LANDSCAPE REVIEW

THEME

Interventions

CONTRIBUTORS

VOLUME 13(2)

A JOURNAL OF LANDSCAPE ARCHITECTURE

LANDSCAPE REVIEW
A Journal of Landscape Architecture

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Landscape Review aims to provide a forum for scholarly writing and critique on topics, projects and research relevant to landscape studies and landscape architecture. Articles are considered and published in three categories. 'Research' articles report on recent examples of substantial and systematic research, using a conventional format that normally includes a review of relevant literature, description of research method, and presentation and interpretation of findings. 'Reflection' articles undertake a more discursive examination of contemporary issues or projects and may be more flexible in format to suit the subject matter.

All published contributions are subject to double blind review in the 'Research' and 'Reflection' categories. Criteria for acceptance are critical insight, originality, theoretical and methodological rigour, and relevance to the aims of the journal.

A third category is entitled 'Reports'. This category is intended for shorter commentaries, reviews and reports on progress. Although not normally fully refereed, contributions in this category are nonetheless subject to editorial review.

The editors are particularly interested in contributions that examine issues arising from the interplay between the concepts and practices of western cultures and the indigenous environments and cultures of the Asia-Pacific region. Contributions are encouraged from both academics and practitioners.

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ISSN 1173–3853

Published December 2011

Editing and production by Jenny Heine, Wellington.

Printed by PrintStop Limited, Wellington.

Interventions, Challenges and Opportunities

JACKY BOWRING

PART ONE: INTERVENTIONS

Landscape architecture is heralded as a complex discipline, positioned at the intersection of a vast array of fields of enquiry. Geoffrey Jellicoe described landscape design as 'the most comprehensive of all the arts ... the art of the whole of man's environment' (in Spens, 1992, p 15), and the articles and reviews in this issue demonstrate this breadth and potency. Ranging across social and ecological spheres, the articles illustrate the ways in which landscape can contribute to this interface. Each article explores possible interventions into existing conditions, in order to enhance function, wellbeing and identity.

In the first article, Margaret Grose focuses her attention on the South-west Australian Floristic Region, which includes the city of Perth, exploring the possible scenarios for public open space. Grose makes a useful distinction between the issues facing Perth as opposed to those in Sheffield, which coincidentally is the location of one of the study areas for the second article in this issue. She points out that, in Sheffield, which is not under biological pressure, 'the relationships between green space and urban form are focused more on quality of life and housing prices than biota', while in Perth it is ecological issues that are the most pressing forces on public open space. The outcomes, however, are not purely directed at enhancing ecological health but also focus on the broader issue of the social dimension of landscape. Relationships with nature are well documented as a significant dimension for health and wellbeing. An integrated and thorough understanding of landscape ecology is critical for areas facing the pressures of urban expansion, and this is more so under the exacerbating conditions of the water shortages faced by many Australian cities.

From the dynamics of public open spaces in designed suburban environments, the next article turns to the evolution of social places. Kevin Thwaites, Ian Simkins and Alice Mathers investigate the notion of socially restorative environments. Places, they argue, are evolutionary. Interventions are organic, constantly adjusting to human habitation, as in the work of Michael Martin on community alleys. In these landscapes, there is a 'fine-grain tuning of features' that sees the places become spatially balanced – exhibiting conditions of both hidden-ness and revealing-ness. The quality of the urban setting is, therefore, about process and not simply product. It is also about enabling the residents, placing them within environments that they can modify, to find an 'ours' between the 'mine' and the 'theirs'. The top-down approach to intervening in urban environments can, by

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contrast, impose a strict polarity between internal space and the public realm, such that there is no opportunity for individuals to engage in their setting. This can produce what the authors call a sterile 'designer neatness' where there is no opportunity for fine-tuning and no sense of an 'ours'. There is perhaps a parallel between this and the broader city fabric and the notion of a 'third space' – that place that challenges the binary of work and home, and exists within community facilities like local cafes and squares.

Landscape architecture's comprehensiveness is highlighted further in the two books reviewed in this issue. The first is a book edited by Marc Treib, *Meaning in Landscape Architecture and Gardens: Four Essays, Four Commentaries*, which gathers together a series of essays that were published over two decades in *Landscape Journal*. Each essay tackled the topic of meaning in landscape architecture, and the resonances between the works crackle with energy despite the long intervals between them. Treib's vision of assembling the essays, as well as bringing the authors together at a conference of the Council of Educators in Landscape Architecture, and expanding the commentary as a result, has produced a valuable book that refreshes the philosophical underpinnings of the discipline. While Treib's book reminds us of landscape architecture's intellectual terrain and philosophical tensions, the second review in this issue embraces the poetics of our discipline in a remarkable book of watercolours and words by Jala Makhzoumi. The title, *Horizon 101*, refers to a sustained viewing of the horizon from Makhzoumi's apartment 101 at the American University of Beirut. Over a one-year period she repeatedly painted the view from her window, producing a series of luminous limned images and lyrical text. As reviewer Shelley Egoz observes, Makhzoumi's work amplifies how 'Landscape is never static, and the framing of the vignettes in this book in accordance with a calendar diary is a straightforward way of depicting the sense of time and the dynamics of landscape change'.

PART TWO: THE CHALLENGES AND OPPORTUNITIES OF PUBLISHING IN LANDSCAPE ARCHITECTURE

The publication of this issue is one of some consequence, not the least of which is that it has suffered a series of delays owing to the devastating earthquakes to hit Christchurch in 2010/11. Major earthquakes on 4 September 2010, 22 February and 13 June 2011, as well as numerous aftershocks (7,700 at the time of writing), have had a significant impact on the city, with the February earthquake causing 182 fatalities. The peak ground acceleration (ground shaking) experienced in that quake was amongst the highest ever recorded in the world, and the September quake had 'the highest ratio of movement for its length of any recorded quake' (Williams, 2011). The city suffered extensive damage, and current estimates are that over 1,000 buildings have collapsed or will be demolished for safety reasons. The very things that defined the city's sense of place have become elements of danger and fear as a consequence of the quakes. Many heritage buildings collapsed, and lives were lost in some of them. The scenic cliffs sent boulders crashing through houses, taking

lives and leaving homes on the clifftops uninhabitable. Five thousand homes along the river margins in the residential 'red zone' are being bought by the government and will be demolished. Residents will need to leave this area where the ground has been so severely compromised by liquefaction (eruption of silt onto the ground surface) and lateral spread resulting from ground shaking.

Further factors adding to the delays in publication involve the perennial challenges of academic publishing, a process that involves the goodwill of authors and reviewers. A debt of thanks goes to all of the authors and reviewers for their contributions to this issue and previous issues, as well as to the subscribers for their patience as we negotiated the various hurdles of recent months.

This is the final hardcopy issue of *Landscape Review*. Volume 14 will see a new beginning for the journal, which will be relaunched on the Open Journal System (OJS) platform, embracing the opportunities of the new era of digital publication. While hardcopy offers the aesthetic appeal of a printed page – the tactility of the paper, even the smell of the ink – it has also meant major limitations for *Landscape Review*. As an independently published journal, the aspects of distribution and indexing have been restricted. Moving to the digital platform will dramatically increase the visibility of the journal, serving also to raise the profile of publishing in landscape architecture.

The move to digital publishing will allow for the publication of an open access and free journal. While maintaining the rigour of double-blind peer review, *Landscape Review* will be widely available, raising the international profile as OJS is harvested by Google and all other major search engines. This will not only enhance readership, but we anticipate that it will also encourage further contributions, enriching the breadth and depth of material related to the discipline. The digital publishing system provides a means of managing submissions and reviews. Although this can seem somewhat impersonal, it enables the timelines and deadlines to be handled more effectively. As part of the migration to the digital format, all back issues of *Landscape Review* have been scanned using word recognition software. This means articles will be fully searchable, and it will considerably enhance the dissemination of the wealth of the material published to date. All authors are being contacted to obtain their permission for their work to be uploaded onto the digital site, providing them with the opportunity to gain further exposure for their articles.

The relaunch also sees a reorientation for the journal. While the early issues of *Landscape Review* had the subtitle of 'An Asia-Pacific Journal of Landscape Architecture', the shift to digital will be accompanied by an identification with the Southern Hemisphere. The two other main journals of landscape architecture, *Landscape Journal* and *JoLA* (*Journal of Landscape Architecture*), are aligned with the United States of America and Europe respectively. Asia has also, in the past decade, become well served with landscape architecture publications. The Southern Hemisphere, however, remains largely off the map in terms of landscape architecture publishing. Aside from professional magazines, academic publishing is relatively limited in the countries of the Southern Hemisphere. As well as being

a geographic region, the alignment of the Southern Hemisphere with the 'south' also signals an association with the so-called 'Global South', the nations that are predominantly from this hemisphere and facing economic, political and social challenges. Recognising the Southern Hemisphere as a 'home' for *Landscape Review* will allow for the development of a particular character, while at the same time welcoming contributions from around the globe.

The shift to digital also heralds a new editorial approach. An editorial advisory board will be formed for the journal, providing a strong backbone that will guide and support publication. I will take on the role of editor in chief, with a view to regaining the journal's momentum following the challenges of the past year. As we look to the future of *Landscape Review*, I would like to very gratefully acknowledge the vision of the founding editor, Professor Simon Swaffield. Simon's idea to begin a journal of landscape architecture based at Lincoln University undoubtedly helped to raise the profile of the discipline in this part of the world and internationally. As sole editor for the first five years, and joint editor in recent years, Simon has made a significant contribution to the intellectual health of the discipline, and he will remain influential as a key member of the Editorial Advisory Board.

In addition to Simon's contribution, there are several vital behind-the-scenes roles that have ensured the high quality of publication. The article reviewers are the necessarily anonymous but critical components of any good-quality academic publication. *Landscape Review* has been fortunate to have the input of high-quality reviewers from around the world, with the feedback to authors assisting in raising the standard of research and writing. The authors too are essential, and looking back over the 13 volumes reveals several important articles that have been published by the journal.

The standard of publication has always been high for *Landscape Review*, reflecting the dedicated work of the copy editors. The journal was originally published by Lincoln University Press and, following its dissolution, transferred to Daphne Brasell Associates, then to EDIT and, subsequently, to Whitireia Publishing. Jenny Heine has a long history of editing and production of *Landscape Review*, and we are pleased she will continue working with us on the digital journal. The work of an editor is at its best when readers are not aware of it, and I am always impressed with how Jenny's subtle tweaking and diligent checking moves an article into a refined and polished final product. The move to digital has also benefited considerably from the skills of Lincoln University's Information Technology Services (especially Online Services Manager Dorje McKinnon) and Library, Teaching and Learning staff, particularly Research Collections Librarian Roger Dawson.

The new digital home for *Landscape Review* will be located at http://journals.lincoln.ac.nz/index.php/lr/index, and the next issue will introduce members of the Editorial Advisory Board through their perspectives on the key questions facing landscape architecture today. Following this, there will be a thematic issue on landscape architecture and post-disaster recovery. Guidelines for submissions and a full call for papers will be posted on the site.

This is an exciting new phase for research and publication in landscape architecture, signalled also by the introduction of a new journal to be published by the Stuckeman School of Pennsylvania State University. *As Built: A Journal of Design Critique* will be a biannual, peer-reviewed publication of critical analysis from students, scholars and professionals across a range of disciplines, including landscape architecture, architecture, planning, environmental art and engineering. We wish *As Built* all the best and look forward to the maturing of design critique in landscape architecture. In addition, the recently published text by Elen Deming and Simon Swaffield further emphasises a coming of age for landscape architectural research and publication. *Landscape Architecture Research: Inquiry, Strategy, Design* is set to become a standard text for research students in the discipline, providing a useful guide to the variety of methods relevant to research in our field.

