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## **Docile Bodies of Water : Artificial Wetlands and Imagineered Suburbs**

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*Edith Cowan University*

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**Docile bodies of water: artificial wetlands and imagineered suburbs.**

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31<sup>st</sup> October, 2001

## USE OF THESIS

The Use of Thesis statement is not included in this version of the thesis.

## **Abstract**

Artificial wetlands are becoming an ever more visible feature of the landscape of Perth and the Swan Coastal Plain. They are appearing in the centre of new suburbs and also in the remediation of stormwater systems. Crucially wetlands have been a denigrated and abused part of the landscape. Imported landscape aesthetics have seen the function of wetlands as being an impediment to progress and the development of land.

For indigenous Aboriginal peoples of the land, Nyoongar peoples, wetlandspaces (Giblett, 1996a) are crucial to their inclusive understanding of 'country'. Intertwined with notions of spirituality, stewardship, and food source among others. With Mabo and Wik Native Title claims offering the possibility of multiple titles, 'country' can offer an holistic approach to an understanding of landscape management.

Intrinsic to the creation of wetlandspaces are twin notions of surveillance and simulation. By noting the surveillant technologies of observation and disciplinarity (Foucault, 1977), wetlandspaces are increasingly becoming surveilled spaces, removing the opportunity for vagrancy (Wood, 2001). This then is transferred onto residents who observe and are observed these spaces in suburbs.

Simulation offers the opportunity to fashion an approximation of wetland biomes and ecosystems. Rather than witness the creation of wetlandspaces that respond to and are moulded by climate and locality, simulated wetlandspaces/natural spaces are

actively mobilised in the re-creation of English villagibility. Rather than celebrate pre-contact landscape/country, artificial wetlands privilege the work of profit seeking capital as evidenced by the land development industry and government planning departments.

The surveillance of otherness and simulation of hyperreality, as evidenced in the placement and function of water features within enclave estates, and on the edges of industrial land, create synergies of denial, fear and indifference, by refusing to acknowledge the challenging notion of Aboriginal country.

I certify that this thesis does not, to the best of my knowledge and belief:

- i. incorporate without acknowledgment any material previously submitted for a degree or diploma in any institution of higher education;
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Signed:

  
Steven Philip McKiernan

## **Dedication**

This project would not have been completed without the love and encouragement I get from Sandy and Caitlin. Having to share my fascination with all things water: ponds, lakes, swamps, rivers, real, artificial and hyperreal for more than twelve months, they have tolerated my focus without complaint. Time to give back.

Thankyou to my family and friends for listening, beer, asking and caring and beer.



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**Table of Contents**

Introduction	1
One - Country	12
Two - Wetlands	19
Three - Simulating Wetlands	32
Queens Park Ecological Area	33
Ellenbrook: The Bridges Subdivision	40
Four - Surveilling Docile Water in Ellenbrook and Queens Park	50
Five - Water Sensitive Liveable Neighbourhoods	61
Conclusion	74
References	79

## **Docile bodies of water: artificial wetlands and imagineered suburbs.**

### **Introduction**

New residential estates are being built all around Perth. Hectare after hectare of land is cleared for the provision of services for new suburbs, new homes being built, new roads, new gardens, new trees, providing homes, constructing new communities that aim to provide authentic neighbourhoods, authentic quality interpersonal relations, emphasising the landscape of Perth as a perfect spot to raise families, a closeness to Nature that stresses conscious modes of being in the landscape and sustainable uses of precious resources.

Increasingly these residential estates are placed adjacent to constructed and natural water features: lakes, swamps, creek and river corridors, canals, fringing estuaries, and fronting the beach, or a golf course offering the residential dream of the commanding water view. I want to find out why this phenomenon is occurring. It seems paradoxical to my thinking that Perth as a city has been sited in a landscape of wetlands, both permanent and intermittent, yet past land uses have treated swamps and wetlands as dumping grounds, sewers, draining and filling them for more productive uses. Dismay with past landuse policies coupled with emerging popular environmental awareness and conservation campaigns have seen a dramatic reappraisal of wetlandspaces reflected in changing policies of development of land and drainage by local and state governments. Through environmental awareness and education campaigns, through rehabilitation

programmes on degraded sites, and through protection and conservation of wetland spaces, indigenous wetlands are regarded as intrinsic to the sense of place of the Swan Coastal Plain.

It could be seen that the construction of artificial wetlands in processes of urbanisation is a genuine attempt to replace lost sites of indigenous landscape and incorporating them into more environmentally conscious modes of residential living. Where artificial wetlands are envisaged, they are generally welcomed with the concern for habitat for wildlife, and water quality (Jennings, 1996, p. 160; Godfrey, Jennings, Nichols, 1992; Stormwater Industry Association, 2001). Yet detrimentally, indigenous voices are absent from the construction of these spaces. Urbanisation has changed and is continuing to change the indigenous wetlandscape through interruptions to the hydrologic cycle and the subsequent constraining of aberrant water and builds copies of natural wetlands as replacements.

Rewriting and re-reading of landscape is an ongoing process that reflects and forms a site of competition between disparate and divergent forces (Cosgrove and Daniels, 1988). 'Landscape is an entity that exists by virtue of its being perceived, experienced, and contextualised by people' (Knapp and Ashmore, 1999, p. 1), expressed in terms of memory, identity, social order and transformation. Landscape complements the spatialities of Henri Lefebvre; the perceived, conceived and lived spaces of daily life (see Wood, 2001). I vividly recall visiting wetlands in the depths of suburbia that were valued only as sites for waste dumping, rather than being experienced as sites of rich

biodiversity and ecology and the continent's senior culture learning and culture. In

Giblett's words:

Humans construct nature through words, images, attitudes, norms, values and practices (one of the most powerful of which in western European cultures and its colonial diasporas is landscape (Giblett, forthcoming, p. 11).

Landscape as a category is an amalgam of subjective response and objective aesthetics, memory, forgetting, analysis and mysticism:

Beyond habitus...people actively order, transform, identify with and memorialize landscape by dwelling within it. The environment itself manifests itself as landscape only when people create and experience space as a complex of places. People's sense of place, and their engagement with the world around them, are invariably dependent on their own social, cultural, and historical situations (Knapp and Ashmore, 1999, pp 20 - 21).

Following fashion, landscape aesthetics is actively reimagined through the practices and theories of Landscape Architecture, which feeds into urban design theories seeking depth of emotional and rational responses to particular mental and physical constructions of the land, the arrangement of form and function as identifiable and qualitatively definable elements of the land. Swamps and wetlands are only picturesque when artificialised:

the canalised, tamed and straitened river such as in the paintings of Constable, or the ponds of 'entry statements' to housing developments (Giblett, 1996a, p. 9).

Unable to be accounted as aesthetically beautiful, sublime or picturesque, wetlands are

valuable only when ascribed a functional value. Otherwise the predominant discourse is of unhealthy and useless space.

This denigrating view remains substantially predominant. A sizeable text for landscape architects and planners that states, 'with some exceptions (eg swamps) a healthy biogenic environment usually results in a healthy human environment' (Lang, 1994, p. 347). This throwaway line continues the denigration of swamps and wetlands as unhealthy, dangerous and uncongenial to human habitation. Wetlands are usually described as uncanny places of slime and horror (Giblett, 1996a). They are characterised as harbouring diseases, the 'bad air' of malaria, a haven for pests and disease. Yet wetlands provide unique biomes and habitat, existing as ecological niches for specific animals, plants, microfauna and flora, that have themselves evolved and adapted to their requirements (Brock and Casanova, 2000; Water and Rivers Commission 1998, McComb and Lake, 1990; Jay, 1999), whilst simultaneously being important in the conception of land, and individual and collective consciousness, in indigenous Aboriginal knowledge (Mudrooroo, 1995; Giblett, 1996a & 1996b; Alderson and Nadji, 1997; Whitehead, Storrs, McKaige, Kennet and Douglas, 1998).

This binary of indigenous spirituality and locus of colonialist horror is not coincidental. Though wetlandspaces were important for early pastoralists and graziers as sites of fresh water during summer, they were/are important cosmological and social sites of Aboriginal custodianship and habitation (Bekle and Gentilli, 1993; O'Connor, Quartermaine and Bodney, 1989; Strang, 1997; Tacey, 1989; Webb, 1996, Taçon, 1999).

Embodying evil and as sites of disease and Aboriginal otherness, the wetlands of Perth did/do not conform to European landscape aesthetics, psychologically justifying their removal and denigration, both from the physical landscape, but also from liminal imagining (Giblett, 1996b, p. 128).

Crucially the imaginary of the Waughal, as creator serpent within local Nyoongah spirituality, is always present/implicated with water, not only through the creation of watercourses and the land, but with the immanent power of water, both standing and running water - water as source of life and potential purveyor of death. This power manifests in land through resistance and persistence (Keefe, 1992) of Aboriginal culture, not as a static idea for rationalist dissection, but as ongoing and uncanny applications of an active culture. Past discourses of aboriginality stress the embarrassment of prior occupation. Aboriginality has not and will not die away, despite social Darwinist and eugenicist dilution of strains theories, massacres and murder. Wanting to avoid what I perceive to be a trap of coding aboriginality solely with Nature, which evokes the lie of the Noble Savage, I seek a mobilisation within urbanisation of aboriginality that can politicise a land aesthetic/ethic, not in terms of the solely visible and scopic but embracing ecological tactics that focus on a whole range of pleasures and opportunities.

Urban ecological sensibilities are being evidenced at crucial nodes of negotiation: through discourses of nature and the necessarily fabricated interface with culture, through the agency and discourse of the planner, the urban designer, government, water supply and drainage services, discourses of conservationists and ecologists, the

imagination industries of media and through the creation of discourses of community. Advertising of new residential estates invokes ideas of nature and traditional community values, often side by side, affirming and reaffirming certain arguments on the worth of the urban design, and the engineered and imagineered construction of nature that permits urbanisation to continue apace. A unifying principle is vital to the creation of 'imagined communities' (Anderson, 1983), rather than a nation as Anderson posits, but the creation of suburban communities where nature moves to the demand of urban designers creating synergies when mobilised in such a way. Where such co-locations of negotiable ideas are present they are posited within a limited range of choices. The political demand is for the range of options to be widened, to reject the constraint of current mobilisations of nature and community as manifested in imported community construction and seek an inclusive, not insular, planning process that emphasises the local ecology, history and culture.

The creation and/or rehabilitation of wetlandspaces in Perth is being driven by negotiating voices that seek to integrate processes of suburbia with the creation of neo-natural spaces. Whilst this may seem self-evident and has always occurred, I seek to examine the range of means in which these processes occur, and particularly how these processes are pre-figured, imagined, engineered, imagineered, and then sold and justified to a consuming public. My particular query relates to the form and function of created wetlandspaces, created through design, neglect, or rehabilitation, and currently subject to economic rationalist discourses that seek to remove ecologically sustainable landuse



practices as the responsibility of the property developer<sup>1</sup>.

I ultimately seek to examine the particular forms and functions of wetlandspace creation in the Perth region, and attempt to show that current practices and policies are actively involved in processes of naturalisation that deny original pre-existing indigenous wetlandspaces, and Aboriginal social and spiritual conceptions of land, and in so doing affirming colonialist and racist notions of terra nullius. Perth has dominated water as a resource since European settlement when first settlements were on watercourses and swamps. Indeed the State's ethos of control over water to facilitate development is showcased through the construction of Mundaring Weir and the Goldfields Pipeline before 1903. Holding back a wall of water and then pumping it uphill for 550 kilometres for the burgeoning gold industry in Kalgoorlie demonstrates the desire to subdue/ignore nature to mine the precious commodity. That this pipeline also facilitated the clearing of non-productive land of deep-rooted flora for agriculture, (reforming idle land for idle hands) that now struggles with a rising and ever spreading saline water table, shows up the folly of a static perspective of controlling water that flows across channels of control, emerging uncannily from the depths with a poisonous and destructive burden.

In place of indigeneity and connection with local spaces, we are offered suburbs that construct Arcadian parks and open spaces that borrow heavily from alien, imported European landscape aesthetics. This alienates the consumer from ecological locality.

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<sup>1</sup> Urban Design Institute of Australia (WA) President, Dr Russell Perry has called for a broad based Green Tax that will pass the costs of development from the new home buyer to all taxpayers ("Green Tax", 2001).

substituting imagineered locality and community that is nowhere and notime, offering portability of design, yet paradoxically a feeling of permanence. Why such permanence should form such a fundamental part of the promotion of such communities is a tribute to the imagineering capacities of the urban development industry who, while offering new permanent communities on the rural urban fringe, are busily re-imagining and re-shaping inner suburban post-industrial blight with cosmopolitan imports. Change affects all aspects of lived experience, employment, entertainment, family, community, and environment are all ideas that dramatically exhibit the ever-shifting ground of modernity.

