bring together diverse elements, that *designing* is at its most instrumental. Moreover, such emergence is not necessarily sequential – moving from one form to the next and then the next. Multiple and divergent possibilities may develop from a common inquiry. The diverse responses found across design competition entries readily evidence the diversity of design methods, understandings and interpretations that can be enlisted and generated from a single prompt. It is in producing such a spread of possibilities, rather than the resolution of a single outcome, that suggests much depth and productivity for design-directed research.

While design in its professional guises realises its value according to *the designs it produces*, as a method of research inquiry *the process of designing* takes precedence. The former expects a completed, singular production. But in design-directed research, it is the identification of a range of *possibilities*, where it might not be essential for one to be identified as preferable, that is critical. This is where the discipline's research can be more expansive in influence: many multidisciplinary research efforts could benefit from having an expanded range of options developed through design-directed research before being reintroduced as

rich and tangible scenarios ready for further examination using research methods founded in the social sciences, sciences and humanities.

It is the capacity to be continuously melding diverse elements that enables the process of designing to find purchase in many situations. It can readily consider what might happen if a multitude of inks are combined with different paper stocks – or, for that matter, if other newspapers, music, Shakespeare sonnets, maps, buildings or landscapes are similarly ‘alloyed’.<sup>4</sup> In this generation of multiple hybrids, and the enhanced options that emerge out of an interconnected and expanded web of possibility, the value of designing as a research method is located.

This paper has suggested that concentrating on formulating an ever more ‘precise’ definition of design could lessen the opportunity for its qualities to shift during the research process. However, this caution concerning mechanistic processes should not imply design-directed research is a *laissez-faire* or ad-hoc process. While this paper argues for an experimental orientation towards design methods, it is relevant to consider what frameworks might best structure the fluid qualities of design-directed research so it can be effectively incorporated into programmes of research that not only stimulate the generation of possibility, but also provide points of departure for further iteration.

### A case study approach to design-directed research

As previously noted, landscape architecture’s diverse spread of concerns across multiple contexts, environments, cultures, forms, methods and meanings indicates a case study approach to design-directed research could be suitable. Francis (2001) states the approach is ‘a well-documented and systematic examination of the process, decision-making and outcomes of a project, which is undertaken for the purpose of informing future practice, policy, theory, and/or education’ (p 16). To Swaffield (2006, p 26), case studies are a means by which common ‘categories’, ‘typologies’ and ‘archetypes’ might be identified. Generally conducting a case study entails taking a comparable set of contexts, environments or meanings and then, in a matching examination, differentiating attributes in terms of those that are shared, distinctive and/or difficult to evaluate.

A case study approach offers a number of potential advantages. First, it provides sufficient structure to sustain an extensive research programme. Second, provided enough difference can be identified, it is reasonably certain comparisons can be made and conclusions formed. As Law (2004) comments, such methods are ‘a system for offering more or less bankable guarantees’ (p 9). This is a key reason why case studies are a recommended structure for postgraduate research.

In his approach, Francis (2001) directs a systematic examination of the process and outcomes of a project ‘around the type of project, the problem, the geographical region, or the designer’ (p 20). Additional categories include ‘environmental sensitivity and impact’, ‘scale’, ‘infrastructure’, ‘baseline information’ and ‘financial’ information (*ibid*). The very nature of a case study is to resist tailoring categorisations to the individual cases, as this makes comparative analysis across case studies difficult. Yet, while case studies can discern difference, there is no assurance that multiple case studies can be brought back together into some form of coherence. Swaffield (2006) identifies this methodological gap: ‘what appears to be needed is better synthesis of the conceptually driven approach to critique

that is predominant in the “subjectivist” parts of the [landscape architecture] discipline, with the more empirical stance promoted by Francis’ (p 27).