The embracing of opportunities and negotiation of the challenges of publication are the elements that drive the engine of disciplinary development for landscape architecture. Poised for its relaunch as a solely digital publication, *Landscape Review* draws upon the comprehensive nature of the discipline, as well as the changing environment for scholarly publishing. We are optimistic that this new chapter in the journal's history will assist in keeping research relevant, current and innovative, and we look forward to receiving submissions that both consolidate and test the discipline of landscape architecture.

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Considering Ecological Imperatives in Public Open Space in a Global Hotspot of Biodiversity

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Public open space within the suburbanising South-west Australian Floristic Region is reviewed in this paper in relation to key ecological imperatives. Qualitative sources, quantitative research and professional practice are examined across science, planning and landscape architecture, with a focus on turf, water, species and retained bush.

New relationships between turf and bush in public open spaces in designed suburban developments in this Mediterranean-type hotspot are outlined. Four types of public open space are distinguished, with a focus on 'turf that works' and the use of hydrozoning and ecozoning as new strategies in this hotspot. These strategies provide concurrent opportunities for water conservation and biodiversity, and are designed for resilience. This review positions these new strategies as an example of better design outcomes in public spaces as a result of improved translation of knowledge across the disciplines.

KEY WORDS
Suburban development
Public open space
Ecology
Hotspots
Biodiversity
Design

INTRODUCTION

This paper reflects on major aspects of the design and planning practices of public open space (POS) in a global hotspot of biodiversity, the South-west Australian Floristic Region (SWAFR). The main concern relates to how ecological issues are dealt with in new suburban developments in a biodiverse region such as the SWAFR, which includes the city of Perth, which is central to studies of the ecologies of cities.

Planners in the practice of suburban development in the SWAFR suggest that POS is the frame around which a new suburb is built, and thus POS might be expected to expose current interdisciplinary issues about suburban development. McDonnell et al (2009) discuss that the effective creation of sustainable cities requires the development of a knowledge base of the ecology of cities and towns. From such a knowledge base comes the need for translation of information between and within disciplinary 'territories', defined as the ideas across which disciplinary communities work (Becher and Trowler, 2001, p 23). With improved connections between disciplinary territories, those involved in important changes within urban areas, such as the creation of POS and suburban design, will be better placed to make design and planning decisions with more meaningful ecological outcomes. The need to surmount difficulties in the translation of information between disciplines in the field of land planning and design has been noted by several practitioners (Sukopp, et al, 1995; Hobbs, 1997; Niemelä, 1999; Antrop, 2001; Fry, 2001; Robertson and Hull, 2001; Palmer, et al, 2004; Pickett and Cadenasso, 2008; Grimm, et al, 2008; Musacchio, 2009; Grose, 2010b).

RESEARCH

Harris (2007, p 169) argues that while scientific knowledge is an agent of change, change will occur only if science works with and through various forms of natural, human and social capital to achieve outcomes.

Many practitioners in the SWAFR recognise that planners and landscape architects often lack access to, or ignore, good, informative science to increase the richness of solutions for applied problems in suburban development and POS (Grose, 2010a). At the same time, ecological science and studies in urban ecology continue to focus on detailed analyses of specific biological and spatial problems, and the causes and consequences of processes, and rarely provide accessible solutions to the design and planning ramifications of scientific aspirations in human landscapes. It has been suggested that the fields of design, planning and the sciences have separated into mutually unregarded discourses (see Roux, et al, 2006), and, if so, this can lead to wasted knowledge. An important consequence of such separation is that the environmental aspects of sites have been found difficult to translate into better designed outcomes, a problem made more acute by the specificity of the journal publishing industry within the territories of ecological theory and research, and design theory and practice. This review incorporates cross-disciplinary matters about the planning and design of suburban POS that might be lost to those working within one specific discipline. Ecological science has been placed here in terms of its intersections with the disciplines involved in the planning and design of suburbs rather than being purely as part of site analysis as so often occurs, both in practice and landscape architectural education. This review focuses on literature dealing specifically with the SWAFR and the suburban development within it. The review examines current practice and ideas, much of which is in the grey literature; it can be seen as an international case study on issues that need to be addressed for improved ecological outcomes, and others, in suburbanising landscapes.

As a case study, the city of Perth (32°S, 150° 50′E) on the west coast of Australia provides a rich source of issues because its metropolitan area falls entirely within the boundaries of the SWAFR, one of only 34 global hotspots of biodiversity on earth (Mittermeier, et al, 1999, 2004; Myers, et al, 2000) (Figure 1).

The concept of hotspots recognises areas of biological diversity under great biological pressure. Although Beard et al (2000) reported that the fungal disease organism *Phytophthora cinnamomi* in woodland was the main threat to the SWAFR, another major threat is suburban development. Perth's suburban development is rapidly expanding into woodlands that are rich biologically (Gibson, et al, 1994; Hopper and Gioia, 2004). Cape Town and San Diego are similarly placed Mediterranean-type cities in relation to hotspots of biodiversity (Mittermeier, et al, 1999), and around 150 cities worldwide are sited near such hotspots (Cincotta and Engleman, 2000). Decisions made in these cities are of especial importance in relation to world biodiversity. Within the general spread of such 'hotspot cities', POS needs to be framed in the context of 'life in a hotspot', where ecological issues are distinct or more pressing than those in non-hotspot regions. For example, in heavily urbanised Sheffield, United Kingdom – not a hotspot city – the relationships between green space and urban form are focused more on quality of life and housing

Figure 1: The south-west Australian hotspot (above) in relation to the city of Perth. Images courtesy of Conservation International and NASA.

prices than biota, although general ecosystem services are recognised (Davies, et al, 2008). In Perth, ecological issues will become even more acute with the predicted drying of southern Australia as a result of climate change (Palutikof, 2010).

THE SITE: NOT SINGLE, BUT A SUITE OF COMPLEX ENVIRONMENTS

The city of Perth is the capital of Western Australia and the largest centre of population in the area, with around 1.4 million people. Its suburbs sprawl along the Indian Ocean coast. Perth was a site of the Nyoongar people's almost permanent encampment on the Swan River before British settlement in 1829, when a town was declared by cutting down a tree (Appleyard and Manford, 1979). In 1901, the population was 44,000 and it is expected to reach 2.4 million by 2030 (WAG, 2008a).

There are five major landscape complexes in which new residential areas are being constructed in this hotspot: (i) coastal dunes, (ii) mixed *Banksia–Eucalyptus* woodlands, (iii) *Banksia*-dominated woodlands, and (iv) paperbark (*Melaleuca*) wetland flats, with (i)–(iv) all found on poor, highly leached, sandy soils; and (v) wooded granite hills dominated by *Eucalyptus*. The characteristics of these landscape complexes have been described generally by Seddon (1972). Thus, suburban development in the SWAFR is not one site or one set of defined biophysical parameters but a suite of heterogeneous complex environments. Within these complex environments are two essential ecological imperatives: water, which is popularly discussed, and biodiversity, which appears less widely understood by either design practitioners or members of the public.

Apart from some sectors in the south-east of the city, Perth is not moving into agricultural land or ex-urban territory, as is commonly found in other countries, but is primarily moving into bushland within the SWAFR. Indeed, Perth has been described as a 'city in the bush' (Seddon, 1972) (Figure 2). Bushland is being clear-felled for new suburbs.

Within the city's wider metropolitan area are various types of green space: large regional parks for passive recreation and biological or water conservation, sites for conservation known as 'Bush Forever', POS, and setbacks for rivers and ocean-fronts. Bush Forever and regional parks add to the percentage of total land given to bushland that might be considered to contribute to ecological function within the hotspot.

The issue of water is never far from Australian imperatives because the country is the driest inhabited continent. Most major cities in Australia are experiencing long-term water shortages. Perth has experienced a 40 percent reduction in its catchment and groundwater aquifers in the last 30 years (WAPC, 2006), with concern about early climatic drying (Nicholls, et al, 1999; Smith, et al, 2000). With inflows to Perth's dams between 2001 and 2007 a quarter of their pre-1974 levels (FarmOnline, 2008), Perth has long-term water restrictions in place. The urbanised part of the hotspot remains on water restrictions for outdoor watering, with programmes to encourage reduced internal household use. POS in the region is generally irrigated from groundwater sources and thus is susceptible to an uncertain water future in Australia's drying climate, particularly in winter rain-fed systems such as the SWAFR.

PLANNING AND DESIGNING WITHIN THE HETEROGENEOUS LANDSCAPE

Historically, Perth and all other towns in Western Australia have relied on neither ecological nor aesthetic imperatives on which to base both the process of and the form that urban development takes. Policy-based frameworks – such as for the allocation of POS – and strong economic imperatives have been the drivers of urban development. Perth has not been alone in struggling with the problems of suburban growth and preservation of landscape characters, ecology and aesthetics. Some cities, for example Phoenix, Arizona (Ewan, et al, 2004) and Seattle (Dooling, et al, 2006) are questioning the policy bases on which their growth has occurred and are seeking to build ecology more firmly and less vaguely into the planning continuum, with landscape ecological principles that can be readily understood by other disciplines. Herlin (2004), for example, reported on explicit objectives to work in interdisciplinary ways to bring more of the applications of science into planning and policy for new developments in Sweden.

In the SWAFR, there has been vocal and sustained public concern at the loss to housing of natural pieces of land, however degraded these are to scientific assessment. Such assessment is usually based on biodiversity as species number or assessing their conservation value as if for wilderness areas, resulting in disappointing social and conservation outcomes (McDonnell, 2007). One driver

Figure 2: Perth as a city in the bush. The view east from a coastal dune ridge 7 kilometres west of the city. The low Darling Scarp is in the far distance. At right edge of image is Banksia menziesii, *a common small tree of the coastal plain that is under threat from suburban development.*

of public concern is loss of contact with nature; the human need for an aesthetic natural experience, no matter how small, has been widely acknowledged and is of worldwide concern (Kaplan and Kaplan, 1989; Louv, 2005; Kahn, 2002). In the last few years there has been a plethora of sustainability initiatives for south-western Australia at both state and local government levels. This has increased the familiarisation of sustainability initiatives in the minds of members of the public, such that POS is now often regarded in professional design and planning practice as requiring some component of sustainability, though vaguely defined. Recent built projects in the SWAFR suggest that ecological function is now being required of POS (Grose, 2009). Thus the uses to which POS can be put, and the allocation of the physical parts to achieve these aims, are still under debate, scrutiny and testing by design.

A key problem is that research bases on which design and planning decisions are made are generally poor. Each site is worked upon without regard to the region or neighbouring suburbs (Grose, 2010a), and is worked with data sets of species rather than functional ecology (Pickett, et al, 2001). Complex biological aspects of 'green' areas, whether in relation to pre- or post-development as POS, continue to receive scant detailed and long-term study. This means the landscape being consumed by the development of suburbs is incompletely known to either those who develop it or the decision makers in government. When basic ecology is understood more widely by stakeholders in suburban development, and ecological literacy (Stone, et al, 2005) is reflected with more depth in the land planning structure and regional planning, improved long-term ecological and social outcomes can arise and exist side by side in local sites. Many people involved in suburban development in the SWAFR are working towards an improved understanding of the complexities of specific landscape sites and desire to 'do it better', with both the environment and

aesthetic appeal of woodlands and heath of this global hotspot foremost in their minds (Grose, 2010a). Meyer (2008) points out the importance of aesthetics as an effective agent for change in debates about what sustainable landscapes might be.