Yet in response, a manufactured stability of glorified perfection is moulded and offered as an alternative to the fluidity of perpetual motion of everyday life. As Frantz Fanon states, a sincere postcolonial aesthetic is fluid (Fanon, 1967, p. 182).

The creation of imagineered communities such as Ellenbrook, with nostalgia towards a past that has never occurred, is given greater amplification when viewed through the lens of simulacra offered by Jean Baudrillard and the hyperreality of Umberto Eco. The simulation of nature and of community is amplified when the disciplinary technology of surveillance that aims to restrict the vagrant propensities of otherness to reappear in unimagined manifestations and space/times (Wood, 2001).

This is further shown through the increased mobilisation of deliberately created wetlandspaces that have the sole aim to filter the wastes and economic externalities of modern industrial production and consumption by harnessing wetland function. In doing

so, not only are natural processes of wetlands being conscripted to the removal and camouflaging of pollution, but the idea of nature itself is pressganged to the demands of industry. By filtering and hiding, locking away, capturing and containing pollution in the slime of a swamp, natural processes are called upon to naturalise the creation of pollution. If pollution can be quickly, silently and invisibly detained, then pollution will continue to be treated as an externality to the balance sheet of modernity, an entirely natural byproduct of normal life.

I wish to engage in two case studies: one an artificial wetland, a fake lake at the centre of an award winning residential subdivision; the other a remediation of a stormwater trench transformed into an expansive detention basin. Particularly relevant here is Foucault's notion of docile bodies, particularly the spatialities of dispersion and control, a strategy and manifestation of power. Whereas Foucault's notion of biopower is invoked when representing the human body and space, and later transferred to the 'biopolitics of populations' (Donnelly, 1992; Hillier, 1994), I intend to extrapolate this concept from the human body as subject, to bodies of water as object, using representations of docile/sedate water reflecting docile/sedate community. This is represented through the wielding of power that necessarily invokes channels and flows of discourse and power, mirroring the colonialist project of subjecting the 'other'. The alien landscape defies description and therefore demands alteration. The indigenous peoples refuse to comply with the new power and are pushed away from their culture.

The process of decolonisation of spaces like wetlands and the human body, will be part

of the generalised ecology which Felix Guattari envisages:

ecology should abandon its connotative link with images of a small minority of nature lovers or accredited experts: for the ecology I propose here questions the whole of subjectivity and capitalist power formations (Guattari cited in Giblett, 1996a, p. 76).

Giblett goes on to demand a meticulous questioning of the subject's interpellation as body with space and wetlandspace, with 'relation to the history of colonial expropriation and imperial exploitation of indigenes and their land, including wetlands' (Giblett, 1996a, p. 76).

Ecology is a highly formalised natural science, which acts at an advisory level and is highly influential towards local and global political, economic and social policy making (Peace, 1997, p. 530). Rather than creating an Australian landscape aesthetic that celebrates the particular suite of biota, hydrology and spirituality inherent in the Perth Swan Coastal Plain, current planning imperatives seek the domination and mastery of the landscape in an imported European landscape aesthetic that is unsustainable, both semantically and ecologically. By past drainage of land for production, and subsequent creation of more efficient designed and placed swamps, the current practices of urbanisation offer little more than deterrence, concessional and grudging offerings towards ecological (which must come first) and economic sustainability. Sustainable modes of production and consumption and the continuing sustainability of the biosphere are a priority.

I argue for urban planning procedures that do not rely on the creation of imported, simulated and imagineered nostalgic landscape and community that deny past landscape uses, but rather critically engages with all past uses and imaginations and offer ecologically sensitive options for urban design. Urban designs that accept climate and the biosphere as opportunities for a greater conscious interaction that is sustainable within the biosphere, rather than have these terms seen as threat and potentially hazardous, as much advertising and media show so compellingly. The challenge of hyperreality to avoid overengineering, surveillance and preimagining uses, outmanoeuvring vagrant potential (Kerkin, 2000, p. 36).

Instead of turning suburbs in on themselves through enclavisation and the creation of bunker zones of sanctuary and denial, camouflaging biospheric processes and viewing them as somehow external to everyday being, creating hyperreal Disneyesque suburbs that emerge from SimCity templates and act as catchments for consumption, country conscious wetlandspace planning allows climatic and biospheric processes to be foregrounded, integrated and visible and seen as reinforcing the collective impact such planning procedures have on the biosphere and community. I call for a celebration of the local biosphere and the senior human culture that embraced and lived sustainably within its confines, rather than a denial through the active simulation of community through commodification.

## One

### Country

In this land there's a race that time forgot,  
And for the land - in this time the race was shot,  
Under-estimation, no conciliation.  
Got to be blatant, speaking to the nation!!  
Neva mend (NoKTuRNL/Whit/Kram)  
NoKTuRNL, (2000)

Land is crucial to any discussion of urbanisation in purportedly postcolonial Australia. Any discussion must acknowledge Aboriginal pre-contact occupation, stewardship, custodianship of country. In doing so we must also acknowledge ownership and sovereignty that was overwritten through the lie of terra nullius, and the imperialist agenda of denial of invasion, valorising conquest over Nature and massacre of people, the deliberate forgetting of forced removal of Aboriginal peoples from their peoples and land, the 'legacy of unutterable shame' (High Court Justices Deane and Gaudron cited in Reynolds, 2000, p. 4) that all Australians have as their heritage. For Edward Said (1993, p. 271) imperialism is 'an act of geographical violence through which virtually every space in the world is explored, charted and finally brought under control'. In Australia, that has applied itself most clearly to the land and to the land's custodians.

I do not consider this to be a black-archband view of history, but an opportunity to enable the spatial practice and application of urban planning to be reconciled to a conception of

land that is holistic and inclusive. Indeed the idea of multiple title in Instone's view :

gives promise to visions of reconciliation between black and white Australians...recognizes rather than refutes Aboriginal connection to the land, and suggests pathways toward postcolonial 'landscapes of reconciliation'. But for co-existence to become reality the practices of division and possession that create a landscape of exclusion must be replaced by new practices that emphasize connection and interaction (Instone, 1999, pp. 371 - 372).

This project necessarily will seek to confront apparently irredeemable aspects in both cultures, but I stress the opportunities for exchange and propagation between two cultures, that we may benefit from jointly held, respected and conciliated knowledge.

Marking as 'Other' and 'outside' is a device of colonial hegemony. Far from seeking to continue this ongoing process of manageability through indulging tokens towards Aboriginal culture, embracing hybridity of space, of culture and land and landscape as a vital first step towards a deliberate politics of reintegration and intervention of aboriginality into urban planning and design debates, particularly I seek an increased application of the sheer sophistication of the term 'Country'<sup>2</sup>, within urban planning for Western Australia, perhaps for the provocative dialectic such a stance would advance. I

also want to avoid adopting a colonialist speaking 'for' aboriginality, which would continue a form of cultural domination, but to speak about, to:

tell the story of Aboriginal repression over and over because it must indeed be the case that the repressive forces operating in our society are

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<sup>2</sup>See also a similar encapsulating definition as Aldo Leopold's 'land', used by Jody Berland (1994) which embraces soil, water, gases, plants, animals and humans. (Berland, 1994, p. 1).

very well entrenched and a lot of work will have to be done to overthrow them (Muecke, 1992, p. 123).

With the High Court Mabo decision, and subsequent Wik decision, came the implication that 'all lands, including urban lands, were once legitimately native lands and potentially open to claim' (Jacobs, 1996, p. 112). Now much of the geographical area of Perth is subject to claim for declaration of Native Title under the Native Title Act. Aboriginality is frequently seen to be a rural or desert placed phenomenon, anything but urban. The revisibility of aboriginality in the urban context, as Jacobs states is deeply disturbing for a settler society:

not simply from the possible reterritorialisation of urban space by Aborigines, but also from the unpredictable and often unknowable sacredness such claims bring with them (Jacobs, 1996, p.112).

The dispute over the Swan Brewery site on the Swan River, covered in depth by Jacobs (1996), highlights the extent to which debate and protest over reterritorialisation of space where Aboriginal peoples are ever marginalised to the fringes of the city and suburbs:

An uncanny return of this displaced otherness....no longer emphatically placed 'outside' of the city and non-Aboriginal interests anxiously sought to ensure that it came 'inside' in manageable and marketable forms (Jacobs, 1996, p. 130).

Yet this can also be viewed as a positive, envisaged by Stephen Muecke as:



a subtle diffusion of Aboriginality through the social spaces of the metropolis rather than the ghettoisation of Aboriginal cultures in the places we know, have always known, where to find them: the fringe camps or the museums (Muecke, 1992, p. 176).

Rather than view Aboriginality (in all its disparate and contradictory manifestations) as muted and repressed, we can consider almost any form of revisibility as an opportunity for greater understanding and conciliation. Yet the mobilisation and revisibility of indigenous otherness was characterised where the majority:

the state and its law abiding citizens were under attack by a minority which existed outside the boundaries of good behaviour (Mudrooroo, 1994, pp. 262 - 263).

However such an attitude would need to reconcile and combat racism and extractive and exploitative commodification and the temptation to resort to tokenism.

The Waughal, so acutely implicated within Nyoongah understandings of land and identity, has uncannily re-emerged from the repressed depths and come bubbling to the surface as a significant feature of the politicisation of land and of the landscape. Hugh Webb's discussion of country states:

the Aboriginal cultural system conjoins what European terminology would define as 'presence', 'location', 'ontology', 'history', 'taboo', 'language', 'sexuality', 'mythology', and 'botany': all centred on place, that is on Country (Webb, 1996, p. 66).

The Waughal acts as a focus of Aboriginal claims for sacredness, deeply associated with

water, land and the associated blurring where these two spaces conjoin, wetlands: 'The Waughal ... is the vital force of running water' (O'Connor, Quartermaine and Bodney, 1989, p. 47). The presence of water indicates the encyclical nature of a conceptual Aboriginal country. Understood by familial and cultural practices, everyday activities of space and time, never homogenous but lived space as the Foucauldian heterogeneous space of diversity: 'a space of height, of peaks, or on the contrary, of the depths of mud; space that flows, like spring water, or fixed space, like stone or crystal' (Foucault, 1997, p. 351).

For Roland Barthes, the city is the particular 'place of our meeting with the other' (Barthes, 1981, p. 96). Urban development must confront and deflect otherness through hegemonic control of politics and debate. As such, by actively and self-consciously adopting an anti-colonial position, I seek not a containment of aboriginality. A position that moves and defies containment, 'nothing more than a strategic logocentre' (Muecke, 1992, p.203), but an increased awareness of binaries that dominate the promotion of urban planning and forced restriction of the other. The mixing of cultures, a vigorous hybridity, is magnified through the dynamism of urban living, struggling with a binary of country/city, nature/culture, periphery/centre, black/white, stagnation/progress, savagery/civilisation narrows the space of articulations of Aboriginal 'country' and colonialist responses.

Any urban planning design looks for signs of authenticity to anchor their particular project, provide a theme for the neighbourhood. Later I will discuss the efforts the

design contractors have applied to parts of Ellenbrook. Consciously interpreting the Mediterranean European settler influence in the Upper Swan Valley, the architectural theme has placed reminiscent Tuscan structures in villages around artificial lakes. If it is valid to interpret a settler culture of 172 years, then surely any attempt to create authentic neighbourhood designs must recognise Aboriginal prior occupation, subsequent dispossession and marginalisation, within and of the Swan Valley, going back before 40,000 years ago (Pearce and Barbetti, 1981).

Family groups...centred on the rich alluvial soils along the Swan...[were] forced to frequent more the margins of their terrain when the fertile core had been taken over by Europeans (Hallam, 1998, p. 102).

Deprived of traditional hunting and foraging grounds, many Aboriginal people were forced to seek food handouts from the settlers, or risk theft of stock, interpreted as sharing a resource within Aboriginal law/lore. Thus set in train a cycle of conflict and racist denigration that for some is slowly healing.

One of the difficulties with this project is reconciling a respect for the sacredness of Aboriginal country, with a predominantly profit driven mechanism of urban design and property development. Jody Berland's conjectures: '[will] the imaginary inhabiting of an idealized moderate or idealized landscape ... make us more or less able to respond intelligently to the challenges of global warming' (Berland, 1994, p. 6). Yet this appears the intent of the New Urbanist designers seeking to engineer some 'sense of place' (Seddon, 1997) and community within these edge suburbs. The mobilisation of a

sustainability ethic that uses desacralised wetlands is one more step in the denial of aboriginality that ought be highlighted and alternatives offered.