It is in the establishment of specific categories from which to undertake comparative research that findings are effectively locked in. It is not difficult to identify ways design-directed research and particularly its explorative dimensions might be stifled. The tighter the adherence to a predetermined set of categorisations, the more predictable the result – with findings only verifying the diligence with which the method, determined from the outset, has been pursued. For example, Francis (2001) asks each study to enter the names of the ‘landscape architect(s)’, ‘client’ and ‘consultants’. Even this simple task structures a separation of roles between client and designer. What about the work developed within a participatory design framework (Hester, 2006, 2008)? How can that relationship fit such predetermined categorisations? As Law (2004) compellingly argues, ‘simple clear descriptions don’t work if what they are describing is not itself very coherent. The very attempt to be clear simply increases the mess’ (p 2).

It is apt to reflect on Carter’s (2004a) comment that, instead of revealing new understandings, these approaches are adept at extending and intensifying the already known. In Francis’ (2001) categories, what is found and validated relates more to the qualities of predetermined typologies and structures than to the context under examination. Inherent is an assumption that the subject of the research is passive, and is to be disciplined by an external and unmodified structure (Cross, 2001).

This deadening of the research subject’s instrumentality – of enabling the designing and its productions to interject its own shaping into that being explored – suggests a number of difficulties for a design-directed research framework based on the case study. As Law (2004) notes:

... the world is not to be understood in general by adopting a methodological version of auditing. Regularities and standardisations are incredibly powerful tools but they set limits. Indeed, that is part of their double-edged power. And they set even firmer limits when they try to orchestrate themselves hegemonically into purported coherence. (p 6)

This is an observation illustrated by the previous example that distinguishes between landscape architect and client.

A structure for undertaking design-directed research must allow both the method being used and the subject being studied (and the relationship between them) to be contingent on, and modified by, each other. Both are active and both are co-produced. Massey (2003) states:

... many imaginations of the field have pictured it as static, as synchronic. A revision of that imaginary would make the field itself dynamic; and it would make *fieldwork* into a relation between two active agents. It would recognise it as a two-way *encounter*. (p 86)

In this sense, a shifting subject interrogates the method with the same vigour as a shifting set of methods tests the subject.

This leads to a critical point for design-directed research, and one that adds necessary complexity. For, if method and context are in an ongoing and mutually transformative dialogue, then where is the researcher to be located? If the negotiation of subjects by different methods is driven by the researcher(s), it follows that in acts of researching (and necessarily designing), a ‘co-fabrication’

occurs in which its practice is a 'two-way encounter' and the subjects of research are not without substantive influence. Massey (2003) rejects the default position in which 'the researcher does all the acting while the researched are merely acted on' (p 90) and which structures 'the establishment of a gap in kind between the known and knower' (p 75).

Most research methods depend on a proficiency in the identification of difference: the capacity to demonstrate that this situation, phenomenon or result is different to this other situation, phenomenon or result. However, design-directed research, in terms of methodological approach, depends on its capacity to synthesise, hybridise and bring together such differences in innovative ways. Instead of teasing apart, it seeks to creatively manipulate heterogeneity into further possibility. Moreover, it is not only the context and the methodological framework that suggest these possibilities. In creative disciplines each researcher is an active participant intimately and explicitly involved in the research.<sup>5</sup> Like the landscape in Corner's (1999) model, the instrumentality and particularity of the designer cannot be forgotten or replicated, and arguably should be celebrated as providing a key point of methodological difference for the discipline of landscape architecture.

Just as Corner (1999, p 156) has warned of a scenic lookout separating the viewer from the view – and of the stance and site by which the view is formed remaining unexamined – it is important to be wary of a framework for design-directed research that allows the researcher to be situated outside of the context being examined. Such an approach subdues the instrumentality of landscape, landscape architecture and design that, for instance, Corner's work demands be activated. To structure design-directed research in ways that diminish this agency would inevitably influence the outcomes of design-directed research.