PLANNING AND RESEARCH BACKGROUNDS

Currently, 10 percent of land developable as residential is required to be allocated to POS in Western Australia. This has been based on a plan of 1955 (Stephenson and Hepburn, 1955) where the original purpose of POS was that of active recreation. Recently, it has been suggested that the 10 percent be retained with 2 percent assigned to bushland or other conservation values, with developers being able to barter for a good piece of land to be kept untouched in exchange for a reduction in the POS or for money, thereby reducing POS to perhaps 8 percent of total developable land. While this allows a degree of site sensitivity, the central issue is whether 8 percent of land set aside for POS can achieve all the requirements now placed upon it, given its original purpose as land set aside solely for active recreation (Grose, 2007). There are three important points in this ongoing debate. First, a set figure may give planners and developers statutory leverage to deny an opportunity to increase bushland in line with local community initiatives and wishes. Second, none of these figures relates to site-sensitivity of landscape type. Third, there is no research basis on which the allocation of 10 percent land to POS in the SWAFR has been based (Grose, 2007).

Linkages and connectivity are long extant ecological principles of wide use today (see Forman, 1995), and government policy in Western Australia states that an aim for managing urban growth in Perth is 'protecting biodiversity and areas of environmental significance, and promoting the concept of an interlinked system of regional and local open space' (WAPC, 2006, p 1069). However, the concept of linkages has now been heavily subsumed into the sociological sphere, such that some planners consider that 'linkage' refers only to social connections and has nothing to do with ecology at all (Grose, 2010a). 'Social' connections, however, often appear to link people to bushland or other green space because these are walkable 'lines of desire'. Indeed Miller (2005) argues that more attention must be paid to restoring human connections with nature in proximity to the places where people live and work, with the same emphasis placed on spatial and temporal scale in conservation circles extended to the scale of human experience. Much POS today links into the suburban centre, not other green spaces, and this again shows a social sub-summation of the ecological concept of 'connectivity'. The danger of such 'social connectivity' is that while the language is that of ecology, the actions and outcomes are not.

WHAT IS BUSH?

'Bush' and 'POS' need to be defined in the Australian context. Bush is wild or uncleared land, large and small, and in whatever condition, as a 'remnant' of pre-existing landscape, while POS in the SWAFR was originally conceived for active recreation (Grose, 2007). Few areas of POS retain bush. Internationally, public

open spaces are increasingly being considered as ecological links with all other types of green habitats (Forsyth and Musacchio, 2005; Tzoulas, et al, 2007) such as reserves for rail, freeway and streams, brownfields and cemeteries, which fall into the category of '*naturmark*' (Florgård, 2007). These 'bits and pieces' are not included as POS in Australia but can be used as complements and links to POS to support ecological diversity and function.

Bush Forever is a concept designed to increase the retention of native bushland in all urban regions in Western Australia (Del Marco, et al, 2005). It is a response to great concerns about the conservation of biodiversity of both plants and animals in the suburbanising SWAFR. With Bush Forever, the aim is to 'keep the common, common' and is in line with Kareiva and Marvier's (2003) concern for recognition of the importance of the conservation of biodiversity 'coldspots', and foreshadows the ecological importance of commonness (Gaston and Fuller, 2007).

In the SWAFR, an environmental report prepared for a developer for a proposed new suburban development focuses on rare and endangered species as required by legislation. However, in other government documents from the same region, it is common species, not the rare and unusual, that are recognised as 'the backbone of all natural areas' (Boeken and Shachak, 2006; WALGA, 2004). Thus, conundrums exist in planning and governance, with the specific policy framework of Bush Forever contrasting with the defined search for rare and endangered species by environmental assessors before suburban development. This conundrum fuels the public disappointment of outcomes as noted by McDonnell (2007).

Bush Forever sites cannot be included as POS because they are intended to be fenced and not generally available to members of the public. In this way, the sites are 'locked away' for purely biological functions and serve no role in giving personal contact with bushland for local people. In response, an initiative in the Perth Biodiversity Project means additional areas, aside from Bush Forever sites, will be untouchable by the development process (Del Marco, et al, 2005). Thus, there have been measures to recognise and preserve biodiverse areas as a response to the losses created by suburban development. It is not known whether these measures will be enough.

The SWAFR is one of only two global hotspots in the 'mega-diverse' country of Australia, with the world's mega-diverse countries being those that have 70 percent of the world's biodiversity while only 10 percent of the landmass (Mittermeier, et al, 1997). Despite this, no research is available to planners and those in governance to suggest how much bushland is required for ecological function to remain across suburban areas in any landscape complex within the hotspot. This clearly is a major research gap, notably so because Australia is one of only two of the mega-diverse countries classified as 'high income' (SOE, 2001). Figures supported by the Australian Government give an ambition of 30 percent bush retention for the survival of ecosystem function in every ecosystem (DEH, 2001). How then does a figure of 30 percent relate to suburban development and the survival of ecosystem function in the rich suburbanising section of the hotspot? Can POS assist in increasing ecosystem function? How can designers assist in the

promulgation of a sense of place (Seddon, 1972) and an aesthetic response to the unique flora of this hotspot?

There have been increasing calls in the planning industry and local government in this hotspot to see the 'park at the end of the street' as a site of initiatives towards water conservation, biodiversity and resilience. In contrast, policies connecting *naturmark* and public spaces have been in place in Sweden since 1907 (Florgård, 2007). *Naturmark* requires all types of natural and semi-natural vegetation to be preserved, and meadows and pasture-land to be developed under long-term cultivation using traditional methods. *Naturmark* in the Australian context might fall into several categories within suburbs:

(i) managed natural remnant bush, such as the Perth Biodiversity Project, and retained bushland in POS;

(ii) designed but managed bush, which is possible in POS;

(iii) designed more formal POS with locally endemic species that reflect local bushland; and

(iv) street tree plantings of endemic species.

These categories separate into 'undesigned bush' and 'designed bush', which are part of the dynamic changes and discussions under way in the SWAFR hotspot.

DESIGNED BUSH, TURF AND PUBLIC OPEN SPACE IN THE SOUTH-WEST AUSTRALIAN HOTSPOT

Naturmark (Florgård, 2007) is a helpful concept when considering designing and planning for biodiversity. *Naturmark* links bushland with 'remnant bush', POS and street planting to give a holistic view, and thus to design at all scales from the landscape to streetscape. However, is it possible to 'design' bushland and design for biodiversity – both its continuation and possible increase? This question is difficult to answer when there is only a small research base on which to build. Such a design ambition is very pertinent in the SWAFR, where turf is used extensively in POS and its use is increasingly controversial (Grose, 2010c).

The extent to which turf is required or present in POS is central to design possibilities in the SWAFR, and this fact positions the imperatives of water and biodiversity acutely. Turf remains the most common feature of POS in the region and is typified as large expanses of lawn, usually reticulated or watered by bores extracting groundwater, and large remnant trees. Palmer et al (2004) consider that designed ecosystems might blend technology and novel mixtures of native species, and create new systems that are not substitutes for natural systems but are important moves towards developing sustainable cities. An example of ecosystem design with technology and native species can be seen in the current reassessment of the amount of turf in POS in the water-scarce SWAFR.

In Perth, turf has been synonymous with POS because of its original purpose for active structured recreation, dominated by Australian Rules football (which requires a much bigger oval than soccer) and cricket. Much of the turf in POS is

not used specifically; it is not part of the ball-game space – styled here 'turf that works' (Grose, 2010c) – but is general walking space, where turf is not specifically required as a walking surface. It would seem imperative in a dry climate with water restrictions that turf in POS is kept only to areas essential for ball games. Approximately 70 percent of Perth's total water usage is supplied by groundwater, with the remainder from catchments (WAPC, 2001). Gardens consume almost 56 percent of all domestic water used, with the majority going on lawns (Loh and Coghlan, 2003), and POS consumes 40 percent of all water used. The Western Australian Government has recently moved to the expense of desalination. Of vital concern in this hotspot is that groundwater is in danger of being so depleted by private bores it becomes physically alienated from the roots of native vegetation (Groom, et al, 2000, 2001; Zencich, et al, 2002). If this were to occur regionally, losses of vegetation would amount to an ecological disaster. This concern underscores the reason why the SWAFR is classed as a hotspot.

Deeley et al (2006), inspired by the Nyoongar concept of *jippy joppie boodja* (rhythm of the land), examined the use of groundwater (non-potable) and catchment-derived water (potable) for turf in POS in the SWAFR. The authors showed that by reducing turf to only those areas that are required for sports fields, substantial reductions in water use could be made without compromising sporting facilities. This led to 'Water Smart Parks' being formally introduced by the state government in November 2008 (WAG, 2008b). A feature of this new approach to POS and turf has been the practical methods of hydrozoning and ecozoning within each area of POS (WAG, 2008b). Hydrozoning is a process of applying different water rates for individual parts of POS according to use, and ecozoning replaces turf areas that are not specifically used for recreation with other species, notably 'water-wise' plants, or replanting these areas with bushland plantings. These strategies are helpful and timely changes to views of POS and can be seen as part of a wider climate adaptation strategy for resilience in the drying SWAFR climate. The strategies have been supported by performance testing and cost data, with detailed water regimes (Deeley, et al, 2006); the lack of these regimes has been found a hindrance to the uptake of water efficiency strategies by landscape architectural practitioners (Calkins, 2005). Deeley et al's (2006) study is an example of a good ecological strategy, embedded in models of water use, that has been usefully linked with other biophysical conditions and economic assessment, and thus become understandable and accessible to local government. Grimm et al (2008) note the coming importance in urban ecology in the linking of biophysical, economic and political settings.

The ideas driving Water Smart Parks are now being embedded throughout local governments, schools and the community. Importantly, water issues and biodiversity can be addressed simultaneously rather than treated as distinct entities under the control of different governance bodies. Colding (2007) made theoretical spatial proposals considering 'ecological land-use complementation' in regard to biodiversity and building resilience, and MacFarlane (2007) discussed multi-functional landscapes.

In the SWAFR, there are four likely scenarios for POS (see Table 1):

(i) turf-based POS where turf is the main surface, with scattered mature remnant trees, rarely with a middle storey and lacking in spatial complexity;

(ii) turf-based with designed but managed exotic plantings;

(iii) 'turf that works' for ball games, with designed locally endemic species that reflect local bushland complexity;

(iv) 'turf that works' with retained (existing) bushland as a component of POS.

If turf within this region were to be restricted for specific ball games, several positive ecological possibilities would arise in addition to a reduction in water consumption through hydrozoning and ecozoning as outlined above. These possibilities are outlined in Table 1, and can be considered to promote resilience, the ability of a system to absorb disturbance and still retain its basic functions and structures (Walker and Salt, 2006). Resilience has generally not been considered by planners and designers within the SWAFR. Table 1 suggests relative opportunities for increased resilience that might include soil seedbank development (Leck, et al, 1989), seedling recruitment and increased emergent local species, age structure in vegetation, species richness and complexity over time, ecological linkages with local populations (Schmiegelow, 2007), ecological function including complexity with time (White, 2007), spatial heterogeneity (Kolasa and Rollo, 1991; Pickett and Cadenasso, 1995; Pickett, et al, 2009), water consumption (Deeley, et al, 2006), ecological education (Stone, et al, 2005), 'sense of place' (see Figure 3) (Seddon, 1972), unstructured natural play opportunities for children (Louv, 2005) and maintenance by local councils (Grose, 2010a). While Table 1 shows simple assessments based on observation and discussion with practitioners, it reveals that when the amount of turf in POS is controlled for water reduction other benefits or opportunities arise beyond immediate ecological benefits.