## Two

### Wetlands

Two children in the harbour  
they play their game storm water drain  
Write their contract in the sand  
it'll be grey for life.'  
Burnie (Moginie, Garrett)  
Midnight Oil 1981

Born in England in 1968, I came to Perth aged 18 months when my parents emigrated as 'Ten Pound tourists' as part of the Skills Migration Programme. Growing up in the southern Perth suburb of Coolbellup I had the great fortune to live in a suburb surrounded by bush, pine plantation and, over a ridge to the east, North and Bibra Lakes. Coolbellup was built in the Fifties and Sixties as a State Housing Commission suburb. Formulaic and utilitarian single storey 3 bedroom, one bathroom houses and duplexes were built on large blocks, intermingled with two and three storey high density flats. Some houses were available for rent through the Commission, others for sale, some in private ownership. Predominantly the suburb was working class, with a proportion of retirees and welfare recipients. There was a significant Aboriginal population, being over-represented as clients of both Social Security and State Housing, and so placed where there were housing vacancies in Coolbellup

There were no shortage of activities for an overenergetic growing boy. At the bottom of our street was a stormwater sump, protected by cyclone fencing, that grew a phenomenal

number of lupins and pigmelons. Digging under the fence was easy in the sandy soil. Hidden among the marri and banksia trees, we smashed as many melons as we could find, making rudimentary horrific lanterns to leave on the fence as totemic warnings of juvenile irreverence. After seasonal showers of rain, the sump would fill with foamy runoff from the road, drowning the shopping trolleys that lemminglike found their way here, slowly rusting away with the beer cans and cigarette butts. At night it was always forbidden to be here: parents would storm down the road and drag us back by the ear. It was the Seventies, stranger danger hadn't been pummelled into my thick skull, whatever snakes there were soon took off when they heard us coming. Couldn't swim a jot, but for some quiet moments away from family, sitting in a stormwater sump listening to frogs calling for mates, in a tunnel carved through the lupins, the darkness would enfold and the stars would gradually appear before the street light came on, with the swishing of cars in the distance like waves on a beach.

Other times would find us teasing horses near the lakes. Once a friend found a piece of tin which he fashioned into a canoe, complete with rust and nail holes. I refused to get into it. Bibra Lake was where we went for Sunday barbies, fed bread to the ducks and black swans, played cricket, chased each other through a pile of limestone rocks that had been cemented together. To the south of the playground, Bibra Lake was also the council rubbish dump. Plastic bags of household grunge hung from the straggly arms of the remnant paperbarks, broken bikes, glass, oil, engines. Prunings would be piled up in huge mounds of loss of utility for dozers to come along and rub this mess into the face of the swamp on the lake margin. Aside from the redolent stink, I never questioned this

practice. Later the dump was turned into a golf pitch and putt course (disempowered nature) and waste was transferred to a hygienic baling station in Cockburn. Ducks and swans could calmly wander the sward, dodging (or not) erratic golf balls, eating the bugs that ate the grass, which was fed by artificial fertilizers, that washed off into the lake, creating the ideal conditions for algae and mosquitoes and midges, which would later be sprayed with DDT. Once the lake had been changed, intervention became the norm, and as Alexander Wilson stated, ensuring a repetitive cycle of observation and adjustment:

Restoring landscape is not about preserving lands - 'saving what's left, as it is so often put. Restoration recognizes that once lands have been 'disturbed' - worked on, lived on, meddled with, developed - they require human intervention and care (Wilson, 1994, p 17).

Swamps have been used like this all over Perth. Few have not been filled in, drained, used as market gardens, turned into football fields, used as rubbish dumps or sewers. Alternately, when these practices could no longer be countenanced, they were turned into formal steep-sided lakes and integrated into the formal civil engineered stormwater management system and reproduced as parkland, Hyde Park, Dog Swamp and numerous other open recreation spaces. Activists have fought for the retention of wetlandspaces, saving them from the developers' bulldozers and drains. Some have been saved and integrated into regional parkland coded as habitat for bird and other wildlife and as indicative and representative landform sites as part of Bush Forever (Western Australian Planning Commission, 2000b). The stormwater detention sumps and drains, forlornly sited behind cyclone and barbed wire fencing returned to wildness through the absence of intervention. Inevitably the Water Corporation's maintenance crews would appear

with mowers, chainsaws, herbicides and rigorously reimpose control of the site. These spaces were and still are subject to observation, control and monitoring of water and drainage spaces, its level and quality, and through active and ongoing intervention, discipline the delinquent body towards docility.

Perth has a shameful record for wetland management and preservation. The exact amount of loss is difficult to determine. Seasonal damplands do not lend themselves to the requirement for the precision of cartographers, urban planners, road engineers or landscape architects. Bekle and Gentili (1993, p. 457) discuss in their history of the Perth lakes that 99% of lakes/swamps in the central Perth region have disappeared, whilst throughout the Swan Coastal Plain that figure was estimated to be 75%. Giblett (1996b, pp. 135- 136) questions and criticises their calculations as being based on inadequate and fallacious information, and concludes that rather than seek some assessment of loss from an arbitrary baseline, it is more pertinent to note there have been massive losses and the pace of continuing loss of wetlands is accelerating with the expanding urban perimeter. Swamp margins will always change over time and space according to climate and local hydrology. Exact borders are ever changing, precision is fleeting, and this imprecision is presented as alien, confounding the efforts of cartographers and their need for definitive borders. Nevertheless recent attempts at wetland mapping have been catalogued in order to establish baseline levels (Hill, Semeniuk and Del Marco, 1996a, 1996b, 1996c).

In February 2000, the Swan River was closed to recreational use due to an algal bloom.



Unseasonal rain had flushed fresh water and nutrients into the normally estuarine river during summer, providing the ideal conditions for the growth of *Microcystis aeruginosa*, an blue-green algae toxic to humans if ingested. The Swan River was closed at picnic spots, yacht clubs, rowing clubs, restaurants and jetties along its length ([www.wrc.wa.gov.au/public/-2.11.2000.html](http://www.wrc.wa.gov.au/public/-2.11.2000.html)). Commercial and recreational fishing was banned. The Swan River Trust and Local Government Municipalities patrolled the river and erected signs warning users. Clearly the catchment of the Swan and Canning Rivers was not in good shape for this to occur. After a two week closure, bans on swimming and boating, and numerous high cost, symptomatic interventions, the river was again opened with the warning from the State Ministers for Water Resources and Health:

I also hope people are hearing the strong message the river is sending us - that it needs the help and protection of all of us - no matter where we live in the catchment....The real answer is - and always has been - to stop nutrients entering waterways in the first place ([www.wrc.wa.gov.au/public/02.22.2000.html](http://www.wrc.wa.gov.au/public/02.22.2000.html)).

Here the river is given a voice, anthropomorphised and shown needing human intervention and nurture to prevent disease. Yet such an event was expected to occur. Nutrient enrichment from summer urban runoff coupled with warmer temperatures and longer photoperiods has been identified to have the potential to cause an algal bloom in receiving waters (Evangelisti, Wong and Tingay, 1997, p. 3). Perhaps because the centrepiece of the city had been shutdown, or a beach on the river in the affluent western suburb of Nedlands<sup>3</sup> was shutdown., the demand for repair and remediation focussed

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<sup>3</sup> The State electorate seat of Nedlands was held at the time by Liberal Premier the Hon. Richard Court. Matilda Bay Beach close to Royal Perth Yacht Club received a substantial amount of clay spray treatment

greater public attention to government urban planning and environmental management practices.

Discourses of control have to be self-fulfilling. The message goes thus: we have been monitoring the river, the river is sick, we need to keep monitoring to ensure we can respond effectively. It is a way of looking after country, with layers and hierarchies of bureaucracy interleaving people with land. We also need to keep intervening to maintain the health of the river, whether that be by injecting oxygen into the river, thereby intravenously inoculating the water, or spreading flocculating clays across the surface of swimming beaches so as to trap algae and encapsulate it in the silt on the bottom of the river. As with Foucault's notion of spatiality, the need to create spaces of observation is extended up the channels of water flow, into the second and first order streams; many of which have been altered, flora disturbed or removed and converted to steep drainage channels; and into the interstitial spaces, the surface flow of the catchment and population.

The realisation that the city was not sitting gently on the environment, and (ab)uses of the Swan Coastal Plain were not proceeding on a sustainable basis, focussed attention towards tactics and strategies of planning and urban development, and the political, economic and social vectors and assumptions behind such strategies. Increasingly the function of the existing sewerage and drainage system has been highlighted as a major contributor to the accumulation of pollutants within the Swan-Canning catchment.

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to hide the algae.

Expensive suburban sewage infill programs have commenced replacing polluting septic tank systems, whilst excessive and inappropriate fertilising of suburban gardens is dissuaded through utility advertising. The combination of increased runoff from the extensive road network, and drainage systems that quickly transfer stormwater with its gravid burden of nitrogen and phosphorus into river courses, focuses attention on wetlands as crucial nodal points in the remediation of pollutants and the provision of spaces for habitat. Mediating between land and water, and being neither, constructed wetlandscape simulates pre-colonialist wetlandscape, deliberately without contemporary indigenous agency, subordinated to the demands for the removal of the waste products of modernity.

State Government agencies and Local Government that have been empowered to address this problem are now endorsing the use of constructed and natural wetlands as public open space and stormwater mediation in suburban and industrial areas. Constructed wetland techniques emphasise the use of materials and processes that are designated natural, mobilised to the cause of pollution remediation. Such strategies privilege discourses of reductionist science (*logos*) over indigenous knowledges (*mythos*), enamoured of models and computer simulations, which preimagine potential flows. Changes in the management of drainage corridors to re-emphasise natural processes are promoted as proactive supervision, reducing the need for repetitive, short acting symptomatic treatment. Constructed wetlands are defined as:

purpose built structures, utilising the predominantly natural materials of soil, water and biota, which perform the desired physical, chemical and biological processes and functions of natural wetlands to achieve desired

objectives (Department of Land and Water Conservation, 1998, p. 16).

Reflecting water itself, the very form and function of constructed wetlands is fluid in definition. Much is left to the imagination as to utility, application and outcome. Conscious of this ephemerality, the authors caution on a 'magic bullet' philosophy. However the 'Constructed Wetlands Manual' (DLWC, 1998) and 'A Manual for Managing Urban Stormwater Quality in Western Australia' (Water and Rivers Commission, 1998) stress the many water controlling elements that can be designed into various structures, intimating that design flexibility is a clear advantage with these landscape elements. However their efficacy may be compromised due to constraints of available area or a shallow groundwater table.

It seems paradoxical that a city sited on a topography of intermittent wetlands, with a history of draining and filling them, is now increasingly adopting the strategy of constructing artificial wetlands as an engineering option to soften and filter detrimental human impact on the environment. The spatializations of emplacement, and the mobilisations of political and hegemonic assumptions, hide as much as reveal through normalisation tactics. It might mean that Perth as a city is becoming more conscious of the custodial nature of human habitation in the biosphere. If so, one would expect to see such reflexivity manifesting in all modes of culture. Yet ubiquitously attempts to emphasise the ecologically unsustainable impacts of urban planning, industry, or transport are quickly condemned and marginalised through manoeuvres in political processes as hindering the competitiveness of individual enterprise. Indeed current

discourses of industrial science stress the role/view of ecology as:

a powerful technique of social engineering...[which could]...regulate and control the flows of pollutants and other human interventions through large scale ecosystems (Jamison cited in Rutherford, 1994, p.45).

Large scale ecosystems can be extrapolated to include the entire biosphere. For example, Federal Government policy endorses tree planting regimes sold to coal companies and electricity suppliers as carbon sinks. What follows is the logical and natural conclusion that the environment / nature / the biosphere is a resource for exploitation and profit first and foremost; it is also the means by which wastes are disposed. Indeed by first identifying it as a repository for the wastes, the abstraction of water can continue apace.

Landscape as a category, mediates self conception and self presentation, a representation of how we wish to appear in social and economic status and hierarchy by demonstrating our mastery, control and knowledge of the landscape and its components. Raymond Williams states that:

The 'modern' world, both in its suffering and, crucially, in its protest against suffering, is mediated by reference to a lost condition imagined out of landscape and a selective observation and memory (Williams, 1973, p. 180).

The type of wetlands being used to accommodate stormwater runoff conforms to certain engineering function design criteria first and foremost to prevent property loss or damage

due to flood. Nostalgically, aesthetic criteria, sight, smell, acceptable human use (which as a social construct changes over time and space) usually conform to a British gentleman's park standard of a designed randomness. Invariably sweeping lawns fringe the water body, 'the European parklandscape aesthetic is largely reduced and confined to the picturesque...recreated wherever possible by the European settler diaspora (Giblett, forthcoming, p.128). Created by the enclosure of commons, reflecting the vectors of bourgeois power, such landscape made

Nature move to an arranged design...[that of]...production, where tenants and labourers will work, while in the other case it is being organised for consumption - the view (Williams, 1973, p. 124).