It is contradictory for landscape architecture researchers to argue for a recognition of landscapes' agency (as is now routine) without also enlisting these very same instrumental qualities that the research subject brings on the researcher. Like the designer who is alloyed when designing, the researcher is an active participant that is also able to be alloyed while conducting the research. As Carter (2004b) states, on discussing the field of landscape design, 'to go over the ground, as if for the first time, is not only to possess it, but also to be possessed by it' (p 141). Similarly, Whatmore (2003) notes 'both the scientist and his/her object of study are (re)constituted through the activity of research' (p 97).

The purpose of this section is to argue that a research framework embedded in designing cannot be simply separated from either its subject or the researchers. Neither precedes the other. Like the choreographic pattern formed by a group of dancers, each component is produced within and as part of an iterative and open-ended process that meshes dance, dancer, audience, choreography, environment, sound and light into one (Schön, 1992). It is the emerging form, rather than the cases or typologies with which the researching began, that is the substance of design-directed research:

[M]ethod is not ... a more or less successful set of procedures for reporting on a given reality. Rather it is performative. It helps produce realities ... It is also creative. It re-works and re-bundles these and as it does so re-crafts realities and creates new versions of the world. It makes new signals and new resonances, new manifestations and new concealments, and it does so continuously. (Law, 2004, p 143)

These methodological considerations are vigorously debated in the humanities and social science disciplines that researchers such as Law, Whatmore, Stengers and Massey work in. However, within design disciplines such issues could be expected to be much less contentious. The ease with which the instrumentality of research subject, research method, research outcomes and researcher is accommodated when designing suggests design-directed research might both receive greatly from and offer much to the disciplines of the above researchers. That is because the embodied role these researchers seek to assign to the researcher clearly describes the immersive dimensions a designer has when designing with communities of interests, contexts and people – where all aspects of the project are actors and agents that are working off, through and with each other.

Perhaps it is still possible to accommodate this interplay between researcher, method and context within a case study approach. For example, rather than analysing a number of cases, an argument for reasons of scope could be made that a single case, whose shape will emerge during the research, will be studied (Swaffield, 1991). Even this paper's discussion of the case study could be considered a specific individual case study. Yet this paper and the case study are at odds in their intent. Rather than seeking synthesis and invention, the underlying purpose of the case study is elsewhere: to organise and compare.

And while a case study method and design-directed research both value heterogeneity and difference, they do so for very different reasons. In design-directed research, the importance of these qualities lies not in how elements can be differentiated but in how they can be *used*. Further, as noted earlier, a key attribute of design is to continually seek opportunities to alloy heterogeneity and equivocation into third elements. Hence design-directed research would take a different approach to the categorical distinction Francis (2001) makes between the landscape architect and client. For example (and creatively alloying Francis' work), what if the client was considered the landscape architect, and the landscape architect the client? What outcomes might result? Or what if both were considered landscape architects, or clients, or consultants or project managers; or the landscape the client, and the client the thing to be designed?

## Research trajectories

Possibility in research is (to adopt a phrase by Massey, 2003) 'open and porous and connected by a chain of practices' (p 84). For these reasons, in the context of design-directed research – redolent with agentic conceptions of landscape, designing, method and designer – a different research framework is required. Considered here is the potential of a framework based on the metaphors of trajectory, by examining the trajectory of exploration documented in cartography.

From the maps that record the first European discoveries of Aotearoa New Zealand can be gleaned qualities that come from an unfolding, participatory and creative investigation. They document the journey and discoveries of Abel Janszoon Tasman and his crew of 110 men who travelled from Holland to New Holland and New Zealand in 1642 in the *Heemskerck* and *Zeehaen* (Beaglehole, 1939).

Figure 1 is a map drawn following this journey. Across its base, entering from the west, is a dotted line, horizontal until it is diverted by the land mass

annotated on the map as ‘Terre de Diemens’ (present-day Tasmania), alongside its discovery date of 24 November 1642. Tasman’s route continues, tacking along the southern coast of this land mass, with dates entered at intervals along the way. Once the original latitude of 41 degrees is reached, the dotted line sets off once more horizontally, east until the west coast of ‘Nova Zeelandia’ is reached. The trace of his journey continues north with various dates in December marked off at intervals until ‘Cap. Maria van Diemens’ is passed and the dotted line leaves land and heads off.