Table 1: Four likely scenarios for public open space

Observed and predicted opportunities for increased resilience, ecological function and human experience in four scenarios for turf and POS in the SWAFR global hotspot, namely: turf-dominated (as current), turf and exotic planting (also currently common), 'turf that works' with indigenous plantings, and 'turf that works' with managed bushland.

The left-hand table column gives opportunities in the three groups of 'Particular' (physical attributes), 'General' (larger scale attributes), and 'Human–cultural' attributes. Human–cultural attributes considered include revelation of natural processes; in this, consistently maintained and watered turf in POS will not, for example, reveal the realities of drought, while 'turf that works' POS will go brown on its edges (Deeley, et al, 2006).

Table 1 cont: Four likely scenarios for public open space

	Turf-predominant	Turf and exotic planting	'Turf that works' and indigenous planting	'Turf that works' and managed bush
Particular				
Seedbank	None	None	Possible	High if weeds controlled
Recruitment of seedlings	None	Weeds and other exotics	Possible	High if weeds controlled
Emergent local species	None	Unlikely as soil cultural conditions maintained unsuitable	High if weeds controlled	High if weeds controlled
Age structure in vegetation	Poor or none	Possible	Possible	High if weeds controlled
Opportunities for species richness/genetic biodiversity	Poor	Possible	Moderate	Good
General				
Ecological function	Poor	Low	Good	Good
Ecological linkages	Poor; dependent on mature remnant trees	Poor	High potential	High potential
Complexity with time	Poor/static	Poor/static	Moderate potential	High potential
Spatially heterogeneous/complex	Poor/static	Poor/static	Moderate	Good
Water consumption	High	Likely to be high	Moderate	Low
Human–cultural				
Revelation of natural processes to people (eg, drought)	Poor	Poor	High potential	High potential
Resilience to climate change	Poor to adapt	Poor to adapt	Possible	High potential
Ecological education; engagement	Poor	Poor	Good	Excellent
'Sense of place'	Poor	Debatable	Good	Excellent
Unstructured 'natural' and messy play for children	Absent	Debatable	Possible with good design	Excellent
Maintenance*	High	High	Moderate to high	Low or not known

** Based on a survey of local government councils in the hotspot, where turf was found to be the most expensive item.*

As an example of a general opportunity, POS treated as a Water Smart Park with designed 'turf that works' could then reflect the scientific knowledge that common species contribute a disproportionately large number of individuals and biomass to assemblages (Gaston and Fuller, 2007). For example, even though small woodland trees such as *Banksia menziesii* are perceived as common in Perth's coastal plain, it is clear that, without care, common species such as these could suffer a 'silent decline' (*sensu* Riley, 2005). This has already occurred in Australia, with the placement of Australia's wild dog, the previously common dingo (*Canis lupis dingo*), on the Endangered Species List in October 2008 due to indirect anthropogenic effects. POS in urban and suburban areas could provide a role towards non-depletion of common species, both by formal and informal designs with 'turf that works' and indigenous plantings, and by street planting of common species. Added benefits are anticipated to be water-saving, biodiversity-saving and enrichment, both psychological and aesthetic.

LOSS OF SPATIAL CONNECTIVITY BY DESIGN DECISIONS

In contrast to the complexity of landscape type and biology, new suburbs within the region are characterised by a resounding similarity of spatial form. The spatial form

Figure 3: (left) Remnants of the original bushland as part of POS in a new suburban area of south-east Perth. The trees are Melaleuca preissiana, *the largest melaleuca of the SWAFR, and* Melaleuca rhaphiophylla; *seedling recruitment was occurring at this site amongst the mulch.*

Figure 4: (right) A piece of bushland and wetland isolated from a part of the same wetland by a design that ignored ecological linkages as part of this suburban POS. Here, a metaphor-driven spiral with exotic plants looks down upon both parts of the wetland. This was a lost opportunity to have a coherent linear wetland system within the new suburb. Note in this image the standing water (centre of image) is not due to unpercolated rainwater but the high water table in the wetland area.

of POS, which has been discussed by Swanwick et al (2003), is outside the scope of this paper, although spatial form is entwined in ecological, aesthetic and design concerns of POS. Of particular note is the common lack of connections between adjoining new developments (Stenhouse, 2004). This is a result of both statutory planning and design failing to make basic ecological principles of connectivity and linkages into real outcomes at every scale of development. For example, in Figure 4, remnant bush was broken to provide some turf that is not specific to a particular sport and thus not 'turf that works'. In doing so, an existing wetland system was fragmented; the design ignored linkages and the impact of distance thresholds (Dramstad, et al, 1996) between patches of bush, particularly for reptiles in this reptilian hotspot. This is a poor reading of country. The importance of better knowledge of basic ecological principles, such as patches and connectivity, and systems thinking by landscape architects and planners needs to be considered for POS to be truly meaningful for the resilience of urban areas in changing climates (Felson and Pickett, 2005).

CONCLUSIONS

At the heart of this review of a region of complex hydrology supporting a globally important floral and reptilian biota is the difficulty of incorporating ecological issues meaningfully into resolved designs and the planning policies that underpin them. The imperatives of decisions in a hotspot need to be in contrast to places where POS is being framed mainly on economic criteria (for example, Choumert and Salanié, 2008). The special nature of the SWAFR highlights the point that imperatives will be dictated by the unique climatic and physical aspects of these landscapes, and social responses to and hopes for those landscapes. Some social requirements might seem trite, such as with this hotspot and its POS, where the large field required for Australian Rules football and cricket needs to be taken into account for at least some POS. Such requirements can challenge policy makers and designers.

Metabolic studies are needed to understand flows and relationships between biota, soils, topography, water, history, human socio-economic needs and emotional responses, and planning legislation, among others. We need such studies to draw the associations between what remain largely as parallel discourses of design, planning and science. If we are to look sideways as we make decisions in designing places, we will need these studies to accommodate the differences in problems and phenomena at different scales (Wilson, 2006) to create the best opportunities for life in a hotspot. Rethinking policy and design towards better water use and biodiversity within new suburban areas, from the regional to small site scale, will no doubt arise as a result of unravelling metabolic processes of both ecological and social responses.

Echoing the beliefs of Alessa and Chapin (2008), it is timely to redefine the ways in which ecology, planning and design are communicated and practised. Suburban development continues to rely on environmental mapping of species (Pickett, et al, 2001), planning standards, assumptions of land percentages based

on social premises (Grose, 2007), general ideas of 'sustainability' or 'ecology' as promulgated in the grey literature (rather than specific local knowledge) and case histories (Flores, et al, 1997). Ecological insights have become codified by planning and are not site specific or 'grounded' (Meyer, 1997), a common problem pointed out by Pickett, et al (2001). Designers have to deal within this codified framework with little ecological understanding and will continue to do so without better bridges between the disciplines, from both sides.

Two philosophical questions appear to be at play within the disciplines. First, environmental scientists need to ask what is the intellectual ambition for their knowledge (Armstrong, 2008) – that is: What could this do in the world? Here the ordinary, suburbanising world where 60 percent of the world's population are soon to live, and thus: Why is it good to know this? Second, landscape architects and others have scarcely begun to understand scientists' ecological knowledge because no one has been able to answer clearly for them the questions: Why is it good to know this? and What could this do in the world? in terms of design and designing places of human engagement. If we ask these questions, there is a clear commonality. This is a far simpler view than the common assertion that, to facilitate better ecological design, the disciplines of planning, landscape architecture and environmental science need to move together towards a more holistic understanding of ecology in terms of socio-ecological systems (Berkes, et al, 2003; van Kamp, et al, 2003; Ellis and Ramankutty, 2008; Alessa and Chapin, 2008). Hydrozoning and ecozoning within 'turf that works' can be seen as examples of a strategic practice and policy difference that has arisen due to the scientists involved seeing clearly what their knowledge could do in the world, and transmitting that view so new practical designs and policies for POS might occur in the SWAFR hotspot.

Calls for increased information about socio-ecological systems are perhaps suggesting that more knowledge will improve ecological outcomes in designed landscapes. This might or might not be true, and the extra work required by an individual might be overwhelming, or distracting, or lead to superficial responses to sustainability, which can be seen in design work today. Lister (2007, pp 47–48) discusses the deterministic and static approach to design that was fuelled by McHarg's (1969) 'design with nature' and suggests any imperatives today for experimental designs need to consider ecosystem complexity, uncertainty and adaptation. 'Design as research' has been under discussion in landscape architecture for some time, although how, and in what time-scale the design experiment is to be 'assessed', has not received the same attention. Lister (2007, p 46) notes that such experiments need to be resilient enough to be 'safe to fail'; they thus need to be firmly designed with consideration of complexity, flux, scales and diversity in changing climates. Within this, we might consider that we need to be mindful of confusing different systems – ecological systems that are not human constructs, and social-political systems that are human constructs. A danger here, as noted by Guattari (2000, p 20), is that we might begin to put on the same 'plane of equivalence' material assets, cultural assets and natural systems, when our control of these is quite different.

If we ask what the combined intellectual ambitions for our knowledge might be, then they are surely primarily about ambitions for places, such as the south-west Australian hotspot. First and foremost is that we wish to design places where we want to be, and where we give something to the human experience in an increasingly crowded urban world. Meyer (2008, p 18) propounds the need for the experience of beauty, 'a process between the senses and reason' as part of sustainable design. Aesthetics and beauty are essential parts of the question: What could this do in the world?, as beauty is transformative of opinion, belief and actions. In a general sense, design can reveal that the climate-altered future can be beautiful, and this is an important part of environmental education. While aesthetic imperatives are outside the scope of this paper, the fact that designs embedded with biodiversity and water conservation can be beautiful is particularly important in the SWAFR. Beauty can assist in helping to sway public opinion to make needed changes – such as water conservation and reduced turf – to the design of places like POS and home gardens. Missed opportunities today in hotspots will have greater ecological implications both now and in the future than those in non-hotspot regions. Beauty of spatial form and spiritual meaning or sense of place are also the very things that scientists cannot provide, and they look to designers to create these within a growing base of ecological knowledge of urban areas.

When considering ecological imperatives, such as water and biodiversity in the SWAFR hotspot, and improved design outcomes, the global commonalities across the disciplines that need further exploration between science and design might be considered to be:

(i) celebrating differences in places at all scales, with 'grounded landscapes' (Meyer, 1997), which underpins the detailed assessments of sites, systems and organisms in science as noted by McDonnell, et al (2009);

(ii) the importance of local knowledge to understanding place (Orr, 2004, p 10; McDaniel and Alley, 2005) as local imperatives, with indigenous knowledge and the spiritual association of reading landscapes or reading country exemplified in the expression *jippy joppie boodja* ('rhythm of the land') of the SWAFR's Nyoongar people (Nannup and Deeley, 2006);

(iii) the preservation of sense of place (Seddon, 1972);

(iv) the avoidance of 'knowing in fragments' (Rowe, 1990, p 129) and thus building in fragments in an uncomplimentary way (*sensu* Colding, 2007), which needs to include the avoidance of design without a strong aesthetic sense as a form of knowing (*sensu* Meyer, 2008), and *jippy joppie boodja*, which is surely central to landscape architecture and design; and

(v) addressing our combined intellectual ambitions for knowledge 'to become real in the world' (Armstrong, 2007).