By rewriting the land to offer for sale and constructing 'traditional' neighbourhoods and communities, artificial wetlands/ fake lakes deny their own construction but refuse to acknowledge the productive work of consumption. Neither do fake lakes/artificial wetlands carry with them annoying nuisances of Aboriginal protestations of Native Title or claims of sacred site. Success or failure depends on fulfilling functional expectations imagined in design, construction and maintenance. Once the pre-contact land / landscape has been removed by the bulldozers blade and the tree clearers' chains, the land is *tabula rasa* for rewriting, space itself is rewritten:

If advantage or profit is to be found in it, then the old is swept away. Later, however, perhaps towards the end of the period of accelerated growth, these same countries are liable to discover how such spaces may be pressed into the service of cultural consumption, of 'culture itself' and on the tourism and leisure industries with their almost limitless prospects. When this happens, anything that they had merrily demolished during the

belle époque is reconstituted at great expense. Where destruction has not been complete, 'renovation' becomes the order of the day, or imitation, or replication or neo-this or neo-that. In any case, what had been annihilated in the earlier frenzy of growth now becomes an object of adoration. And former objects of utility now pass for rare and precious works of art (Lefebvre, 1997, p. 143).

Current and proposed urban development mobilises constructed wetlands to blur and obfuscate the obvious impacts of modernity, by filtering and transforming wastes and pollution through a (re)constructed and rehabilitated nature as an imaginary recycling centre, further valorising the modernising project, especially 'the desire for a water view, that stock-in-trade of the suburban ideal especially in Australia' (Giblett, forthcoming, p. 143). 'Real' nature has been changed to a functional role, replacing representation there is simulation, empty space becomes a tourist site. That these structures are appearing at the core of walled enclave suburbs uncritically reaffirms current landuse policies and discourses relating to 'sustainable' use. These suburbs are increasingly following New Urbanist trends to create communities of a theme. Provocatively the construction and placement of wetlands can offer hybrid opportunities to bring the effects of suburbanisation close to home, to bring the *unheimlich* (unhomely) home through the construction of intermittent wetlands, a kind of suburban design therapy. Surveillance and discipline of these structures is implicit. The nature of their design, their malleability, ductility (in the case of roadside ditches) and fluidity of form demands control of a construction with tendencies to wildness and deviation from norms, the unforeseen, unmodelled and unimagined dispositions to delinquency, occurrences that obligate continuing monitoring and self-justification of task for the controller:

For by coding society's institutional and representational practices as "natural", naturalization sets up a structure whereby individuals can recognize themselves as subjects only in relation to these practices and their naturalness (Bermingham, 1994, pp.237 - 238).

Whereas Bermingham sets out to understand the 'pictorial naturalization of landscape as a particular experience of space and time' (Bermingham, 1994, p.238), landscape architecture seeks the engineered physical construction imagined perceived/conceived construction of landscape and of natural sites/sights, the subject relates only to the naturalness of the discipline and the impacts and responses to the strictly endorsed and legitimated space / time of a worked nature:

For capitalism to flourish, however, the land, the soil, had to be worked by profit-pursuing private enterprise and turned into a commodity, possessed by private owners and freely purchasable and saleable by them...land became the principle productive asset of the colonies (Lines, 1991, p. 68)

Landscape naturalisation, nostalgia for home became an overriding concern of the land developer and salesman of the Swan River Colony, Captain James Stirling. This landscape nostalgia continues in the master planned community of Ellenbrook. A nostalgia that establishes and presupposes a desire for a 'time' and 'place' when things were safer, when everyone knew each other. Authentic English villagibility transplanted across the world and translated into designed New Urbanist liveable communities based on a community within 5 minutes walk to the commercial centre, an authenticity that refuses to acknowledge Aboriginal country, that seeks comfortable and less challenging notions of nostalgia. The surveillance of otherness and simulation of hyperreality go



hand in hand in the placement of water features within enclave estates, creating synergies of denial, fear and indifference.

## **THREE**

### **Simulating Wetlands**

The areas I have chosen to discuss are a constructed wetland that straddles the edge between a large industrial area, and a lower socio-economic residential area; and the mobilisation of artificial lakes at the core of residential villages in a new suburban development. Queens Park and Welshpool was once an extended seasonal and permanent wetland area. Now overtaken by suburban sprawl, Aboriginal country was overwritten by grazing, a succession of uses following the dominant paradigms of the dominant culture, seeking greater utility for the space. Ellenbrook was an extended seasonal and permanent wetland area, now much changed through grazing and silviculture and latterly through the suburban design process. Here fake lakes have been dug, and designated 'enhanced natural' spaces have been marked onto the periphery of the township.

Artificial wetlands control water while being re-creations of wetlandspaces. They combine a disciplining function while being restorations of pre-contact landscape or simulations of European aestheticised lakes. My reading of two case studies attempts to examine the processes and vectors of government agencies and urban designers written upon these sites. The boundaries of simulation and surveillance blur and intermingle when placed upon a site that has been constructed with these very principles as a driving factor. I have chosen to deal with these two attributes separately and examine the varied

means of incorporation on these two water bodies.

### **Queens Park Ecological Area.**

Queens Park Ecological Area is a Bush Forever listed site (WAPC, 2000, p. 76). It carries with it government sanctioned environmental protections over the future uses of the site. Displaying one of the few remaining examples of remnant banksia woodland in the inner south east of Perth's suburbs, it also has remnant swamp paperbarks, *Melaleuca raphiophylla* on the same site. As the site straddles a boundary between two soil and hydrology types, it is an important space for many scientific disciplines keen to examine the intermingling of species across boundaries, whilst creating their own 'discursive spaces' (Jagtenberg, 1996, p. 17).

Previously this area was bisected by a steep-sided longitudinal trench that reflected the dominant engineering preoccupations of draining the land and quickly transporting water to rivers. During 2001, the local government body embarked on a remediation project, opening out the trench, creating a shallow ponded area that mimics the wetlands that were extant prior to the creation of industrial and residential areas. I initially became interested in this space when I saw large earthmoving scrapers, dozers and trucks traversing the identified ecological area sending clouds of dust onto the bordering major road, slowing traffic. Here was nature being modified by heavy machinery, a wholly imagined construction creating natural spaces. The environmental protections extend to the creation of a completely new site. The protection category of 'resource

enhancement' entails any 'improvement' (within the most powerful discourses and manifestations) as a positive step.

The emphasis of the civil engineering drainage exercise had changed from the simple transport of water, or rather viewing water as the impediment to productive land, to the detention of water and the creation of habitat spaces for a designed limited ecosystem. The Queen's Park artificial wetland is designed to strip nutrients, pollutants, litter, and heavy metals from the catchment that collect in the drainage system before the water again continues through a drainage trench system, through the hierarchy of brooks and streams towards the Canning River. By transforming this space the water itself was being conscripted to the removal and siltation of industrial pollutants from the Welshpool industrial area. The proponent for this transformation was the State Government Main Roads Department, contracting the City of Canning to do the work (City of Canning, 2000). A major highway is being extended, passing by to the north, increasing the area of impervious surface in the catchment.

The receiving waters of the ecological area are being transformed into an approximation of what was there before settlement, simultaneously creating an environment for native fauna and flora (helped with extensive replanting and artificial reticulation). Through the creation and use of detention basins that are designed to receive flooding waters, allowing them to expand in area, rejuvenating the land and subsequently drying it out, this site speaks more authentically as a re-creation of a previously extant landscape. A space has been created that confluently bespeaks nature as filter, nature as a product of

human nurture and intervention, a nature that moves to the demands of industry, the movement and flows of traffic and the transport industry. But it is also a site of competing interests. The past practices of wetland denigration are being turned around and seen through a polarizing filter. Clearing and draining of the past is no longer countenanced. The problem of nutrient and pollution concentration within water bodies is being tackled using the processes of wetland sedimentation and detention, defined as naturally occurring phenomena. The distributions of control exemplified through Foucault's description of bureaucratic responses to and control of plague in a provincial town can be used here (Foucault, 1977, pp. 195 - 198). It is apparent that this is an aesthetic and ecological improvement on the trench. Analysing and engaging with the local soil and climate characteristics, the site is to be further rehabilitated through local friends groups who will replant endemic species.

Rehabilitation is seen as a re-creation, reconstruction and reinvention of what has been tragically lost, whilst conforming to the primary demand for flood protection. Indeed within ecological discussions of artificial wetlands, rehabilitation/restoration of wetland sites has been structured as 'accelerated succession' (Van Der Valk, 1998, pp. 664 - 665). Rather than relying on natural revegetation in disturbed hydrological regimes, a variation on self-healing, intervention and management is viewed as the simple application of 'restatements of [ecological] succession theories' (Van Der Valk, 1998, p.666). Further intervention is classified as an ongoing staged ecological process, for not only is the intervention beneficial, it is also much quicker than a strict natural successive revegetation process. Succession is discussed in terms of colonization, observation,

cataloguing, selecting species and speaking for Nature. Quicker than nature, more selective, more representative, excluding exotic species, this has the effect of negotiating an instant imagineering of the site. By copying the vegetation complexes of remnant sites nearby, placing species within correct margins, imagining potential water flows and creating habitat for species colonisation, this site can be instantly revegetated within a conceptual frame that justifies the task in terms of accelerated succession, or enhanced natural processes. The past cataloguing of remnant sites is now justified. Rather than an inventory of what has been lost or now under threat, the project now looks to the future uses and to the productive and importantly, functional plantings of native species.

As Thayer states: 'Landscapes, whether intentional or vernacular, reveal the degree to which our world is now woven of simulations and hyperreality' (Thayer, 1994, p. 206). Simulation undermines the order of representation, the connection between image and object, behind the image is only another image. Simulation's intent is to create a 'reality effect' whilst concealing the lack of the real, concealing an absence of reality in its own representation.

Simulation is characterized by a precession of the model (Baudrillard, 1983), a pre-imagining and the following post-imagineering of possibilities of application, uses and commodifications.

Simulation ... the generation by models of a real without origin or reality: a hyperreal. The territory no longer precedes the map, nor does it survive it. It is nevertheless the map that precedes the territory - precession of

simulacra - that engender the territory (Baudrillard, 1983, p.1).

Meanings now float freely without reference to the actual uses of things. Representation is replaced with simulation, stressing much of the excessiveness of modernity. Desire becomes reality purely through imagining and imagineering. Nature, always present, has itself become a commodification of itself, as have our senses and intuition (Jagtenberg, 1994, p. 21). Now oriented to the market and profit and loss, real nature and our imagination is detached and floating with other signifiers, unable to be grounded to reality, because the alternative hyperreality is so desirable. The map, the way ahead, the imagined possibilities come before the terrain. Through disciplinarity, through the construction of acceptable outcomes, the imagineering of Queens Park is 'reality', an ideal nature as typified by the Constructed Wetlands Manuals. Such an approximation of a desirable outcome comes when a particular encribed idea of nature becomes appropriated by institutions and agencies who may have been opposed to any perceived environmental responsibility and therefore profitability (Peace, 1997, p. 531). What is being constructed at Queens Park is a simulation, a model based on disciplinary inclusion and exclusion, an approximation of what should be here to fulfil certain ecological and governmental priorities. The hyperreality of the site becomes more real than real:

What this means for Baudrillard is that perception and pleasure are altered such that the body, the landscape, time and public space all disappear as scenes. He calls this loss of private space the 'extroversion of interiority' because there is no more distinction between *self* and *other*. These become blurred because the society of consumption is also a society of spectacle...There is no more drama of alienation, only an

“ecstasy of communication” (Ellin, 1999, p. 129).

Yet, it is a communication that is enclosed and channelled to the discourses of scientific and mathematical modelling experts, mythically operating from positions of value neutrality. Scientists become ‘the perfect representative(s) of nature (Haraway cited in Hillier, 1999, p. 194) . Consensus built between the Foucauldian banks of discourse and the simulation of narrow perspective as a means to heighten environmental awareness do not go far enough to imbricate human society further within processes of the climate and biosphere, and whilst appearing to offer greater knowledge, may erect barriers to wider understanding. Rutherford (1994) states:

knowledge and administration of human populations simultaneously require the definition and management of the natural environment in which those populations exist and from which they draw their resources (Rutherford, 1994, p. 43).

The boundary of two differing soil characteristics present in the site, force the designers to rethink their approach to species diversity. The list of species suitable for the site's climate, lithology and hydrology extends to 121 varieties (City of Canning, 2000, pp 30 - 35). Upon initial clearing and grading, the unimagined appearance of the junction between the Bassendean soil complex and Guildford soil formation caused the designers to change the chosen plants (K. Karu, personal communication, 2 May 2001).