In this map, it is possible to identify fragments of the now known coastlines of Australia and New Zealand. But what this map also reveals is the movements and decisions of Tasman and his crew in response to their own understanding of a coastline taking shape. Considered as a metaphor for researching, Tasman and his crew (the researchers), along with the various navigational and sailing technologies by which their course is possible, and including their strategy to follow the 41st parallel (their methods), are interrupted by the presence of land (their research subject). In this map, which can be understood as a component of the research outcome, the journey and land are records of each other. While it is obvious that, without their journey, the lands they found would have continued unknown to Europe, it is also the case that, without the land, their investigation and approaches taken would have been similarly altered.

While a contemporary reading of these maps grants the coastline an ipso facto permanence, the findings of Tasman and his crew, as marked on the map, can be read as the almost arbitrary and incidental result of their own particular process of exploring (researching). Hence it is not contentious to suggest that a different captain and crew (researchers) or different vessels and navigational strategies (methods) would have made a different set of discoveries. The route taken could not have been made in the opposite direction. Only by travelling east were they confronted with the choice of going south or north when they reached the west coast of New Zealand. Likewise, because of external factors, such as weather, seas

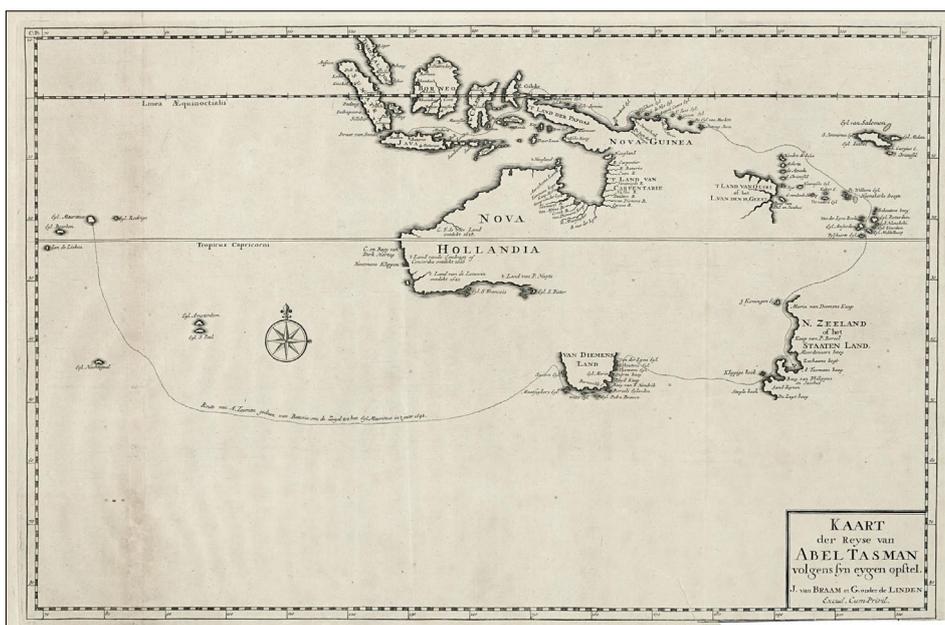


Figure 1: Chart of Tasman’s journey, with present-day Tasmania at bottom centre and New Zealand at bottom right (Kaart met de route van Abel Tasman, Anonymous (engraver), J van Braam (publisher), Gerard onder de Linden (publisher) Wikipedia Commons: [https://commons.wikimedia.org/wiki/File:AMH-7220-KB\\_Map\\_showing\\_the\\_route\\_taken\\_by\\_Abel\\_Tasman.jpg](https://commons.wikimedia.org/wiki/File:AMH-7220-KB_Map_showing_the_route_taken_by_Abel_Tasman.jpg)).

and visibility, and personal motivations including the need to rest the crew or to escape ‘Moordenaers Baij’ where six crew members were killed, the intensity of investigation and manner of ‘discoveries’ varied according to circumstance (Salmond, 1991).