All of these commonalities can be seen as assisting with understanding and designing for the increasing complexities of the ecologies of suburbanising areas with climatic and societal change towards what Hargreaves (2007, p 171) has

described as the complex matrices that 'capture the hearts and minds of humanity and propel a public park forward for centuries'.

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Towards Socially Restorative Urbanism: Exploring Social and Spatial Implications for Urban Restorative Experience

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KEY WORDS
Restorative environments
Social sustainability
Self-esteem
Control
Territoriality
Phenomenological human–environment relations

This paper explores ideas that might help to stimulate new avenues of inquiry into how those involved in shaping the urban environment might begin to restore a better balance of human benefit and urban form in approaches to urban regeneration and design. At present, growing evidence suggests that our capability to create socially sustainable urban regeneration and design may be compromised by over-privileging economic interests and rapid delivery over social relevance. Particularly in mixed-use residential development, an important consequence may be that people experience less of a sense of control over their homes and neighbourhoods, which diminishes opportunities for territorial expressions important to life quality and social cohesion.

The paper begins by discussing the concept of restorative environments and asserts that there are important social dimensions to human restorative experience, not yet widely investigated, that can be related to the form of towns and cities. We suggest that a better understanding of these environments can be found in phenomenological perspectives on human–environment relations. These perspectives provide foundations for more evolutionary approaches to urban morphology that raise questions around the balance of control between professional processes and user-modification in urban place making. Specifically identified and discussed are social processes that connect territorial expression with opportunities people have to develop and sustain self-esteem.

The paper concludes by suggesting that new research directions in urbanism might productively explore the interface where the need to establish structurally stable infrastructure may gradually give way to more indeterminate and evolutionary processes of occupation and territorial negotiation.

INTRODUCTION

> We live in cities where things happen without warning and without our participation. It is an alien world for most people. It is little surprise that most withdraw from community involvement to enjoy their own private and limited worlds (Jacobs and Appleyard, 1987, p 115).

Urban regeneration has increased significantly in recent years guided in the United Kingdom by the Urban Task Force report under the chairmanship of Lord Rogers of Riverside (Urban Task Force, 1999), but evident across Europe and beyond. In response to growing concern about the damaging social consequences of decades of neglect and decline in many urban areas, political will has stimulated growth in urban development and renewal to ensure towns and cities are not simply fit to live in, but should become thriving centres of human activity. The resulting changes to

physical and spatial infrastructure continue to benefit towns and cities to an extent that some aspects of the prevailing approach are becoming adopted as the model for how things should be done, more or less everywhere. Despite the benefits, there are concerns this may not address elements of urban living experience necessary to achieve the aspired socially sustainable outcomes.

There are many facets to this concern, among which include: international architectural styling, which is undermining local identity; a tendency to intentionally appeal to and cater for a relatively narrow demographic and by extension, restrict possibilities for family life and community development; the drive for short-term commercial gain and visual appeal over long-term social sustainability; the limited potential of buildings and public spaces to adapt to unknown future circumstances (Thwaites, et al, 2007). Jacobs and Appleyard associate this with a professional culture focused on the quick fix. 'In too many cases, we design for places and people we do not know and grant them very little power or acknowledgement ... This floating professional culture has only the most superficial conception of particular place. Rootless, it is more susceptible to changes in professional fashion and theory than to local events' (Jacobs and Appleyard, 1987, p 115). Do urban inhabitants need to be allowed more freedom to experience the consequences and rewards of shaping and adapting where and what they are: more a process of communication with the environment than a receiving of it?

This paper offers thoughts that we hope may contribute to shaping new research and practice agendas in urbanism to shift the balance from determination of physical fabric toward consideration of how we might restore a better balance of human benefit and urban form. If this restoration of balance is accepted as a desirable goal, then what are the implications for the way we shape and reshape our urban surroundings?

MATERIAL FABRIC VERSUS SOCIAL RESTORATION

The paper considers the concept of a restorative environment and how this might inform planning and design decisions in the urban environment. Restorative environments research has formative roots in environmental psychology and is concerned with developing an understanding of environments that promote the restoration of depleted psychological, physiological and social resources. Rachel and Stephen Kaplan (1989), and others (Ulrich, 1979, 1984; Hartig, et al, 1991; Hartig, 2004), show that people, particularly in urban environments, can suffer mental fatigue and decreased attention span as a consequence of the stresses associated with the continuous stimulation and decision making that urban living often demands. Escape from urban stress has been a principal factor in encouraging people to migrate from cities to peaceful green suburbs as soon as their economic and social mobility allows. Making cities places that can, in some way, 'restore' must be an important part of encouraging people to return to city living and, perhaps importantly, to stay and raise families there.

Contributors like the Kaplans, Roger Ulrich and Terry Hartig show that people experience tangible benefits to physical and mental well-being through contact

with certain kinds of open space. Their research contributes to growing evidence that contact with, or even simply awareness of, natural elements such as water and vegetation can deliver restorative experiences. Important though this is in helping to shape public parks and gardens (Kaplan, et al, 1998) and in highlighting the importance of informal natural settings in urban environments (Jorgenson and Keenan, 2008), it tells us relatively little about the ordinary streetscapes and built-up places that we live and work in everyday. As Jacobs (1961), Whyte (1980), Gehl (1996), and others show, people gravitate to places where there are people and seem intuitively to recognise that urban settings can offer benefits regardless of predominance or even necessarily the presence of natural elements. May there be, then, other dimensions to human restorative experience particularly relevant in urban settings that warrant inquiry?

In this paper we suggest there may be important social dimensions that could contribute to human restorative experience, but in different ways. Restorative environments have become understood as those that have non-demanding content: generally, features that engage the mind without the need for directed concentration. Rooted in 'Attention Restoration Theory' (Kaplan and Kaplan, 1989), the central premise is that people can be restored to better levels of concentration when they spend time within and also looking at natural places that offer opportunities for effortless attention. This instinctively seems the antithesis of most of what built environments deliver, yet increasingly people choose certain kinds of urban settings for leisure and recreation, social interaction and dwelling, and from this they derive experiences that contribute positively to their quality of life. Whilst these benefits may not necessarily be restorative, in the sense understood in the mainstream of restorative environments research, it might be argued that a person's sense of self-worth and self-esteem could be regularly restored through opportunities that urban life may offer: experiencing social acceptance, making choices and mastering challenges, for example. These positive effects on well-being may not be delivered by non-demanding settings but may instead require contact with more dynamic environments offering social interaction and challenge. It could be hypothesised that human restorativeness, especially in the urban realm, may have two sides. One side relates to recovery from mental fatigue, currently well established and pointing towards natural, non-demanding environments. The other relates to achieving and sustaining self-worth and self-esteem, pointing towards much more active participation within dynamic and socially oriented environments. In support there is now a growing interest in expanding the exploration of restorative environments to include the spatial, aesthetic and physical attributes of urban spaces (Hagerhall, et al, 2006; Nenci, et al, 2006; Tenngart and Hagerhall, 2008), and social and experiential dimensions (Thwaites and Simkins, 2007).

Relevant is increasing evidence that social activity not only has spatial implications (Hillier and Hanson, 1984; Day, 2004; Alexander, 2002), but also implications for the balance of control between what specialist practitioners provide and the empowerment of people to influence the environment they use (Habraken, 1998; Thwaites, et al, 2007). Perhaps, because of a gradual over-professionalisation of

urban place-making in certain instances, people may have become effectively shorn of participative opportunities having found their control over the form of places they use significantly restricted. This exposes a fundamental philosophical obstacle underpinning an assumption of people as recipients of, rather than participants in, the development of places they use. We suggest that a shift in mental orientation towards more phenomenological perspectives on human–environment relations may offer a way forward, moving from a predominant focus on the content of the built environment to one on social value.

PHENOMENOLOGICAL PERSPECTIVES ON HUMAN–ENVIRONMENT RELATIONS

> Social space tends to be translated, with more or less distortion, into physical space (Dovey, 2005, p 285).

Phenomenology presents a holistic view of human–environment relations where human experience and its spatial context are integrated. That human experience can be thought to have spatial dimensions has philosophical roots in the work of phenomenologist Maurice Merleau-Ponty who drew conclusions about the inter-related nature of human existence and the spaces within which it is played out. 'We have said that space is existential; we might just as well have said that existence is spatial' (Merleau-Ponty, 1962, p 293). Merleau-Ponty points to a spatial dimension at the heart of what it is to be human, which has profound implications for the way that space is understood. 'Space is not the setting (real or logical) in which things are arranged, but the means whereby the positing of things becomes possible' (ibid, 1962, p 243). This implies that people and their settings create a kind of totality where different contexts activate different habits and thus become a part of the way those habits are expressed. For Merleau-Ponty, this kind of fit between bodily action and its environment is crucial to our ability to make sense of our actions and the world around us. From a phenomenological perspective, our surroundings are experienced as a projection of our sense of self: its condition is our condition. This perspective brings about a substantial shift of awareness from geometric space as a finite, static container, to a lived space as a more elastic phenomenon: a pliable and dynamic entity that bends, stretches and moulds at different scales in response to action (Dovey, 1993, 2005).

This conception of lived space may appear alien and challenging from within the mainstream planning and design fraternity, yet it has strong foundations in other discipline areas, especially anthropology. Concepts developed by Edward Hall in the 1960s (1959, 1966) give rigorous intellectual foundations to an idea of space as an entity capable of growing, changing and declining along with the way people give different meanings to it or choose to ignore it (Tuan, 1977, 1980; Proshansky, et al, 1983). This concept prompted Relph (1976) to see places as indeterminate wholes, territories of social activity and meaning projected onto entire assemblages of buildings and spaces. Places should be viewed, according to Relph, with the clear understanding that it is not possible to design everything about them. Design

action has to be recast as the generation of conditions under which places will flourish rather than the prescription of finite form.

A phenomenological perspective, then, not only embraces human functioning in its view of the environment, it actually requires it to bring a full definition. If we choose to adopt a more phenomenological mindset how can this relate to urban order? A starting point is to understand urban order as something intimately connected to human lived experience, rather than something rationally generated from specialist professional practices. Jane Jacobs provides a place to begin.

EVOLUTIONARY URBAN MORPHOLOGY

> This order is all composed of movement and change, and although it is life, not art, we may fancifully call it the art form of the city and liken it to the dance – not to a simple-minded precision dance with everyone kicking up at the same time, twirling in unison and bowing off en-masse, but to an intricate ballet in which the individual dancers and ensembles all have distinctive parts which miraculously reinforce each other and compose an orderly whole (Jacobs, 1961, p 50).

Jacobs's vision of urban order arises from the activities of people in ordinary daily life as they interact with one another and their physical surroundings. In so doing they change themselves, others in their community and their structural fabric continuously, yet somehow manage to retain a recognisable and enduring sense of order. This order is an indeterminate manifestation of underlying social forces. It is a dance of social association made from what different kinds of people do and think, individually and together, and how this becomes projected into the material fabric of the community and lives lived within it.