With ongoing monitoring of the site and successive replantings ensuring the successful reimagining of this site as a more natural site than the steep sided drainage ditch that was



once present, this site is now a certified accurate approximation of what was once here, except better. The model replaces the real. This simulation is now more real than real with, in Eco's terms: 'the "completely real" becomes identified with the "completely fake". Absolute unreality is offered as real presence' (Eco, 1987, p.7). Using Williams (1973), the land is not seen to be worked, rather nature has legitimately been permitted, to be recreated here. The graders and dozers and trucks have gone, the water emerges from the metre wide pipes and slowly circulates through the detention basins until sufficiently slowed to drop sediment, to be taken up and recycled by the strategic plantings of species.

The hollow site of Queens Park is filled with the products of this discourse. By reinventing the legitimacy of spaces to be filled, past stories are erased, the urban unknown and irrationality of Aboriginal/Nature is replaced with the rational means and ends of imperial order.

Scopically consumed by residents and perhaps the wandering gaze of vehicle drivers on the major highway to the north of the site, technology is reaffirmed through this project, now cleansed of any indigenous significance, it is a wholly artificially constructed and imagined space. No longer is there a question of uncanny mythologising over this site as a project of indigenous understanding of land. That knowledge itself has been divided and distributed among various arms of academia and government, reprocessed, made functional, demystified, and placed on this site. As Giblett remarks:

After culture colonises nature, after the map colonises space, and the colonists settle in it, the city undertakes rituals of exclusion and repression...entail[ing] the excommunication of the Waughal....Urban life, as de Certeau remarks, 'increasingly permits the re-emergence of the element that the urbanistic project excluded' (Giblett, 1996a, p. 74)

At Queens Park this factor will not be permitted. Indigenous associations were not sought as part of the design process, despite officially acknowledged and recorded ongoing Aboriginal associations to wetlands in the region (O'Connor, Quartermaine and Bodney, 1989). Now the swamp has been reconstructed, that association will not be permitted to return. Authenticity, indigeneity and connection to land have been erased and not sought as part of the reimagining of this site.

### **Ellenbrook: The Bridges subdivision**

'The overall theme for Ellenbrook is one of an 'enhanced natural' environment' ("Premier launches Ellenbrook", 1993 p. 1).

'Special Feature: Integration of stormwater drainage systems with public open space. This will be achieved through the creation of streams, lakes and artificial wetlands. On-site management of storm-water will avoid any discharge of pollutants into the Swan River' ("The Concept for Ellenbrook", Spring 1993 p. 2).

Ellenbrook is a wholly imagineered construction. Each village is planned and built to face inwards towards a fake lake. Past landuses have relied heavily on the hydrological characteristics of ephemeral wetlands. Water as a resource was precious as it is today. Nyoongah uses/harvests/exploitations of the area gathered food stuffs, frogs, tortoises and starchy tubers. Covering a large geographical expanse, over 1500 hectares, this area would have supported large seasonal populations of indigenous peoples (Hallam, 1998,

p. 91). This seasonality was a crucial aspect to the husbandry of nature to the nurturance of human habitation. Excessive and dramatic overuse would have seen a collapse in the proliferation of wildlife, and for later seasons' harvests. Later, the property developer and Swan River Colony's first Governor, Captain James Stirling R.N. and his crew rowed up the Swan, advancing as far as a small fresh water stream that met the Swan twenty kilometres upstream from the prospective site of Perth. Stirling chose to name the stream after his absent wife, Ellen Mangles.

After grazing and agricultural land was allocated, the wetlands of the area presented as a problem rather than an opportunity. Only through the taming of the land and its conversion to commercial silviculture, was the standing water problem converted. Extensive pine plantations cover the area between Ellenbrook and the west coast. Crucially, this silvicultural plantation covers the land that overlies a crucial source of potable water for Perth. Only later in the early 1990's, was the area sought as the new fringe of urban development.

Water has been extensively drafted to the construction of this urban/rural frontline. Villages in Ellenbrook are constructed on permanent lakes. Lakes created in suburban and urban redevelopment estates do not conform aesthetically, nor in an hydrological engineering paradigm, to the wetlandspaces existing prior to European colonisation. Water views denote presumptuous privilege, a prospect of mastery over a tameable and beneficent nature. Classifying these lakes as permanent is in itself a presumptuous act. Permanent on which time scale and according to which belief system?

Stirling's naming and mapping actions reflected his need to promote and naturalise an alien landscape for his financial backers in England. Mapping and naming anchored the landscape in ways of imagining that encouraged private development. The Swan River Colony was to be a privately funded venture, and not be dependant upon the British purse as were New South Wales and Van Dieman's Land.

The Government liked the sound of this - a Crown colony developed by private funds, as Pennsylvania has been by William Penn and Georgia by Colonel Oglethorpe (Hughes, 1988, p. 574).

Right from the very conquest and invasion of the land by British settlers, the land was being mapped and divided by land developers, often before surveying the land. Remote property speculators imposed the colonialist grid; straight lines appeared on maps prior to taking up land. Critically, access and frontage to a river was a governing principle, according to Carter:

the first land grants...were made before any survey of the country had been carried out.... [resulting in] grossly elongated allotments at right-angles to major rivers (Carter, 1988, p. 222).

To promote the success of the venture, landscape painting was a tactic of offering truths about nature, showing it to be a worked landscape, always without workers present. Early pictorial landscape representations of the Swan River Colony acted as picture postcards (Giblett, 1996b, p. 129) and advertising:

making the products of culture appear to be the work of nature, and in turn, seeing this 'naturalisation' as an ideological and semiotic process, one which is repeated and reaffirmed in traditional art historical accounts of landscape painting (Bermingham, 1994, p. 237) .

Stirling's written descriptions of the Swan River Colony offered an easily pastured and cleared landscape suitable for the establishment of a landed gentry. This active imagineering of prospect, desire, and easily commodified community is a central axis of the Ellenbrook marketing campaign.

Giblett paraphrases Williams discussing Jane Austen and states:

the land is seen primarily as an index of revenue and position, its visible order and control are a valued product, whilst the process of working it is hardly seen at all (Giblett, forthcoming, p. 146).

Reproductions in the landscape painting aesthetic reflect this process with mass production of images removing the quality of singularity present in an image, 'rendering it schematic and quickly identifiable, so that it resembles a sign...a command' (Hughes, 1980, p. 325).

I extend this process of artistic and imaginative naturalisation presented by landscape artists to the planned urban form, the creation of 'liveable' communities which have as their core representations of constructed wetlandscape replacing indigenous wetlands with alien European landscape, conceptions simultaneously marginalising and silencing the resident, the consumer and the citizen. These same wetland designs rely on

hermeneutic monopolies of knowledge and discourse that correspondingly privilege the geologist, the civil engineer, the hydrologist, the chemist, the limnologist, the landscape architect, the urban planner amongst others, who cynically may be characterised as viewing the environment/ecosystem/biosphere as a filter for the externalities of human productivity. Extending their technical discourse within their disciplines through the export of models from the laboratory to the outside, noting 'power relations require not only keeping other human agents in line, but also a reliable alignment of the physical environment (Rouse, cited in Rutherford, 1994, p. 49). These professionals may produce, evaluate and promote these suburban forms but not consume them, for they live elsewhere. Indigenous wetlands are denigrated, mirroring the space occupied by Aboriginal peoples in Perth, both (self)marginalised and alienated.

An imagination of the wetlandspaces of Ellenbrook is informed by an examination of the ways in which the lakes and residences are integrated into the Ellenbrook subdivision plan, and the ways in which the residents are to use those spaces. The Bridges subdivision was recently named the best residential subdivision in Australia as voted by the Urban Design Institute of Australia (Magnus, 2001), a case of planners patting themselves on the back<sup>4</sup>. Neatly maintained, carpet-smooth verdant grass verges meet the roadways that meander through the flat topography. The lake is at the private residences' back doors, an extension of the private space of the home backyard into a shared space of nature, everyone's backyard.

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<sup>4</sup> UDIA(WA) President Dr Russel Perry is also General Manager of Ellenbrook Pty Ltd.

This permits the scopie consumption of controlled and constrained water, and connotes mastery and socio-economic status. The lake acts as an evaporative airconditioner for the suburb, many kilometres from the cooling coastal breezes that wash over the coastal plain during summer. Dry easterlies are cooled by its surface, yet most residents rely on their own electrically powered systems for cooling. Further from the lake the cooling effect is dissipated, temperatures rise as the baking sun shimmers the air over the roads and paths, airconditioners gently hum in unison, exchanging hot for cool air in single cell systems of private space. During cooler rainy weather, the lake collects stormwater. The flavour and colour of the water from the bore pipe filling the lake suggests that scopie aesthetics rather than a habitat for wildlife is the design criterion here. The pumps topping the lake seemingly run continually. For Lake Fresca to dry out would indicate a failure to sustain a landscape, a failure of management, of hydrological modelling, of a promised land of suburban relief from the horrors of the work and the city, a betrayal of the residents' land owning and mastery aspirations. Yet paradoxically, the water is docile to the requirements of the subdivision developers. When a new lake is being built for a new village, water is diverted from Lake Fresca to the new site, much to the dismay of the residents (G. Thompson, personal communication, 26 October 2001).

Birds (first nature) are rare here, no space for nesting, courting, grooming; they are chased/hunted by the residents' dogs (second nature) being exercised. The post (third nature?) that held the dog litter bags was stolen before the concrete set, turds bleach the grass, attracting flies and decay, the only fragrances of nature present.

Swimming, fishing and boating are prohibited by remote and absent order. A Hammurabic sign speaks the edict to the carpark. Use is constrained solely to the land that bounds the lake, the lawn and the playground, the small island in the middle has benches for passive observation of this sterile environment. The water exists for the eye, for the birds and fish. Dogs are to be leashed to prevent them from supplementing their diet with water fowl, whilst fouling the grass with their droppings, bleaching in the sun. A small scratched plastic plaque dedicates a pioneering pine planter, four *Pinus radiata* stand in mute remembrance of the previous land use of the area. The wetlands that preceded are not acknowledged, save for the rigidly geometric plantings of *Baumea articulata* and *Juncus species* on the lake margin. Boardwalks connect the lake to the shore, street art provides mental diversions; cast iron 'driftwood' leads to a Tuscan marble arch, unwitting parallel to the triumphal arch on the site of the Tyburn gallows in London<sup>5</sup>. Commissioned pavement art suggest ways of interpreting the lake space and environs, whilst suggesting that this is a space to think, to contemplate, to ponder, to mull. The hearth, earth, heart, art: they all coexist in the home:

We may be at the risk of confusing ecological simulacram with the real-thing, a declining biosphere...negative images of nature diminish into the euphoria of ecotourism and the hypernature of artificial simulations as just one set of possibilities among a number of potentially profitable virtual environments (Jagtenberg and McKie, 1997, pp. 23 -26).

New residential communities become copies of WA Planning Commission Liveable Neighbourhood design guidelines (WAPC, 2000a), constructed wetlands follow the

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<sup>5</sup> The Marble Arch covers the historic site of the Ty Burn (stream), a wetland space completely rewritten and hidden over many years of development, once site of an execution gallows.



Water Sensitive Urban Design recommendations of the WA Water and Rivers Commission. The urban development programme ensures a steady supply of development opportunities (Morrison-Saunders, 1994, p. 221). New edge suburbs such as Ellenbrook become a paint-by-numbers application of Planning principles, suitably packaged and differentiated within the market. The Ministry for Planning has links from its website to Maxis, the manufacturer of SimCity 'The Ultimate City Simulator'<sup>6</sup>. That communities are something that can be created through architecture and design, ignores the desire that I posit for a land ethic / country that recognises locality:

Remaking authentic communities into packaged forms of themselves, re-creating environments in one place that actually belong somewhere else, creating theme parks and lifestyle-segregated communities, and space travel and colonization...are symptomatic of the same modern malaise: a disconnection from a place on Earth we can call Home...Though we are still on the planet Earth, we are disconnected from it, afloat on pavement, in the same way astronauts float in space (Mander cited in Thayer, 1994, p. 210).

Eventually in Ellenbrook, seven villages are to be built, each with a defining architectural theme, responding to consumer demand for a greater sense of identity, 'The Bridges has a distinctly Mediterranean theme, influencing the design of the entire village' (The Bridges Launched, 1997, p.1).

Market differentiation means that each individual village within the Ellenbrook townsite has an architectural theme, enforced through the provision of theme-linked public spaces and design and behaviour codes. The theme for The Bridges is set by the shared public

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<sup>6</sup> <http://www.planning.wa.gov.au/cgi-bin/index.cgi?page=/links/content.html>

space centred on the curiously named Lake Fresca. The lake, observation tower and surrounding pergola, and pedestrian bridge are based on the harbour of the Italian coastal town Portofino (Blackwell and Associates, 2001).