Tasman’s trajectory of travel is not the product of a disciplined adherence to a grid search of an area of the South Pacific. Though sailing along the 41st parallel was a strategy brought to the South Pacific, events, islands and the difficulty that his type of vessel had in making safe harbour caused him to readily change tack. The resulting map gives little sense of organising the lands found. Instead, what is evident is an emergent trajectory produced by the meeting of their intentions and the context they were sailing in and becoming part of. Different choices, different events, different technologies and different directions would have produced a different set of discoveries and a different map for discussion.

In Tasman’s particular itinerary can be found a valuable metaphor for design-directed research. Within its cartographic image is woven the co-dependent, non-replicable, particular and iteratively informed meshing of the researcher, their methods and discoveries. All are co-formed and, most importantly, each has been active and instrumental.

Another quality to this trajectory of exploration can be considered. Tasman’s findings provided impetus for subsequent routes by other sailors, including Cook in his circumnavigations of New Zealand, which in turn prompted journeys by de Surville, du Fresne, Vancouver and Malaspina (figure 2). As each itinerary is joined to those it follows, a picture of the southern Pacific’s islands and coastlines slowly develops that also identifies absences, making each map a provisional prompt for subsequent journeys.

This metaphor of research as a series of interlinked trajectories – as an ‘assemblage’ of vectors – can be readily applied to design-directed research. It

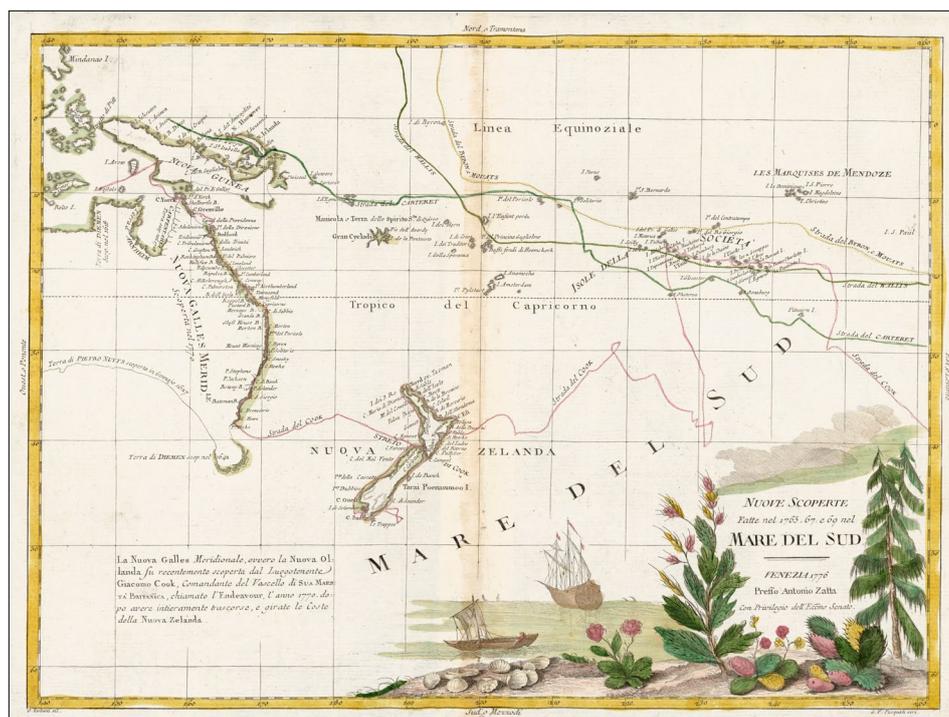


Figure 2: 1776 Nuove Scoperte ([cartographic material] : fatte nel 1765, 67 e 69 nel : mare del sud / G Zuliani scl ; GV Pasquali, scri, Alexander Turnbull Library Cartographic Collection: <https://natlib.govt.nz/records/22004721?search%5Bpath%5D=items&search%5Btext%5D=Nuove+Scoperte+Fatte+nel+1765%2C+67+e+69+nel+Mare+Del+Sud>).

celebrates experimentation and inventiveness in ways that do not demand that the form a finding takes is known before setting out into the research. It accepts that such studies are in themselves not routinely sequential.