That social functioning can be understood as a generator of the urban order we experience is central to John Habraken's (1998) exploration of the structural characteristics of the ordinary built environment. What Habraken means by 'ordinary' in this context is the wide fabric of the built environment of human habitation, where the routine of daily life occurs, which until relatively recently managed to evolve and be sustained without the sort of professional attention it receives today. 'For thousands of years, built environments of great richness and complexity arose informally and endured. Knowledge about how to make ordinary environment was ubiquitous, innately manifest in the everyday interactions of builders, patrons and users. Built environment arose from implicit structures based on common understanding' (Habraken, 1998, p 2). Habraken points to an expansion of architectural influence during the modern era that now sees almost every part of the built environment as a design problem to be solved. 'Ordinary growth processes that had been innate and self-sustaining, shared throughout society, have been recast as problems requiring professional solution' (ibid, 1998, p 3).

Resonant with Jacobs, Habraken sees the ordinary built environment as something evolutionary in character: that which occurs where human habitation and material form interact. It is the nature of the interaction that generates the form

and, for this reason, Habraken says, environment cannot be invented, in the sense that it can be predetermined in all its parts and then made. Habraken describes how urban order evolves out of an inter-relationship of three levels of control he calls form, place and understanding. Form is what establishes an organising, structurally stable infrastructure that can then be occupied. Particular spaces within infrastructures become controlled as occupants determine what and who comes in and stays out. In Habraken's view, occupation transforms space into place and therefore has an explicitly territorial meaning related to the human impulse to control our surroundings by identifying and defining territory. Habraken's third level of control is that of understanding. This means the general desire in humans to relate to one another via common structures or shared meanings, for example, cultural, ideological, aesthetic and so on. If place is driven by territorial factors, understanding is essentially social in nature. What appears visible results from the resolution of tensions between the biological need for people to assert their individuality through territorial expression and the wider need for personal assertions to remain within commonly accepted norms.

Habraken argues that the structure of the ordinary is essentially a visible manifestation of the way people act as social beings in exercising control in the built environment. The overlapping relationships between levels of control create active and continuously shifting patterns of occupation and expression, creating a kind of margin at an indeterminable boundary where the control necessarily exerted by specialists gradually gives way to the social forces of occupants. Although such margins retain a form of stability and coherence over time, they may in fact be in continual change as the patterns of occupation and control ebb and flow with objects placed for short or longer periods according to local custom, practicality and negotiation between neighbours. The accumulation of many such small adaptations over time makes these marginal areas highly dynamic, places where territory may be implied by the physical fabric of buildings, but may actually move about in response to ongoing acts of occupation. Habraken is clear that special professional know-how is necessary to make gravity-resistant structures, especially at large scales, but says such know-how has to include a realisation that space and time must be left for innate territorial and social processes to find their own expression. Urban regeneration based on large-scale spatial interventions and compressed timescales squeezes such opportunities.

TERRITORIALITY AND THE ACHIEVEMENT OF SELF-ESTEEM

> The urban environment should be an environment that encourages people to express themselves, to become involved, to decide what they want and act on it (Jacobs and Appleyard, 1987, p 169).

Territorial impulses are fundamental to human experience. The necessity to be able to distinguish what is 'my own', whether this is an object or place, an idea, belief or expression, what is someone else's and what is shared is, arguably, one of the most powerful driving forces behind human action. This kind of territorial

awareness can be related to human psychological health in terms of the need to achieve self-esteem.

Through their mental and physical actions, individuals make their ideas into something permanent and thereby become aware that they have a mind of their own. Furthermore, through having their actions recognised by others, individuals are able to enjoy self-esteem. These ideas are central to the work of Axel Honneth (1995) who identifies the importance of recognition as a vital human need. Honneth (1995) considers that self-identity depends on developing self-confidence, self-respect and self-esteem. Achieving these requires the recognition of others who share common concerns within a mutually supporting community where individuals experience themselves as having status either as a focus of concern, a responsible agent, or as a valued contributor in a shared project. Ordinary human activity underpins human fulfilment, but achieving it extends to a requirement for recognition that the act has value within a particular cultural context.

Here, then, we find evidence of something similar to the overlapping relationship between Habraken's second and third levels of control: biological impulses drive people to control territory, whilst the social need to belong tends to control extremes of territorial expression through awareness and recognition of a common understanding. The framework of common understanding is what, for Honneth, provides the context of recognition that is central to the achievement of self-esteem. Another way to talk about Habraken's concept of common understanding, effectively Honneth's context of recognition, is to relate it to the experience of a sense of 'ours'. When we experience 'ours' we are subconsciously acknowledging a sense of belonging to something, or somewhere, to which others may also feel similarly. A sense of 'ours' also helps us to define what is mine and what is not. A sense of mine is an important component of self-identity and integral to the recognition that others have 'their' identity too. The sense of 'ours' is vital to overcome extremes of possessiveness and self-centred introspection by providing a territorial (mental and physical) realm that encourages communication, negotiation and reconciliation of differences.

Something like this can be illustrated in a built environment context with Michael Martin's discussion about the potential of the back alley as a community landscape (Martin, 1997). Martin discusses the way different configurations of boundary treatment affect social potential in American residential development. When boundaries are configured to achieve a balance of what Martin describes as 'hidden-ness' and 'revealing-ness', the back alleys can be transformed from being merely functional conduits into settings rich in social potential, capable of encouraging and sustaining neighbourly behaviour in residents. Hidden-ness and revealing-ness reflect that people, depending on mood and circumstance, sometimes wish to preserve privacy whilst at other times choose to be more openly available to contact with neighbours. Martin links the development of community spirit in residential settings with the extent to which the built environment allows individuals to control when they wish to hide or reveal themselves as they move about in daily life. Boundaries of different heights and degrees of transparency, gate

orientation, location of outbuildings and bin storage, places for car maintenance, children's play and so on, can become strategically arranged to optimise such control, allowing inhabitants to position themselves according to how sociable or otherwise they may feel. Again, there is a question of balance. Infrastructures that facilitate too much hidden-ness may obstruct the sort of spontaneous social encounters from which good neighbourly relations often develop, whilst infrastructures that are too revealing can lead people to feel themselves oppressively overlooked.

The kind of back alley community landscape that Martin advocates represents the 'ours' of that specific community of people. What is right for them in how they come to sort out levels of overlap between their 'ours' and their 'mines' may not be right elsewhere. Consequently, it is hard to imagine that this sort of fine-grain tuning of features to achieve just the right balance of hide and reveal for the inhabitants of a particular neighbourhood could ever be successfully specified by an outside specialist. The correct configuration of objects seems to be so intimately woven into the personal life-patterns of individuals that to get it right 'by design' would require super-human insight from even the most socially sensitive professional (Figure 1).

Michael Martin's community alleys provide an example of territorial behaviour reflected in built environments on a fairly domestic scale, but it is possible to detect the ways that social processes can impact on larger urban settings. Aspects of gradual urban transformation can be detected in the evolution of the Chapel Allerton district of north Leeds, United Kingdom (Figure 2). Chapel Allerton is a well-established, thriving and lively residential community with a diversity of housing type and style, from substantial early Victorian town houses, terraces and semi-detached family houses to recently constructed apartments and low-cost public housing. The residential provision is woven together with shops and other small businesses, churches, community buildings and public open spaces into an eclectic and thriving neighbourhood character, all of which give it the air of an urban village. This makes Chapel Allerton a clearly distinguishable region of the city characterised by a wide range of interwoven leisure, commercial and residential

Figure 1: (left) Nethergreen, Sheffield, United Kingdom. Reminiscent of Michael Martin's balance of hidden-ness and revealing-ness, an evolving residential street characterised by continuous adjustments to boundary walls, gates, planting, parking, private and semi-private spaces.

Figure 2: (right) Chapel Allerton, Leeds, United Kingdom. Urban village characterised by fine-tuning the urban fabric in response to social change over time.

activities. As a whole, Chapel Allerton is a product of an evolutionary system, an urban form that makes visible subtle forces of changing social composition and patterns of use. Like Martin's alleys, Chapel Allerton proudly expresses itself as the 'ours' of its inhabitants, evident in the strong sense of community that draws together resident and business inhabitants. The essence of Chapel Allerton is sensitive to change, but not in a precious, excessively preservationist sense. Chapel Allerton's essence has proven itself robust for centuries: indeed it seems to depend on change to sustain and enrich it, for its form has never been entirely static and is not to this day.

Urban renaissance policies adopted across the European Union have viewed the formation of such a blend of mixed communities and enhanced economic value as essential to the development of sustainable communities. In so doing, however, these policies may have focused attention on the wrong things: the product rather than the processes. Present priorities in urban regeneration, which speed towards commercially oriented solutions at the outset, more often than not simply import blandness and sterility as an intrinsic characteristic. Jacobs and Appleyard (1987) cautioned of the consequences of 'this floating professional culture' (ibid, p 115) over 23 years ago, a warning echoed more recently by Lord Rogers of Riverside. 'Many of the problems in English towns and cities lie with the development professions and businesses, alongside those who regulate them ... We have tolerated a lazy over-use of off-the-peg designs and layouts' (Urban Task Force, 1999, p 50). Yet, despite these well-publicised and debated threats to the achievement of socially responsive and fulfilling towns and cities, we continue to see a widespread proliferation of large-scale, multi-level, block-based solutions to urban dwelling of the type exemplified by the recently unveiled Spinningfields development in Manchester, United Kingdom, and its Sheffield clone (Figures 3 and 4).

Returning briefly to the territorial concepts of 'mine', 'theirs' and 'ours' discussed earlier, it is difficult to imagine how a necessary sense of 'ours' can successfully evolve in this kind of residential development. Stacking people in multi-level apartments above commercial units, more often than not occupied by

Figure 3: (left) The Spinningfields development in Manchester, United Kingdom and, in Figure 4, its Sheffield clone.

Figure 4: (right) West One, Sheffield, United Kingdom.

multi-national retail outlets, divides the private and public realms so abruptly as to reduce territorial experience to a polarisation of 'mine' and 'theirs'. Here, there is little opportunity for the kind of user-modification that seems integral to more socially sustainable built environments.

In these examples, high levels of design control combine with high-density living to inhibit explicit territorial expressions from inhabitants. We acknowledge that encouraging user-modification is easier to achieve in lower-density settings where occupants can manipulate and relocate barriers and edges more freely. Nevertheless, as Martin's (1997) study of back alleys demonstrates, occupants need encouragement and opportunity to make such modifications. Examples like Nethergreen, Sheffield (Figure 1), show that when design control is looser an element of self-organisation can emerge that gradually shapes the aesthetic and social value, replacing the 'mine–theirs' polarity with a more pronounced sense of 'ours': a sense of neighbourly belonging. In contrast, Chimney Pot Park, a recently renewed development of traditional Victorian terraced streets in Manchester, United Kingdom, exhibits quite a different level of 'designer' presence (Figures 5 and 6). Similar in scale to Nethergreen, the result is characterised by high levels of design input throughout. In comparison with Nethergreen, it seems sterile and repetitive, even in the novel private and semi-private back spaces that have been innovatively raised to first floor level making space for car parking beneath. Although it must be acknowledged that Chimney Pot Park is relatively new and has not yet had the benefit of time to age, its appearance seems such an explicit expression of the 'mine' of the design team we are left wondering whether, and over how long, this will become replaced or at least balanced with the 'ours' of its inhabitants (Figures 7 and 8).