Edward Soja remarks that many suburban or New Urbanist developments throughout Southern California, especially Disneyland, have provided the template for the creation of themed communities, what he terms a 'process of disneyworlding the postmetropolis' (Soja, 2000, p. 341). This manifests in a search for a simulated and themed package where participatory community may be created. By simulating real communities, employing surveillance machinery with the lightness and transparency of the Panopticon, dystopic urbanity does not appear in these New Urbanist utopias. This process in fact results in a manufactured and fake urbanity, present in the shopping malls proliferating ubiquitously. Spaces are created as authentic simulations of models of spaces, 'a landscape full of totem objects designed to convince us that we live in a thing called a *community*' (Kunstler, 1993, p. 123). A circular and self supporting process. The model, founded upon information with the aim of total control (Baudrillard, 1983, p. 121), is found in every new suburban development as 'a space of deterrence, linked to the ideology of visibility, transparency, polyvalence, consensus, contact and sanctioned by the threat of security' (Baudrillard, 1997, p. 210). As Dennis Wood (2001) discusses when referring to the imagineering of the community:

Using nature, [enclave estates] have tried to breathe life into rigid, fixed space, but this cultural CPR cannot resurrect the dead, lived spaces of sameness - only the livable / liminal spaces of the heterotopias of

difference can make this possible (Wood, 2001, p. 64).

Through the continual marginalisation of indigeneity, such difference is not given voice. To do so would force too great a conflict with the project of the urban developer and urban planners, and the tissue of lies that has characterised the development of Australia. By reproducing and simulating natural environments, re-creating nature to the greater design of the urban planner, reference to a nostalgia prior to contact is increasingly overlaid in a palimpsestual blurring.

Pavement encrusts the Earth's crust, defensively armours, lines and prevents the infiltration of rain, disrupts the cycle of hydrology with artificial hard surfaces. Urbanisation alters the soft surface of the Earth with hard surfaces of roads, paths, parking lots and roofs. This alters runoff, infiltration, groundwater recharge. By focussing on the multiple use characteristics of drainage reform, the closed spaces of fenced concrete channels are opened into adaptive spaces of recreation and civic utility, functioning beyond the transport of water.

## **FOUR**

### **Surveilling Docile water in Ellenbrook and Queens Park.**

The events of February 2000 highlight not only the problematization of environmental issues and landuse practice in contemporary society but also media coverage of such events. Coverage emphasised the algal blooms as a plague-like manifestation of ill-health and descriptive how the event was consequently dealt with by tiers of Government. Foucault's description of a lockdown in a French provincial town during an outbreak of plague neatly foreshadows the contemporary bureaucratic and militaristic attention to detail responding to an algal bloom: strict spatial partitioning, quarantining, surveillance and bureaucracy. 'Against the plague, which is a mixture, discipline brings into play its power, which is one of analysis' (Foucault, 1977, p. 197). Countering the transgression of excessive nutrient in water are discourses that seek to discipline water itself, justifying drainage of swamps, stormwater control (fear of flooding), and presenting water only as beneficial whilst aesthetic and docile.

Indeed much of the language of drainage suggests incarceration: capture, catchment, damming, restraint, containment, attenuation, detention basins, rehabilitation. Water that escapes certain bounds threatens productive use. The boundary between water and land is one that is constrained by the perceived and conceived need to attenuate flood. Land is productive only when the transgressive capability of water has been disciplined

and given definite borders. Michel Foucault's work, Discipline and Punish, (1977) (see also O'Farrell, 1997) was concerned with the dispersion of individuals in time and space for the purposes of societal control. He found that through the application of strict uses of timetables and geographical separation, particularly in the changing face of the prison, the emphasis of punishment was less meted out on the corporeal body of the inmate, and more to the strict disciplining of time and space of the body and mind.

Invoking Foucault's conception of docile bodies, control and discipline exercise to transform and limit the transgressive possibilities of the human body through the implicit threat of violence directly onto the human body. 'A body becomes a useful force only if it is both a productive body and a subjected body' (Foucault, 1977, p. 26). Yet that threat is not carried through. The body instead becomes disciplined in time and space; it becomes docile and malleable to the demands of the regime. Through the medium of the surveying gaze, the body of the city is cured of social disease, whether that is eutrophication or human and property violence (Hillier, 1997, p. 140).

Through the mechanism of the Panopticon, power is both ubiquitous and indefinable, obvious and transparent, external as an object yet internalised by subjects. Relations of power have a hold on all (water)bodies, 'they invest it, mark it, train it, torture it, force it to carry out tasks, to perform ceremonies, to emit signs' (Foucault, 1977, p. 25). Bodies of water thus exist as evidence of the strategies and uses of power, its emplacements, mobilisations and habitactics. Panopticism 'is no longer "to see without being seen" but to impose a particular conduct on a particular human multiplicity' [original emphasis]

(Deleuze, 1988, p. 34). Deleuze characterizes the panoptic surveilling machine as a diagram 'highly unstable or fluid, continually churning up matter and functions in a way likely to create change' (Deleuze, 1988, p. 35).

From valourising the privilege of a water view to the characterisation of swamps as mires and places of horror, to the paradox of water utilities advising to restrict use (and so income and profit), water is presented only within a limited possible continuum of examples and choices acceptable / compatible with human habitation. The real estate industry, land developers, project builders, urban planners, government agencies and conservationist groups are all engaged in a negotiation of wetlandspaces. Foucault (1977) describes power as 'exercised rather than possessed' (Foucault, 1977, p. 26) and a strategy to effect 'dispositions, manoeuvres, tactics, techniques, functionings ...[in a] network of relations constantly in tension' (Foucault, 1977, p. 26).

Not only is a grid of power present in the coding of these sites to flood control and pollution, but successive and ever reductionist grids of classification are applied to the soil and flora, classifying within discursive grids of power, describing the site and (by imagining) encouraging faunal species to colonise. 'Nature is posited only through the grid of denominations and...without such names would remain mute and invisible' (Foucault, 1980, p. 160). Through the 'describable and orderable' (Foucault, 1980, p. 158), characteristics imposed by rationality, nature is bounded and the spaces between representation are gradually filled. Similarly, the grid of longitude and latitude acted as an instrument for the division of unknown space, 'a blueprint for colonization' (Carter,

1988, p.204). All sites within this grid, and that of the city grid are transferable, so transferring the geographical assumption of neutrality to the land (Carter, 1988, p. 205). The grid is assumed to be neutral, the land can be changed to the submission of the grid, 'a container for real estate' (Carter, 1988, p. 204).

I found it quite jarring to see that a viewing tower, or Campanile, has been constructed next to Lake Fresca. Putatively a decorative centrepiece, the tower has a sundial incorporated into its north face, its use and power to inform occur in daylight only. From the heights of the tower one observes the docile body of water with the surrounding docile suburb. Visibility is essential for the exercise of power, both what is displayed and by what is hidden. This awareness and openness to gaze is reinforced by the tower. Up four flights of stairs, ten metres high, the Bridges estate and lake are available for scopic consumption. Panoptic views of suburbia permit and encourage voyeuristic intention. The interloper is now much higher, though further away, than when walking the path. This tower satisfies Bentham's desire for the architectural embodiment of psychological power that is both visible and unverifiable:

Visible: the inmate will constantly have before his eyes the tall outline of the central tower from which he is spied upon. Unverifiable: the inmate must never know whether he is being looked at any one moment; but he must be sure that he may always be so (Foucault, 1977, p. 201).

Foucault explains that this power relation acted on the subject of visibility. The occupier of the tower could be anyone able to climb the stairs and tall enough to look out over the parapet, perhaps with binoculars. It could even be a resident if the inclination was there

to examine her neighbours. 'The Panopticon functions as a kind of laboratory of power' (Foucault, 1977, p. 204), hierarchies of observation and knowledge are located here in a:

diagram of a mechanism of power reduced to its ideal form...[and] must be represented as a pure architectural and optical system: it is in fact a figure of political technology that may and must be detached from any specific use (Foucault, 1977, p. 205).

The subject of potential observation, deprived of privacy, knowing he is being observed, conscious of his own and others behaviour:

assumes responsibility for the constraints of power, he makes them play spontaneously upon himself; he inscribes in himself the power relation in which he simultaneously plays both roles; he becomes the principle of his own subjection (Foucault, 1977, pp. 202-3).

We monitor ourselves, becoming comparatively docile bodies (Hillier, 1997, p. 141).

Fragmented through networks of communication and power structures, diffuse and omniscient, the gaze generates knowledge of the seen. Working on a multiplicity of individuals, it reflects any contra-gaze, deliberately blurring the function of the mechanism. Polyvalent in operation, the Panoptic mechanism:

is not simply a hinge, a point of exchange between a mechanism of power and a function; it is a way of making power relations functions in a function, and of making a function through these power relations (Foucault, 1972, p. 109).

Yet at the putative local centre of this power relation (the tower's observation deck), resistance to this relation is apparent. Graffiti is rife and tagging (territorial pissings)



voices peripheral and unacknowledged disaffection and alienation with the beige uniformity and planned liveable perfection of this suburb. The local residents' association dedicated to the obliteration of unauthorised street art dissent continue to compete with the taggers over the use of this space. The thought that taggers, usually characterised as teenage boys, (Wood, 2001, pp 66 & 278) are observing the lake and homes, is possibly too jarring for the dress circle residents to permit. Certainly their instant art responses are never permitted to remain for too long.

Those that observe the lake and environs from the tower are caged by vertical bars that emphasise the nature of the prison. To observe from this position is to reinforce the nature of the power relation. From the tower, the identity of the gazer is irrelevant, the location and architecture only are important. Observation will only occur here, leaving before six o'clock, lest one be locked in for the evening, night; light goes with the sun, time for darkness and cloaked transgression. The phallic panoptic power of the tower is emasculated when most threatening, the entrance is locked by the roaming security patrol<sup>7</sup>. Electric illumination spreads throughout the suburb, banishing the murk of darkness, permitting safe evening use of the lake. As the lights slowly power up, the tower is lit from outside to show it is locked and reassuringly unoccupied. Here the assymetric surveilling gaze is subverted, the Panopticon is reduced from the architectural embodiment of:

a type of location of bodies in space, of distribution of individuals in

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<sup>7</sup> Ellenbrook is the only suburb in the local government area of the City of Swan to have a private security patrol, paid for by Ellenbrook residents as an additional levy.

relation to one another, of hierarchical organisation, of disposition of centres and channels of power, of definition of the instruments and modes of intervention of power (Foucault, 1977, p. 205)

to a vacant shell. Just when the excess of surveillant power could effect its most effective control, it appears to be reduced to surface, illuminated in light, reversing the panoptic role, becoming the empty, hollow and powerless centre of the neighbourhood. Yet this is a diversion, as the outline of the tower remains, so too does its panoptic potential. Rather than have the guard and surveill function embodied in the tower, it still operates as a reminder of the type of surveillance that has historically been used. Inspection functions ceaselessly through Neighbourhood Watch, the twitch of the curtain as strangers wander down the street, uncertain whether we (the stranger and resident) are indeed being monitored, enduring loss of privacy, surveilling and monitoring ourselves, becoming docile bodies through the potentiality of surveillance.

Rehabilitation can also be classified as renovation, retraining, adaptation, and therapy, reforming processes that create use from delinquency. The function of biopower and panopticism is to produce more useful bodies. 'The body becomes a useful force only if it is both a productive body and a subjected body' (Foucault, 1977, p. 26). Increased production is only valued when those extra functions are said to be applied to the benefit of the mass public. Yet this is not reflected in the construction of Ellenbrook. This not only requires that these spaces should be revalued but also the revaluing and reprioritising of wetlands is given added emphasis through the synchronous co-location and reading of various discourses in the one site. Thus, swamps already characterised as

evil and uncannily difficult to reconcile with a European landscape imaginary, are reprocessed through the lens of discipline and drainage and regurgitated as fake lakes at the service of polluting industry. Indeed much scientific research into placing artificial wetlands is dedicated to the application of such forms within or fringing agricultural and industrial spaces (Campbell, 1995; Hobbs and Saunders, 1993; McComb and Davis, 1998; Godfrey, Jennings and Nichols, 1992).

The Queens Park ecological area is a surveilled space. It is observed and subject to the gaze of power not through the mechanism of a tower, but the disciplines of knowledge that have written across the design for the site. Imagining future uses of the site necessarily involves future desires for the site, how the area is to be used, consciously remembering and forgetting. Although an 'ecological' area, I witnessed nearby residents walking their unleashed dogs through the basin areas. Fenced on the periphery, a space has been set aside as a viewing platform to be located centrally and affording a view of the various basins and to be impressed with the imagineering of the site. Discipline is written across the site. Stormwater event modelling has determined the ideal size of basins, peak flows will be diverted through a complex of lower basins, filtering litter, slowing and controlling water and its load. Major roads are a large source of such contaminants into receiving wetlands. The site is subject to the same rigid controls of fenced stormwater sumps, from 'fine tuning plant densities, placement of core species and harvesting' (City of Canning, 2000, p.10) to control of weeds, water quality, heavy metal contamination and detention.