Carter (2004a), describing his own creative research collaborations, conveys this motile restlessness of designerly inquiry: 'their discourse, giving back to the term its physical sense of running hither and thither, had no origin; its direction, like that of the shuttle, being a product of the forming situation that impelled its motion' (p 5). In this analogy, the shape of the research becomes apparent in its traces of disturbance. Carter also applies a nautical navigational theme and Thomas de Quincey's description of 'the tracks that trading vessels leave in the sea – "so many thousands of captains, commodores, admirals ... eternally running up and down it, and scoring lines upon its face." If these ephemeral traces could be preserved the weave of them would yield a pattern' (ibid).

This understanding of research, coming not from prior territorial scoping but from the meeting and ensuing dialogue of multiple trajectories, is a powerful metaphor for design disciplines. In it, the researcher is welcomed (and required) as an explicit part of the research material who, along with their technologies and strategies, becomes enmeshed in the ocean-like and similarly vast and intricate contexts they are navigating. Each trajectory is part of a forming image that is always open to further makings. By definition, the picture is never complete. New arcs are always possible, and inevitable.

Yet no resulting understanding must be simply considered as chaotic. The mid-nineteenth century maps of Matthew Fontaine Maury present Carter's (2004a) analogy in diagrammatic form (figure 3). Based on the ships' logs of vessels plying the Pacific, they map the various courses, speeds and climatic conditions recorded during hundreds of journeys across the same expanse of ocean. Wind speed, wind direction, ocean currents and temperature are all described. In this map, the 'forming situation' is the appearance of a 'concentration of tracks in the trade winds' that builds a rich multidimensional image (Hayes, 1999, p 153).

Within debates regarding design-directed research is an urge for definitions. However, de Maury's maps suggest caution. In his maps, while Hawai'i and the trade routes can be discerned, much is still unclear. Design-directed research as yet appears to have fewer researchers and ship logs to plot possible territories. This is not a discouragement but rather a call for greater time and effort to determine what design-directed research might, and also might not, produce.

This notion of research has an interesting parallel with Massey's (2006) conception of landscape. It can be argued that, just as landscape is always ongoing and emergent, characterised by the intertwining of trajectories, so is research. And just as Massey (2006) considers landscape, therefore, to be an 'event', so too research – especially when undertaken at the meeting point of creativity and landscape – can be a coming together in which a multiplicity of trajectories mesh and evolve from the instrumental and temporal interplay of contexts, methods and researchers: in which, as Isabel Stengers states, 'all parties assembled in the research process, researcher and researched, bodies and texts, instruments and fields, condition each other and collectively constitute the knowledge event' (cited in Whatmore, 2003, p 95).