This type of development helps reveal an Achilles heel in the top-down approach to urban regeneration, where the focus of attention is placed on the master-planning of solutions that are effectively manufactured on site for occupation. The value of relatively fine-grain adjustments over time in response to evolving social processes so central to the quality of Chapel Allerton, for example, plays no part in this approach at all. As Habraken (1998) points out, much of what we see in the

Figures 5 and 6: Chimney Pot Park, Manchester. Sterile 'designer neatness' tends to push territorial expression and personalisation indoors.

Figures 7 and 8: Nethergreen, Sheffield, United Kingdom. Looser edges can invite territorial expression and encourage neighbourly contact and negotiation.

structure of the ordinary built environment has happened under the controlling influence of the people who use and inhabit it. Professional agencies may well be involved in giving structural and indeed aesthetic advice, but of a kind that contributes to the realisation of needs generated from within the existing situation according to developments in patterns of use, rather than externally imposed.

CONCLUSIONS

In this formative attempt to begin to conceptualise a socially restorative urbanism we have offered new directions of inquiry that may contribute to a reconnection of social and spatial dimensions of urban regeneration. We have suggested that such an approach may productively focus on the dynamic interface where the need to determine structurally stable infrastructure gradually gives way to more indeterminate and evolutionary processes of occupation and territorial negotiation.

We recognise, however, that there are challenges. For example, if it is accepted as desirable in certain circumstances to modify professional planning and design in ways to allow occupants of urban infrastructure space and time for greater levels of self-organisation and territorial expression, then what kind of expression can we expect to be unleashed? Looking back in time delivers illuminating insights into the way social forces have influenced the form of pre-modern towns and cities, but this may prove misleading in today's media-driven, globalised society. Self-organisation in past societies tended to be drawn from the immediate surroundings and adapted to localised needs and aspirations. Influences on personal expression were constrained by comparatively limited mobility for most and an absence of today's pervasive media through which we are delivered, almost subliminally, a continuous stream of lifestyle options. In today's developed world especially, do we simply risk replacing the influence of specialist designers with that of media moguls and business people selling lifestyle choices through the media?

Other criticisms frequently levelled at advocates of more participative approaches to environmental improvement lie with how genuinely inclusive they actually are.

Ways will need to be found that can overcome privileging the interests of the active and vocal minority in participative processes. Allied to this is the innate nature of territorial behaviour. If planning and design processes can be found to purposefully create space for localised self-organisation, then how do we deal with the potential for this to degenerate into endless territorial disputes, resulting in the survival of the fittest? Honneth's (1995), perhaps optimistic, response might be to suggest that self-organising social systems will find balance of self-expression and common understanding because the achievement of self-esteem depends on both. The process of creating and sustaining such balance is, however, far from predictable and in densely populated urban environments may even become volatile.

In rising to these challenges we see a beginning in two complementary avenues of inquiry. One directed to aspects of urban morphology and the professional planning and design processes that deliver it, which can enhance, rather than inhibit, the capacity of a local community to adapt its own space by self-organisation (Mehaffy, et al, 2010). If this can be achieved, then another avenue of inquiry, perhaps of a more socially oriented nature, must address the processes that will be required to ensure such self-organisation takes place as inclusively as possible and for the benefit of the many rather than the few (Simkins and Thwaites, 2008; Mathers, 2008). Reminiscent of Habraken's margins that define the indeterminate boundary where professional interventions and social forces meet, urban order here is reconceptualised as what happens when human habitation and material form interact, and not simply as a product of a professional's imagination imposed in finite form. This interaction need not imply that professional planners and designers should simply leave empty spaces, but it does imply the need for a different approach. This approach may usefully begin with recognition from within the professional fraternity that there are aspects of the built environment that must be understood in a looser and more indeterminate way. This recognition should take into account that the role of professionals in these aspects of the built environment may have to change from a type of creativity rooted in their own values, tastes and rationality, to another more facilitating type that allows more space and time for the territorial impulses and social activity of inhabitants to find expression.

ACKNOWLEDGEMENTS

The development of ideas explored in this paper owes much to wide-ranging discussions with many people in many places. We are especially indebted to Sergio Porta (Professor of Urban Design, University of Strathclyde) and Ombretta Romice (Director of Urban Design, University of Strathclyde). Also our thanks and appreciation go to Mari Sundli-Tveit, Caroline Hagerhall and Helena Nordh at the Norwegian University of Life Sciences. Finally, our warm thanks go to Sjoerd Soeters (Soeters Van Eldonk Architects) and John Habraken (Professor Emeritus of Architecture, Massachusetts Institute of Technology) for the inspirational conversation and hospitality extended to Kevin, Ian and Sergio in The Netherlands, August 2008.

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Meaning in Landscape Architecture and Gardens

Jacky Bowring

Meaning in Landscape Architecture and Gardens: Four Essays, Four Commentaries, *Marc Treib (ed), Abingdon, Oxon, UK: Routledge, 2010; ISBN 13: 978–0–415–61725–3*

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Landscape architecture was born amidst a period of intense debate. During the eighteenth century, the sometimes heated exchanges between theorists of the picturesque raised many points of contention and lay down the foundations for the discipline of landscape architecture. Uvedale Price, Richard Payne Knight and Humphry Repton, among others, exchanged their views on the definition of the picturesque in distinction from the sublime and the beautiful, the nature of 'taste', and the relationships between politics and landscape (Hipple, 1957; Hussey, 1967; Andrews, 1989, 1994; Copley and Garside, 1994). Amongst the debates over the picturesque and allied categories, the question of meaning and landscape was also raised in various ways. For gardens like William Kent's Rousham, meaning was explicitly encoded into the landscape, based around the idea of 'speaking pictures' (Kent in Hunt, 1992, p 13). On the other hand, some argued that the picturesque was based upon a formal relationship between elements – 'the disposition of a various terrain, the handling of lights and shades, the perspective' – all of which are not necessarily founded upon meaning (Hunt, 1992, p 107).

Despite the vigorous debate and the fact that consensus was never reached over the theories of the picturesque, the discipline of landscape architecture has not been characterised by an active intellectual discourse over the ensuing centuries. Hubbard and Kimball, in their 1919 foreword included in their republished text, advised that 'Nearly all the trained men in the field are giving their energies to active practice rather than to theorization or writing' (1959, p vii). This view was echoed decades later by Walker and Simo, who suggested that 'landscape architects tend to be doers rather than critics or philosophers [and that] they have tended to focus on the practical work at hand' (1994, p 3). Although open to debate, such statements highlight the perception of landscape architecture as being an intellectually bereft discipline. However, in recent decades, the depth of intellectual activity is apparent in the refereed journals, conferences and publications. Marc Treib's *Meaning in Landscape Architecture and Gardens* is evidence of just such activity. Drawn from the *Landscape Journal*, the four essays in this volume present a lively argument, echoing the debates that fuelled the nascent landscape architecture discipline. Like the exchanges of Price, Knight, Repton and others, the four essays extend over a prolonged period, the first in 1988 and the last in 2007. Laurie Olin's essay 'Form, Meaning, and Expression in Landscape Architecture' was the first to be published, followed by Marc Treib's essay, 'Must Landscapes Mean? Approaches to Significance in Recent Landscape Architecture' in 1995. Jane Gillette's response,

'Can Gardens Mean?' was published in 2005 and, finally, Susan Herrington's essay 'Gardens Can Mean' appeared in 2007.

Simply publishing the four essays in one volume would have provided a valuable resource on one of the enduring and defining questions for landscape architecture. Treib went further than that, holding a special session on the four essays at the 2009 Council of Educators in Landscape Architecture conference, bringing all the authors together for the first time. The book builds upon the exchanges at the session and includes reflections from each author on their essays, stitching the works together through further iterations of the central arguments. Circling around whether gardens and landscape can, should or must mean, the four essays and their commentaries dissect every dimension of the 'problem', including even the definitions of gardens and landscapes. They question the 'meaning of meaning' as well as the related terms, feeling, expression, significance and communication. All of these terms weigh differently depending on your point of view – can things mean in a vacuum? Can they simply 'be'? Or is meaning only contingent upon communication, a pact between designer and viewer where an exchange takes place?

One of the surprising things in this book is the dialogue between authors. While some exchanges take place as part of the chronological sequence of the work, this can happen only when the subsequent author comments on a previous article. However, within the Council of Educators in Landscape Architecture forum and the book, the authors can talk directly to one another. Usually, once an author has published a work, there is rarely a right of reply – except perhaps in letters to the editor. Once adrift in the discourse, an article can accumulate all kinds of interpretations and even misunderstandings. Thus, as well as responding to the other authors in this group, the four can also respond to other interpretations of their work. Olin, therefore, reiterates his views on the 'several ways by which landscapes come to possess meaning', something he feels was overlooked by Swaffield (Treib, 2010) in his categorisation of him as one who 'argues that meaningful landscape design should express a distillation of the essential qualities of human experience paired with a consideration of nature' (Treib, 2010, p 74). Olin reminds us that some of the elements he identified in his original article have 'little or anything to do with nature' (Treib, 2010, p 74).

The authors also get an opportunity to expand on their original points in their reflective commentaries. One of the seminal moments of Treib's original essay was his observation that a claim to significance does not excuse poor design. In what might be considered by some evangelical advocates of ecological restoration as a heretical question, Treib baldly asked 'why "restore" the original pattern when, in fact, the reserve today serves equally for human recreation and open-space preservation?' (p 92). Treib presented several possible answers to his own query, suggesting that the natural pattern might be seen to be less open to question, or that the designers believe the natural pattern to be the ultimate expression of the site and they cannot improve on it, or that it reflects the surfacing of picturesque values. Each of these possibilities prompts further thought about the act of

designing, the nature of meaning and of the potential power of any design gesture as a cultural expression. Ultimately, Treib advocated a sensory response to place as being most important, of striving for pleasure in gardens as the underpinning for design. In his commentary, he reinforces this assertion, noting how pleasure is likely more commonly agreed than meaning, but notes a dearth of intellectual debate on this topic. Perhaps a further symposium might be in the wings on pleasure and gardens ...?

Some of the most incisive moments in the debates take place in Herrington's essay. As the final author in the chronological sequence, Herrington deftly draws together the many waving threads, for example, taking Gillette to task for her assertion that 'gardens, artifacts, undesigned landscapes, and so forth do not tell, desire, or express anything. Only humans can do that' (Gillette quoted, p 190). Herrington's response to this is that 'This is akin to stating that the book of poetry sitting on my desk is simply a bound pile of paper impressed with ink, and does not communicate anything. Humans express ideas to other humans through the physical world, whether ink and paper, paint and canvas, or mud and stone' (p 190). There are intriguing resonances between Herrington's words and those of literary critic Terry Eagleton's (2005, p 85) commentary on Laurence Sterne:

> ... how come that these little black marks on white paper can signify human meanings? How extraordinary that a whole complex human world can lie secreted in this stack of processed rags, waiting for a reader to catalyse into life! It is akin to the bemusement that an alien visitor to earth might feel on suddenly realising that there are certain peculiar lumps of matter which don't just lie around the place like rocks or razor-blades, but which are somehow *expressive*.

The echoes between the two authors remind us that debates over meaning are still unfolding in other disciplinary circles as well, and the fusion between different perspectives can be very fruitful.