Just as Lake Fresca is docile, so is this area. The wetlands receive water and delay and slow down flows to facilitate siltation and infiltration to the groundwater table. Thus to be effective the wetlands themselves act as sponges for nutrients and poisons. What impact this will have on visiting (and imagineered as hopefully colonising) fauna is not clear, though the implication from past monitoring regimes is that pollutant dumpers will be traced back up the drainage channels. Clearly public swimming and boating again is unlikely to be encouraged, both from a human health perspective due to the possible disturbance such activity would present to fauna and flora, as well as to the poison laden silt being ingested. The work being conducted in an ecological area, designated 'resource enhancement' (City of Canning, 2000, p. 4), problematizes the classificatory structure. Not as high as 'conservation category', resource enhancement designates a desire to improve, repair and provide a more authentic replica of what was there before. Transformed from a transporting trench to an infiltrating and detaining wetlands, Queens Park Ecological Area, is classed as functioning correctly when pollutants are detected. To work, the wetland detains, which leads to the proposal that should the wetland not have detectable levels of pollutants then either none are being produced and finding their way into the stormwater system, which we know is not true, or the wetland is dysfunctional. This assumes and expects an acceptable level of pollution production. What is clear is the intent for levels of pollution downstream of the wetlandspace to be lower than the levels of pollution upstream.

The designer of this site expressed the desire for webcams to be located on this site continuously sending live updates on the status of the area (K. Karu, personal

communication, May 2, 2001). The area has no voice, does not act as an agent in any sense, is spoken for by the designers and end users of the area, the imagineers of the site. Multi-layers of disciplinary demarcation interweave and translate the evidence present in and over this site, acting on it for particular ends.

Rehabilitation when viewed through the conception of discipline stresses the importance of redemption, of repayment of a debt in acknowledgment for past transgressions.

Considering most Friends groups operate on a volunteer basis, could the rehabilitation of wetlands somehow be equated with a redemptive activity on behalf of the participant? Could the recreation of indigenous landscape be incorporated within a greater political movement for reconciliation and justice for indigenous Aboriginal Australians? Is it too big an ask to conflate the two issues with an active repoliticisation of culture upon this site?

Regardless of possible future local political mobilisations of this particular space, which is outside the putatively purely functional ambit of the wetland's designers, the scopic desire for constrained water is satisfied with public access paths and imagineered viewpoints. Here nature will be transplanted and colonise for scopic consumption, whilst plants grow and waterbirds cavort, we are also witnessing the filtration of pollutants from Welshpool. This function is unlikely to be highlighted despite the predominant discourse of nature being imagineered to the requirements of contaminant mediation. The idea of turning rubbish dumps into a tourist sites appeals in a cultural sense. That the wetlands also provide some measure of habitat for native and exotic

species is a side effect, though one that is promoted above all others.

## **FIVE**

### **Water Sensitive Liveable Neighbourhoods**

Jumped in the river what did I see?  
Black-eyed angels swam with me.  
A moon full of stars and astral cars  
and all the things I used to see.  
All my lovers were there with me,  
All my past and futures  
And we all went to heaven in a little row boat  
There was nothing to fear and nothing to doubt

Pyramid Song (Yorke)  
Radiohead 2001.

The culmination of many years of governmental interagency negotiation and design, 'A Manual for Managing Urban Stormwater Quality in Western Australia' (WRC, 1998) acts as a guiding template for future urban development for Western Australia. This document forms part of the technical basis for the WA Planning Commission's 'Liveable Neighbourhoods' policy. Setting out to provide Best Management Practices for the provision of stormwater control, and subsequent inclusion within urban development. Water Sensitive Design has numerous aims and outcomes; nutrient and pollutant removal, control, discipline, surveillance, docility, against transgression, delinquency, then for correction, calming waters and modifying the behaviour of both developers and planners and those that follow into those imagineered spaces.

Defined by industry practitioners as:

Water sensitive design represents a framework for the incorporating of stormwater management into an urban design to enhance and protect the water quality; to promote water conservation activities; control peak flows; incorporate broad social and environmental objective; to promote sustainable development (Joliffe, 2001, n.p.)

Sustainable development is a term that has many alternative definitions. Fowke and Prasad suggest the lack of a standard has enabled many interest groups to custom design their own version to meet their own goals and agendas (Fowke and Prasad, 1996, p. 61). The concept of development is intrinsic to the basis of profit seeking developers and governments eager for increased revenue returns, thus low rated land is improved and developed, recycled for more functional use.

Drainage of areas is justified in terms of bringing more idle land area from indeterminate and ill-mapped wetland into a more productive use. This has been facilitated through the narrow discourse of hard engineering, involving pipes, trenches and the simple transport of water to collection points, and removing water to dry out the land for growing crops or for buildings to be erected. Most new urban development in Perth is focussing on lower and wetter lands, mostly on the rural-urban fringe. Now that we have filled the high ground, the low ground waits for its turn for re-evaluation. This demands that new ways of thinking are brought to bear on water management:

This will require careful trade-offs to achieve efficient use of land, minimise development costs and provide good neighbourhood and town structure that is not severely dissected by environmental corridors (WAPC, 2000a, p. 67).



Environmental corridors are anathema to 'good' neighbourhood and town structure. The open spaces of environmental corridors are couched in terms of dissection, breakup, defined as division and dispersion rather than collection and community. Open spaces (parkland and natural areas) must always be under the visual supervision of residents:

lots must be oriented to front parkland and natural areas to enhance amenity while contributing to personal and property security and deterrence of crime and vandalism (WAPC, 2000a, p. 56).

Perimeter streets around open space are required (WAPC, 2000a, p. 62), facilitating surveillance. Dissection of neighbourhood structure is an opening up of the body of suburbia through the Planning Commission's autopsy of past neighbourhood forms. Indeed, Foucault describes the increase of usefulness, docility and :

its integration into systems of efficient and economic controls, all this was ensured by the procedures of power that characterized the disciplines: an anatomo-politics of the human body (Foucault cited in Donnelly, 1992, p. 199).

Environmental corridors / open space / drainage basins are now conflated into the one multifunctional space, yet by using the term 'dissection' for the spaces of transport and infiltration of water, it becomes a space of post operative infection. Permitting stormwater and nutrient pollution the avenues to get out and avoid flooding, also presents a opportunistic space for the plague of crime to get in. Germs and the pathology of property crime gain access to the private spaces through the unsurveilled open spaces.

Consequently open spaces are distributed in a manner that minimises perimeter to area ratio. Linear open spaces are questioned due to the 'lack of surveillance and related concerns over personal safety' (WAPC, 2000a, p. 61). Thus with smaller lots and higher density lot development, coupled with greater areas of impervious surface, the provision of a lake as public open space facilitates a direct public subsidy to the developer, in the form of concessionary increases in the net subdivisible area available (WAPC, 2000a, pp. 62 - 66). Public parkland and recreation spaces are to be co-located and co-functional with drainage spaces, but also 'adequately catering for the active and passive recreation needs of future residents' (WAPC, 2000a, p. 66). Whatever they are.

What is clear is the highlighted role of residents when imagining any future use of open spaces, which as we have seen is increasingly co-functional with drainage flow. Past uses have coded drainage spaces as off-limits, fenced off, a prison transport for stormwater. Liveable Neighbourhoods offers a direct reduction in the provision of public open space if those open spaces are congruent with drainage. Previously closed and taboo spaces are opened up for active and passive use. Surveillance inscribes a role of observer on the resident, whilst emphasising ownership over their parcel of private space. The designed placement of the lot demands a scopic function over the public space, conscripting the resident to this role. By extending the ownership of private space over the public space, a sense of place (Seddon, 1970; 1997) and custodianship is being engineered. That this can be architecturally emplaced, emphasises the art of distribution of the surveilling power.

The lakes in residential subdivision are accounted for as public space, shared use of a common open space. Walking along the footpath that rings Lake Fresca, one is both in public and private space, slightly lower than the backyards, both observing and observed. Private space is higher, privileging the land allotment project. On common land, you are lower than the private land owner. 'The outdoor living space signifies an opposite valuation of the meaning of "property"...that it enables privacy' (Fiske, Hodge and Turner, 1987, p. 43). Low and open fences defend terrain whilst extending the landowners' domain from the backyard with a mastering prospect across the lake as interlopers stroll past, reduced and lower in the view. One is forced to imagine the power of the relationship between landowning and their view, incorporating the placement of the residences, able to gaze into others' equally permeable backyards, and picture windows on the other side of the lake. The back fences are low, and open, blurring the distinction between the two spaces, both defending space and permitting the gaze of the tourist. However, I am also conscious of my penetrating outsider gaze; viewing their backyards, their clean and drying washing, their barbecues and outdoor furniture; through their large glass windows their living areas, hearing their music and television choices. The possessions in the backyards reiterate the parkland arrangement: benches, chairs, light fittings, umbrellas, barbecues, tree and shrub plantings, lawn; yet constrained to the plot of land, able to be moved but not into shared space and thus shared communal use. This supposed portability has limits, recreating and visually emphasising divisions of commons and private space, shared and personal use facilities. The park benches in the public open space are rhythmically placed to take advantage of

imagined vistas, for that packaged Kodak moment. Public barbecues offer satisfyingly tamper resistant (and free) opportunities for outdoor cooking. A children's playground and sandpit offer active recreation for the tots, yet even this use is restricted in time. There are no public toilets. Obviously this lake and park are to be used by residents only. The nearest toilets I could find were in the shopping centre two kilometres distant, the designed environment precludes the camouflaged use of bushes when caught short. The residents once-display houses with 'empty museum-like space' (Wood, 2001, p. 138) which prefigure and imagineer the home, built by project builders as ideal liveable showcases of their trade, are again on display with showcase families as part of a showcase community for my wandering gaze, curiosity and voyeurism.

The lake is placed lower in the landscape because it has a role in the control of stormwater. It is a designated space for the potentiality of stormwater, that fleeting threat of nature. Flooding is to be transported away from the houses/homes in channels that limit and direct flows of aberrance. Private property is placed as close as possible to the lake while appearing to avoid the possibility of flood. Artificial lakes, where they have been integrated into the overland stormwater system, give a discount for the property developer in the provision of public open space. They also 'can significantly reduce capital costs required from the developer, while passing a significant cost burden to the land purchaser' (Joliffe, 2001, n.p.). This message from a consultant hydraulic engineer to the development industry appears to be at odds with the bleating from the developers' union, the UDIA. This runs contrary to UDIA(WA) protestations that land developers were hurting. Due to the impact of the Goods and Services Tax:

The industry was concerned about its ability to continue to provide benefits such as parklands, playgrounds, walking trails and water features while ensuring that affordable land was available to all homebuyers (Developers hurting, 2001).

The success of Ellenbrook is evidenced by profitability. 'Whilst [New Urbanist] communities do not necessarily cost more to build, they do usually sell for more' (Duany, 1998). What is most disturbing is the promise of plenty that is written in these fake lakes. Water as docile is able to move to the whim and demand of the designer and resident, yet in a climate of unseasonally low rainfall, restrictions on water use, rationing and sprinkler bans, the continual pumping of water into the lake ("Hydrologist to investigate", 2001) to maintain water levels is ecological and economic madness.

Ellenbrook is a commuter suburb, a zygotic edge city. The car is essential to get to and from the distant workplace, walkability is a domestic pursuit, to be done when returned from employment. The planning process has identified a future town centre, with small scale shopping mall, but building will not progress until the foreshadowed mall's catchment has been filled with the required number of residents, and high frequency transit corridors have been built. Without a captive body of consumers, the expense of development will take too long to recoup. Until that happens, shopping and retail employment take place at a small market in Ellenbrook, while cultural events like going to the cinema are a 20 kilometre round trip to Midland. The road hierarchy privileges the car; footpaths are present only in designated public open space. Again the open space serves not only one purpose, but several. Walk tracks and play areas coexist with

drainage swales, electricity power lines and gas pipeline corridors. Co-location is more efficient and productive, saving space for more lots.

There are no footpaths extending through the rural buffer between Ellenbrook and Midland; pedestrians and cyclists share the road with high speed cars and trucks. Back in Ellenbrook itself the private space of the house extends directly to the kerbing, across golf-course smooth, turfed lawns. Pedestrians must share their perambulations with tonne and a half motorised vehicles in narrow curving streets for to walk on the manicured perfection of the lawn is to invite the wrath of the owner for trespass. Riding a bicycle through Ellenbrook is pleasing when traffic is light. Cul de sacs are few, and lanes between streets permit an efficient filtering across the suburb with little delay for traffic.