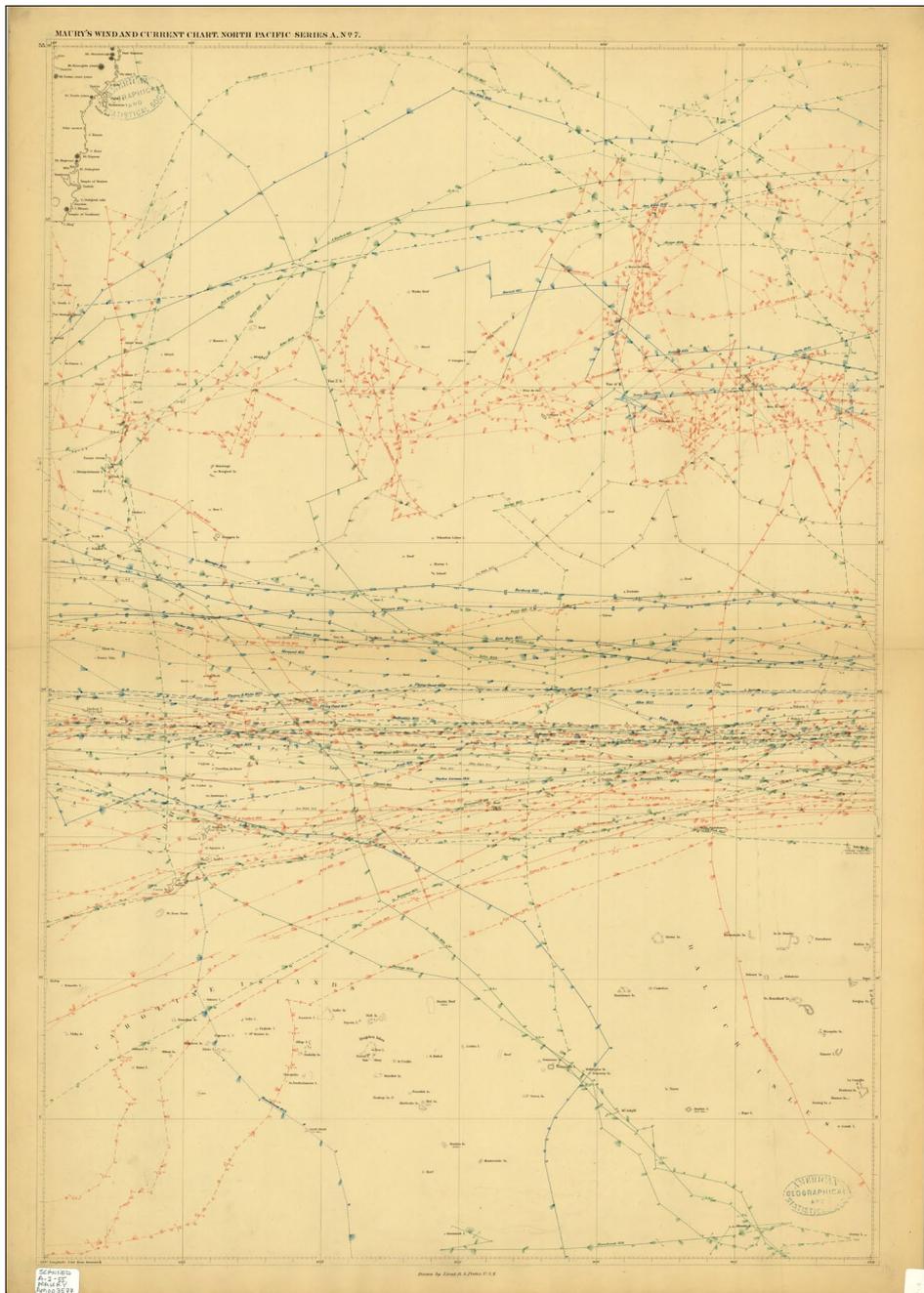


Figure 3: Matthew Fontaine Maury's 1852 Wind and Current Chart for North Pacific series A, no. 7 (American Geographical Society Library Digital Map Collection: <https://collections.lib.uwm.edu/digital/collection/agdm/id/1729/rec/6>).

### The purpose of design-directed research

This examination of the trajectory leads to a final question about the value of design-directed research's findings. Swaffield (2006) highlights this issue in stating, 'an argument can also be made that researchers and scholars who wish to claim "design" as research have an obligation ... to explain in plain language what new knowledge their work has created' (p 26). Arguably Swaffield's (2006) framing of 'design' is somewhat different syntactically. His statement and subsequent discussion understand design as a noun, bound up in a finished outcome, the point of contention related to claims of such work embodying research. But what of design as a method of research, as a process that is focused on those acts of designing for which this paper articulates a case?