Perhaps a critical fulcrum in the tension between Gillette and Herrington is the use of the phrase 'undesigned landscapes'. One of the underlying threads of the argument on meaning is intentionality, and that is core to design. Finding meaning in something non-designed might or might not happen, in the same way as one might or might not find meaning in a word or marks not written with intent. Whether or not the meaning a viewer gains from a landscape is the same as that which a designer intended is yet another question. In that sense, it is again useful to look at literary theory, in particular, Roland Barthes's (1978) notion of the 'death of the author', which results in the birth of the reader. In landscape architectural terms, this could be rephrased as the birth of a landscape visitor necessitates the 'death' (that is, the silence) of the designer. The designer cannot assert a meaning in a landscape any more than an author can impose a meaning on a reader.

Why does all of this matter? Why debate 'meaning'? Herrington hits the nail on the head when she suggests that if we were to visit a site such as the memorial at

Ground Zero, which opened in September this year, and have no emotive response, we could view that design as a failure. But, if a memorial does nothing else it should elicit emotion in the visitor. While this raises another point of contention in terms of the difference between meaning and feeling, it clarifies the role that a designed landscape has in expressing something (rather than expressing nothing).

These four essays are not an endpoint in landscape architectural theory. Price, Knight and Repton never reached consensus and neither do Olin, Treib, Gillette and Herrington. Instead, they represent a snapshot of an unfolding discourse on how we think about landscape architecture, what the role of design is, what the relationship with a viewer is and so on. The essays are part of a conversation, and as in the tradition of Socrates, the point is not to find the answers but to discover further questions.

In conclusion, this volume makes an important contribution to the landscape architecture literature. It will be a valuable resource for students, academics and practitioners who actively address the questions of landscape architectural theory. Treib's other anthologies have all made substantial contributions to the ongoing debates on landscape architecture, with *Representing Landscape Architecture* (2007) and *Drawing/Thinking: Confronting an Electronic Age* (2008) providing a range of perspectives on the challenges for the discipline in terms of how the ways in changing technologies and philosophies of representation influence the reception of design ideas – and the design process itself. *Spatial Recall: Memory in Architecture and Landscape* (2009) is an important collection of essays investigating the unique role that landscape has in terms of remembering and tests the boundaries of how landscape architecture can take an active role in interpreting and designing places of memory. Treib's mastery is in recognising and shaping a thematic moment and gathering together individuals who can contribute significantly to the debate. *Meaning in Landscape Architecture and Gardens* is a salvo from the ranks of theory that will ensure the continued probing, speculation and informed argument that are key to any healthy discipline.

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Horizon 101: Reflections and Paintings by Jala Makhzoumi

SHELLEY EGOZ

Horizon 101, *Jala Makhzoumi, Dar Onboz, 2010; ISBN 978–9953–465–16–6; art direction and design: Nour Saab*

> 'Somewhere between Calabria and Corfu the blue really begins ... once you strike out from the flat and desolate Calabrian mainland towards the sea, you are aware of ... the horizon beginning to stain at the rim of the world ...' the British author Lawrence Durrell wrote in 1945. Landscape architect Jala Makhzoumi's *Horizon 101*, a diary of personal reflections in words and watercolour paintings, captures precisely the essence of the Mediterranean landscape that Durrell described. *Horizon 101* is a beautifully presented book written in Arabic and English; a story told through pictures and words that complement each other.

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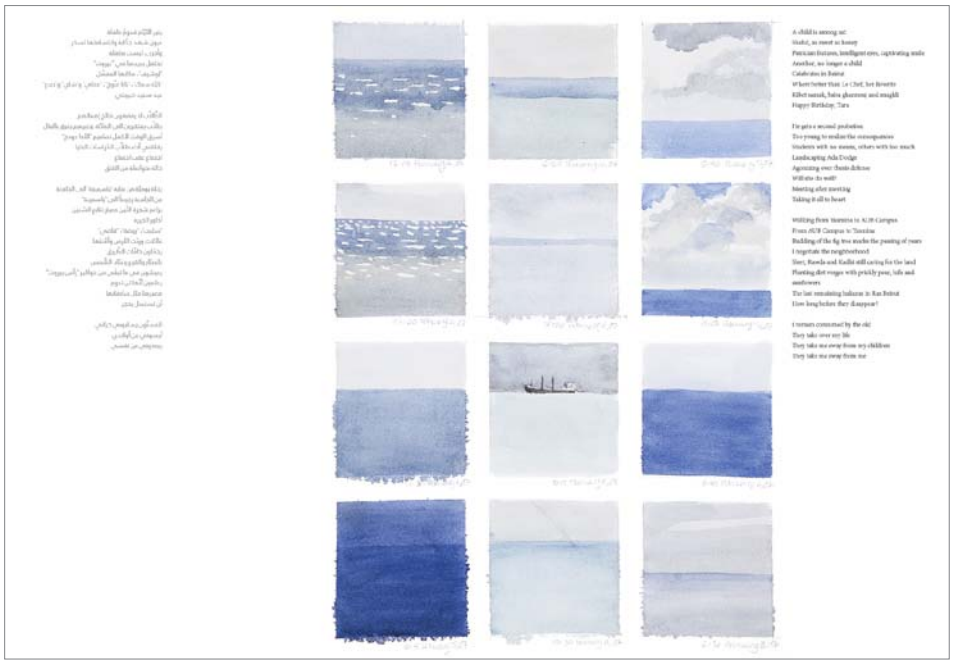
This book takes the reader on a journey of the horizon landscape as viewed from the author's window in her one-bedroom apartment (apartment 101) on the campus of the American University of Beirut from July 2006 to June 2007. It is an expression of a recent formative life experience: the 2006 war on Lebanon and the suffering inflicted on the civilian population of South Lebanon that she encountered when she volunteered her landscape architectural expertise in post-war reconstruction. Yet the paintings and text are full of life and hope – a representation of resilience, the power of survival and re-growth encapsulated in landscape.

The author's almost daily engagement with the horizon landscape through the window became her means of relief from the overwhelming situation she was trapped within. *Horizon 101* is Jala Makhzoumi's 'personal story of displacement and longing, an act of reflection and healing', but it is also a story of the poignancy of landscape and the profound meanings and strength that can be found in observing the everyday landscape.

Horizons are longings, yearnings for freedom. The series of paintings begins with an open view of the horizon of sea and sky, then the format changes to a vertical view of the horizon through fences, conveying a sense of separation and imprisonment. Here, the aesthetics of the ordinary landscape are not confined to pictures of the intense Mediterranean blue but are as powerful in the bold compositions of barbed wire fences, scaffolds and activities screened through this view. Responding to changes in light at different times of the day, the landscape shifts in mood. The horizon is viewed in snapshots of momentary events narrating the passage of time in space, defining both immediate space, close, delineated by fencing, and the seascape disappearing into the openness of the horizon.

Landscape is never static, and the framing of the vignettes in this book in accordance with a calendar diary is a straightforward way of depicting the sense of time and the dynamics of landscape change; it is simple yet effective.

REVIEW



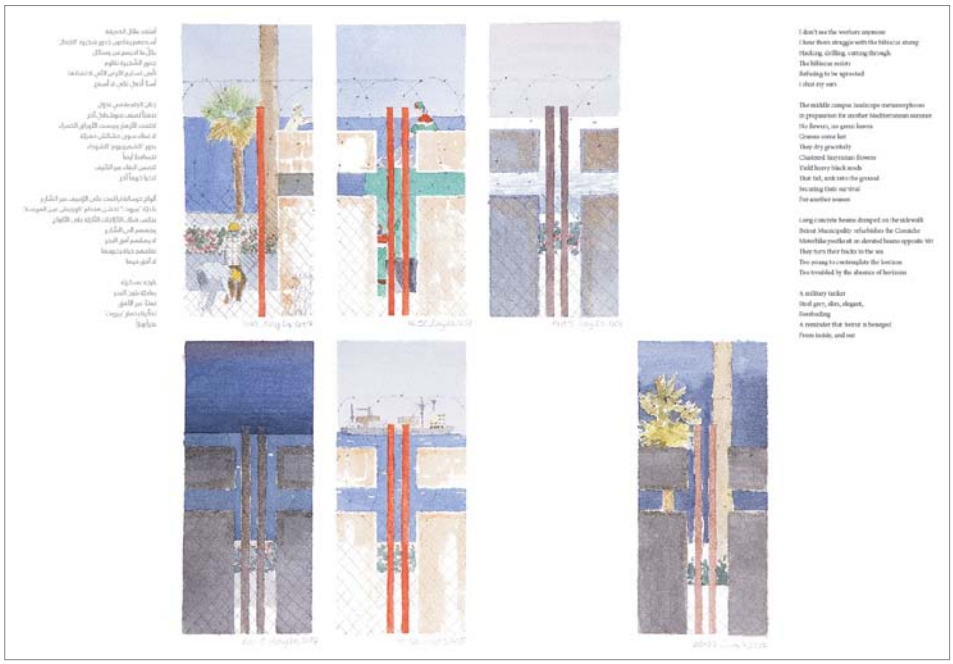
Reflections from apartment 101, January 2007.

The book itself is an aesthetic gem. The author's professionally trained eye, coupled with her artistic talent, is evident in the visuals – a series of drawings that overlay architectural elevation views with gentle aquarelle washes. The richness of nuanced hues and colours adds lyrical dimensions to the story. Printed on quality watercolour-like textured paper, with a soft cover and binding and in an unusual format (23 x 33 cm) it feels like a hand-made book, an original diary, rather than one that has been mass-produced.

Sensitive observations of landscape and people are at the heart of *Horizon 101*. As a personal story, it is captivating, poetic and moving. It is a humble and candid representation of the passion for landscape and compassion for human beings that underpin the practice and scholarly work of the author.

While the sensuality of the landscape is achieved through the evocative media of watercolour and its vivid colours and luminous qualities, the words too evoke the senses. As a native of the Mediterranean, I can figuratively smell the springtime landscape of my birthplace when reading these words in *Horizon 101*:

> The delicious scent
>
> Of orange blossoms
>
> Announces spring
>
> Citrus trees laced with white
>
> Along Marquand House
>
> As I walk through FAFS garden
>
> In the hakuras past IC and ACS.



A reminder that Beirut is besieged from inside, and out. May/June 2007.

Yet you don't have to be a native of the Mediterranean to treat yourself and delight in 'the horizon beginning to stain at the rim of the world' (Durrell, 2008).

Jala Makhzoumi, the author of *Horizon 101*, is Professor of Landscape Architecture, American University of Beirut. In her research she explores the relationship between landscape design community development, biodiversity conservation and landscape heritage. Jala's professional practice focuses on ecological landscape planning and urban revitalisation in Iraq, Syria and the United Arab Emirates. She is currently working on a manuscript provisionally titled Beirut Gardens, which conceptualises traditional green spaces in Mediterranean cities to inspire community-inclusive greening strategies. In a recent personal communication about *Horizon 101* Jala Makhzoumi commented that:

> Landscape, horizon and the human condition are intertwined concepts … 'Landscapes' are a way of seeing surroundings that are fulfilling emotionally as well intellectually if you work with landscape professionally and/or academically. Whether seen or hidden, dominating or subdued, 'horizons' are the reference point of 'landscape'. 'Horizons' can be literal but they are also metaphors for a present condition linked to a future prospect; for example, 'no apparent horizon, no prospect for hope' or 'I can't see ahead, my horizon is cluttered'.

NOTE

To purchase *Horizon 101* contact nadine@daronboz.com.

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