This perhaps then demonstrates one positive aspect of the villagibility of the Ellenbrook New Urbanist design, though to ride a bike at the skateboard track, is to again invite neighbourhood wrath. Once a selling point for the estate, the open space of a designated site for mainly juvenile recreation has now been coded as a focal point for youth transgression. The potential for vagrancy unimagined (Wood, 2001) prior to construction has emerged and now residents and their teen offspring struggle over control of the site. Ellenbrook has been designed to order 'aberrant spatialities' (Wood, 2001, p. 77). Any vagrant use is unimagined in the utopia of Ellenbrook, anything unforeseen is therefore not to be tolerated within the confines of the suburb. New Urbanism cannot tolerate the inclusion of the urban 'other'. It wasn't part of the design,

and therefore not tolerated within this space. Turning its back on the results of past planning practice, New Urbanism consciously represses vagrant space, immanent within the land and country. While New Urbanism promises the recreation and simulation of town living, most developments completed are on the urban fringe, far removed from a transit oriented sustainable design (Newman, 1999, p. 93, Jackson, 1985). Australian Conservation Foundation Director Tricia Caswell joins Professor Newman calling for a change in government to encourage more compact urban forms and resisting sprawl (Caswell, 1995, p. 117).

The townsite turns its back on the natural wetlands of the north of the townsite. The stylistically differentiated microcommunities face towards the docile and sterile water bodies of fake lakes. They are communities of consumption, affiliated through shared socio-economic status and specific interests. Behind the entry statement, the perimeter wall, the regimental uniformity of native shrub plantings, Ellenbrook is merely a new form of suburbanism promoting the sustainability of a middle-class life, in all its uniformity, and at the centre of this space is an observable and so defensible space. As transgressive spaces are engineered out of the urban design, transgression becomes more visible. By offering diversity between villages, and a design code that limits diversity in house design, enclavised suburban space offers an answer to 'the search for secure moorings in a shifting world' (Harvey, cited in Hillier, 1997, p. 147).

This sham diversity (dissimulation within the constraints of design codes) highlights delinquency whenever it should appear. As Wood states:

The enclave subdues the heterotopics of nature, individuality and livable space via, at best, the utopianism of community and at worst through regimentation (Wood, 2001, p. 100).

Within a disciplinary architecture (architecture of discipline), spaces will be coded with several different uses. The demand is for drainage systems and wetlandspaces 'to become attractive and usable parts of the urban environment' (Dennis and Shankie-Williams, 1994, p. 29). This mirrors Foucault's analysis that supervision precedes use:

particular places were defined to correspond not only to the need to supervise, to break dangerous communications, but also to create a useful space (Foucault, 1977, p. 143 - 144).

Spaces for the transgressive and dysfunctional flooding flows of stormwater are rigorously created and coded as such. Upon a therapeutic space, an administrative and political space is articulated (Foucault, 1977, p. 144).

Water is acted upon with a medical, therapeutic model within the Queens Park wetland, disciplining and removing the imagined threat of unconstrained water. Governmentality<sup>8</sup> seeks to control the discourse (the volume, vectors and flows of chatter) of pollution, plague, pestilence, famine and flood, through the management and discipline of disciplinary knowledge. By seeming to include everything within its consultative ambit, governmentality valorises itself, as the only discourse that can accommodate all disparate

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<sup>8</sup> Governmentality as formation of apparatuses and development of whole complex of knowledges (Foucault in Burchell, 1991, pp. 102 - 103).



discourses. That power, as a function and strategy, is given to those best able to negotiate the shifting ground of swampic morass. Power seeks to anchor itself despite the uncanniness of shifting and fluctuating earth. Where earth should ground the individual and engender power, a swamp ever shifts in a monotopography of monotonous regularity and untraceable and uncontrollable flows of land and water. Stable streams are elusive to map among the featureless slime of bureaucratic drainage.

The banks of governmental discourse are imposed through the discipline of drainage spaces, the space between the banks of discourse is left to be filled. Foucault's 'hollow spaces' (Foucault, 1970, p.130) are filled with the representation of things that themselves are not anchored to their signifiers. Thus the hollow space of the disciplined swamp is filled with strict binaries of otherness and illness that governmentality imposes. The disciplined wetland is corrected and disciplined to docility. These hollow spaces of discourse are then recharged with the restructuring of new representations. The mimicry of constructed wetlands refers to an imaginary landscape that has never existed, in some cases, to protect or conserve lost or threatened spaces, retaining habitat, biodiversity and indigenous culture where they preserve remnants lost in the dramatic clearing drainage epoch. By constructing wetlands to strip water of hidden contagion, engineering and imagineering ensures all wetlands become malleable to the needs of industry, both of manufacture of physical and imaginary commodity, touristic consciousness that mourns the loss of authenticity with the rehabilitation of replacements that are more functional than the original.

It is through the simulation of a narrow, conventional field of perspective in which the premises and consequences of an act or an event can be calculated, that a political credibility can be maintained (Baudrillard, 1983, p. 16).

The landscape of wetlands is rewritten through the functional co-location of useful processes upon that space. Marginalised again is an indigenous Aboriginal voice. Pre-contact wetlands by virtue of being remnants of the undisturbed hydrologic cycle are imbricated within the drainage system. Engineered construction works shoulder to shoulder with imagineered construction of that space. The natural is made to work to human agency and design, emphasising the re-creative and restorative work of hard engineering, using soft natural processes in spaces that are always coded as open for change.

Governmentality promises inclusion and reference, and delivers compromise based on short term political necessity. Long term environmental action requires a political term of reference that goes beyond the next election, but towards the maintenance and provision of an biospheric and social culture that values sustainability above contemporaneous desires. The lessons that can be learned from the continent's senior human culture remain to be embraced in any meaningful way. Sixty thousand years habitat construction has been rewritten in under two hundred. William Lines, in his ecological history states:

The earth and the fullness of its produce belonged in common to all mankind until the labour of industrious agriculturalists created that advance from communal to private property, which signalled progress

from barbarism to civilisation. Defiance of this new order equalled rebellion against the creator of the universe. Thus, the colonists reasoned, they were fully justified in hanging and punishing Aborigines for transgressions against the laws of nature and property (Lines, 1991, p. 66).

From architecture, comes real relationships. Created from the 'apparent' dysfunction of alternate urban forms, WA Planning Commission and stated 'Liveable Communities' aims include a desire to reduce 'dependency on private vehicles and are more energy efficient' (WAPC, 2000a, p. 4), yet do so on the distant urban / rural fringe, thereby making private vehicles mandatory.

Authentic English villagibility transferred across the world in models and imaginings of colonialism translated into designed New Urbanist liveable communities based on a community within 5 minutes walk to a commercial centre. The work of colonialism goes on, manifesting in sim-communities divorced from the impacts of suburbanisation. These structures bring a parasitising authenticity that refuses to acknowledge Aboriginal country, that seek comfortable and less challenging notions of nostalgia. The surveillance of otherness and simulation of hyperreality go hand in hand in the placement of water features within enclave estates, creating synergies of denial, fear and indifference.

## Conclusion

By examining the placement and function of artificial wetlands I have had to accommodate a wide body of thinking to reconcile simulation with surveillance and processes of suburbanisation. Injecting the holistic conception of 'country' to the mix was an attempt to view urban planning processes as a deterring process of hegemony along narrow discursive lines. That swamps are making a reappearance in the Perth landscape is a manifestation that is problematic. Where and when they reappear is due to a large complex of government agencies, capitalist driven urban development, and marginalised environmental and Aboriginal groups.

The placement of wetlands reaffirms the dominant capitalist structures and hegemony. Nature still moves to the whim of capital. By reaffirming and constraining the application of Aboriginal sovereignty, capital works both on the private and shared open spaces of suburbia, as well as the shared spaces of State or Crown land. By treating pollution as somewhat external to the balance sheet of private capital, the responsibility for cleanup is placed squarely upon the public purse.

The phenomenon of constructed wetlands in the landscape is extensively covered with diverging viewpoints. A challenge for engineering is to create useable space, to make spaces more productive, and complement urban designs that seek integrated water management systems as an opportunity to reduce public open space requirements whilst creating spaces that can unite and create community. The worth of the urban design is

reaffirmed through the construction of simulated nature and community environments, naturalisation processes that affirm colonialist pretensions of permanence while denying indigenous 'otherness'. Control of this otherness is mediated through the transparent Panopticon of visibility and zones of denial.

Rather than celebrating an uncanny aesthetics as presented to the settling culture by indigenous culture, settler culture has continued to import European aesthetics that still see landscape as moving to the demands of production and warrant human intervention. Instead of celebrating indigenous knowledge as expressed in 'country', enclave estates turn away from the outside, face inwards towards a simulated community centred on simulated lakes.

Country is a difficult term for urban planning to embrace. For urban planners, any movement toward an acknowledgment of Aboriginal sovereignty would present as fundamentally revolutionary to the capitalist agenda of extractive consumption. This results in a continual denigration and limiting of speaking positions for Aboriginality. Taking a deliberately marginal stance highlights the discourses that underlie the aesthetic and ethic of urban planning.

For success, urban designers integrate lot density with a multifunctional land practice. Profitability depends on limiting costs, whilst expanding incomes in processes actively facilitated through Water Sensitive Urban Design Guidelines that provide land discounts to developers who co-locate functions with the one coded space. Feature lakes act as

stormwater compensating basins whilst being public open space. These spaces are then limited in use. Ellenbrook's Lake Fresca is subject to rules that prohibit vagrant use. Queens Park wetland acts in a subtly different way. It is a tourist site, a place of the commodification of the engineering discipline, wastes are being recycled, come and see it. Nature is making a comeback through the same tools and machinery that removed it in the first place.

An ecological sense of the land is being constructed, but as I see it, only within strictly limited constraints. The construction and placement of wetlands might offer hybrid ideas to bring the marginalised 'other' to a closer integration with suburbanisation. A therapy based on such close interaction would prove challenging both for European settler consciousness but also for indigenous consciousness. This is not insurmountable, though cautionary words dictate an inclusionary space of acceptance and reconciliation. The models built in Queens Park are an attempt to be more like pre-contact wetlands, yet no pre-contact wetlands were designed by the custodians of the land to cope with heavy metal pollution. Fake lakes in suburbia have been shown as ineffective at stripping stormwater of nutrients and pollutants (Evangelisti, Wong, Tingay, 1997) in the Western Australian experience, yet the designs are repeated in current and planned subdivisions with little regard for their efficacy.

The process of constructing wetlands demands an ongoing autopsy of the body of suburbia. Use becomes constrained by constant visibility, the creation of clear spaces limits the possibilities of cloaked transgression and offers instead spaces of vagrancy, of

deliberate resistance, and a conscious self-marginalising. Graffiti is written on the walls of a model watchtower. Who is being watched here? The residents being observed by teen taggers, vandals, hooligans, or are the teens being offered a sacrificial anode where such 'anti-social' or vagrant behaviour can only happen here. As such by seeming to offer and allow graffiti, the teens are placed in the centre of the surveilling core of the suburb, residents are watching the vagrants. The watchtower and public open space of the lake becomes a space of uniform visibility, the 'other' is observed immediately, multiple eyes strain to the interloper. Observation of the lake operates ceaselessly. Should the lake suffer an algal bloom, many eyes report the symptoms and the bloom is cleared up. Yet the causes of such a bloom would not be immediately internalised as a result of fertilising practices by the residents themselves. By coding the fake lakes with a version of country that all residents are responsible for, a conscious ethic of nurturance and permanence is shaped.

What is of concern relates to the updating of information relating to the efficacy of individual wetlands and urban developers compliance with the design objectives. In the five years since the construction of the first lake in Ellenbrook, three more have been constructed, each at the centre of an individual village. The last review of the efficiency of the Ellenbrook's lakes was conducted in September 1996 (Evangelisti et al, 1997, pp. 10- 11). The data was inconclusive and effectiveness of phosphorus removal could not be determined. The lack of accountability for compliance to design objectives is something that demands correction.

Any change to Water Sensitive Urban Design that progresses towards a more holistic conception of land, country and landscape must be viewed as a positive step. It is important however that conceptions do not progress down channels of discourse that are unnecessarily limited. Ownership of the stormwater management system is one that should not be developed in isolation from community interest groups. One effect of disciplinarity is to section off competing and complementary voices to polarised margins of discourse and function, and view the management of stormwater as an imposition from above. Such a management strategy is unlikely to be successful (Agriculture and Resource Management Council of Australia and New Zealand, 2000, pp. 28 - 29).

What is apparent is the creation of edge suburbs on the rural fringe is a case of the continuing urbanisation of the Swan Coastal Plain, progressing in leaps in an increasing arc from the central business district of Perth. New Urbanism promises a magic bullet to the problem of sprawl, yet its manifestation within the context of Perth is continuing suburbs, all of a kind, all with water features that are unusable. That the impacts of suburbanisation are mediated before the pollutants enter the catchment is vital, that developers are made to comply with these expectations is even more so.

Country encourages a landscape ethic of inclusion, necessarily all parties and actors will bring assumptions and expectations to the discussion. I hope this paper contributes in such a way.



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