Carter's (2004a) detailed discussion is again helpful. Creative research does not produce straightforward answers. Instead, as Carter notes:

[C]reative research, respecting the materiality of thought – its localisation in the act of invention – has a different object. It studies complexity and it defends complex systems of communication against over-simplification. It explores the irreducible heterogeneity of cultural identity, the always unfinished process of making and remaking ourselves through our symbolic forms. Its success cannot be measured in terms of simplification and closure. Exploring the reinvention of social relations at that place does not produce a 'discovery' that can be generalised and patented. It is an *imaginative breakthrough*, which announces locally different forms of sociability, environmental interactivity and collective storytelling. (Carter, 2004a, p 13)

While creativity and design are often understood by their production of form-based outcomes, the 'imaginative breakthroughs' Carter (2004a) calls for are embedded less in the methods used and artefacts generated and more in the conceptual possibility those methods and artefacts enable. In this sense, what designing 'produces' should not be seen as solving a problem (such as Owen would advocate) but rather as generating the *pivot points* by which 'breakthroughs' are triggered.<sup>6</sup> Consequently its function is not to bring closure, but to instead open up its material so a myriad of prospects becomes possible. Law (2004) notes, in this orientation, 'the ability to pose the questions is at least as important as any particular answers we might come up with' (p 151). Rather than aspiring to identify firm intellectual ground to settle, the goal of such work is to identify where to continue or, as Carter (2004a) puts it, 'make possible a new conversation' (p 5).

In many senses, an inquiry directed by the use of design methods is often going over already tilled ground. But just as novel technologies are capable of extracting gold from already processed tailings, the anticipation is that newly emergent methods could offer possibility where other academic disciplines have moved on.

It is important not to infer that designing alone might best engage with creative research. Law, Whatmore, Massey, Ingold and others who work in the humanities and social sciences similarly seek to incorporate creativity into their research. The point, however, is that research methodologies that enlist designing and creativity have a natural home in the design disciplines such as landscape architecture. Arguably, only from such an intimate stance of designing's multiple dimensions can a case for the playful synthesis of other researchers' findings be readily justified and encouraged, and skilfully undertaken.

Opportunities for designing within wider university research settings continue to be significant, given the seemingly singular focus to date on analytical modes in preference to synthetic modes of research. Research from within the humanities, sciences and social sciences that examines pressing concerns related to identity, environment, urbanity and the anthropocene is a rich site for the design imperative that underpins landscape architecture. Similarly, design can underpin landscape architecture's body of research, in which imaginative possibilities emerge from creative processes that explicitly 'alloy', 'hybridise', 'meld' and 'synthesise' elements drawn from other positions, locations and practices.

## NOTES

- 1 Obvious exceptions exist, of course, including Halprin (1965) and more recently Berger et al (2003), Corner (1997), Dee and Fine (2005), and Getch-Clark (2005).
- 2 See the 'Refereed Studio' themed issues of *Landscape Review* – volumes 5(2) and 8(1) – and also *Journal of Architectural Education* volumes 54(4) and 61(1).
- 3 Even using the crudest measure of references in the Google search engine, a search for the term 'design' returns 'about' 1,470,000,000 website uses.
- 4 For example, Burroughs and Gysin join texts by Rimbaud and Shakespeare and splice taped sounds to generate unpredictable outcomes. For further applications of this approach, see Burroughs and Gysin (1978) and Sobieszek and Burroughs (1996).
- 5 Action Research can be considered to grapple with similar concerns in that it also considers the instrumental role of the researcher in shaping the research context. See, for example, Heron and Reason (2008).
- 6 It has been proposed that scenarios that provide designerly inquiry have the greatest effect: see Jonas (2001), Evans (2005), Irmak (2005) and van der Heijden (2005). As a process, such an approach has the ability to generate a rich set of choices; however, Carter's call shifts the emphasis from the means by which design might operate, like through the use of scenarios, and the purpose of this and other approaches – namely to achieve imaginative breakthroughs.

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