

THE GARDEN OF INTELLIGENCE

Re; forming the denatured.

Richard Weller. (Room 4.1.3 pty ltd.)

*Man doth like the ape, in that the higher he climbs
the more he shows his arse.*
Francis Bacon

INTRODUCTION

The Garden of Intelligence was a zoological garden created by the Chinese emperor Wen Wang circa 1000 BC. It is recorded that scholars would sit in this garden and discuss questions such as whether or not fish had desires. Now we can move through the Tokyo Zoo in armored cars, shop (and live) in Edmonton Mall with flamingos when it is -10C outside, send monkeys into orbit, attach human ears to rats and baboon's hearts to humans. These achievements are made possible because as Richard Leakey says, "*We feel ourselves special. We have an unmatched capacity for spoken language and we can shape our world as no other can*".

The design of zoos as simulated environments predicated on environmental anxieties is particularly close to the heart of landscape architecture's, and increasingly architecture's environmental concerns. The crisis of representation in zoos and the tangle of aesthetic guises which simplify the complexity of zoos meanings, makes them pertinent prisms through which to reflect upon our role within the community of living beings. This article explores the nexus of the zoological garden through the specific design problem of reforming the existing orang-utan enclosure in the Perth Zoo, because as Levi Strauss said, "*animals are good to think with*".

In designing a space for orang-utans one not only attempts to increase the immediate quality of life for the animals but one also has the opportunity orchestrate a theatre which might agitate the innocence of the human bystander, an opportunity to negotiate abstraction or simulacra dredged up from a consideration of evolutionary history and *ways of seeing*. In presenting this site to students of architecture and landscape architecture I expected a manipulation of the space between subject and object into "*a useful illusion*". Images of student's designs for a new orang-utan enclosure support this text .

Less abstracted from organic origins than architecture and more directly concerned with living things other than humans, landscape architecture has an historic role in the formation of symbolic microcosms in which the rubric of nature is both subject and object. Despite the significant theoretical locus of the garden as a mediation between culture and nature, gardens generally escape scrutiny since they appear to innocently veil and resolve the rend between culture and its environment. However, when animals are included in the garden the proximity of troublesome meaning is harder to suppress and disguise. The zoological

garden is a place which heightens the drama of the discursive space between nature and culture, bringing the wild and the civilized into immediate dialectic.

However, the garden's locus of meaning as something in between culture and nature has lost its validity since the dualistic referents upon which such a location depends are no longer available in pure contradistinction. It is more appropriate to understand the landscapes of the earth as singularly denatured, implying that the human subject is located within a new nature born of its own irrevocable doing, a perilous condition binding the fate of all living things - an evolutionary responsibility far greater than our egos or wildest technological dreams. In short, we are a species which has difficulty organising a simple organic system like traffic flow in even a small city and yet we have positioned ourselves as "*stewards of the earth*".

As opposed to the historic condition whereby an animal in a zoo was a benign totem of the greater wilderness beyond, contemporary animals represent wilderness lost or wilderness mediated and tamed in accord with the ruthless logic of the global denatured garden. Within this, zoos are islands of a "*vanquished authenticity*" and yet they are bound for the future in which 'natural' authenticity will be (if it is not always already) just a sentimental memory. This is the paradox of zoos; they artificially preserve authenticity, a conundrum to which I will return.

HISTORICAL FRAGMENTS

In fact, the zoological garden, like the botanical garden emerges from Assyrian hunting parks (c1350 BC) in fiction from the mythological topos of Paradise (*pairidaeza*) shared yet differently interpreted by both Islam and Christianity. Whilst there is evidence of collections of animals in Egyptian and Chinese gardens, it is the Garden of Eden, which underpins modern western zoological and botanic gardens. The first modern botanic garden is attributed to the Padua University (1543), although it can be traced to Aristotle's Lyceum. The inclusion of collections of animals in gardens for mere spectacle can be most illustriously ascribed to the Romans who developed aviaries and menageries but the seminal menagerie design was that of Le Vau for Louis 14th at Versailles in 1663. The design was a panopticum, essentially the same as that which now houses the orang-utans in the Perth Zoo. The first designated *zoological garden* supported by a zoological society was developed in John Nash's Regents Park in 1826, beginning with animals collected by Henry III which were previously ensconced in the Tower of London.

The modest Padua garden (*orta botanica*) was a Vitruvian diagram, the orthodox, orthogonal signature of paradise (*hortus conclusus*). So as to combine fledgling science and established theology, the early modern logic of the botanic and zoological garden was to include all of God's creations, (The Book of Nature) as recreated Edens wherein all the objects were categorized according to reason. Zoo's, a part and parcel of the nineteenth century city were modeled on the *hortus conclusus* in principle but not in form. Rather they, like most 19th century public landscape design were poor copies of the English eighteenth century picturesque from which literary content and attention to the genus *loci* was replaced

with animals and horticultural eclecticism. Some zoos simply placed animals in follies common to the English landscape garden.

Christian's generally preferred the botanic garden to the zoological garden because plants do not overtly engage in sexual activity. Fundamentalist Christianity has believed that women and animals are responsible for Man's fall. Man lost dominion over the animals after The Fall. Supposedly, in Eden before The Fall, as well as gaining the right to name every animal, humans and animals spoke the same language, a wondrous communion revisited every time a primate appears on televisual advertisements exclaiming the virtues of some particular product. Hence, for example it was believed that parrots must issue from paradise, lending weight and virtue to exploration of the Americas. Now we have evicted the animals in all countries from their respective paradises although this time, playing God. Bacon, in *New Atlantis* argued that through applied science we would regain dominion and reconstruct paradise, an ideal still invested in, yet not borne out by our technological enterprises. Because our ecological future has become so unpredictable and so precarious, zoo's are genetic arks gathering remnant stock from a contemporary technological and demographic deluge.

Australia, also imagined as a potential site for the elusive garden of Eden began as a large zoological and botanical curiosity and then became a penal colony. Upon inspection of Australian wilderness the colonists found it difficult to equate with any vision of paradise. Australia's perverse nature, a nature just learning to write as Marcus Clarke suggested, could not be justified with the explanation applied to the Americas, that God had engaged in two separate acts of creation. Nor could they sustain the equation of Aborigines with noble savages or understand, or excuse Aborigines for their apparent inability to satisfy the (impossible) terms of the social contract imposed upon them. Consequently settlers invented a new explanation for Australia's existing life forms, which, as Veronica Brady has explained, placed indigenous flora, fauna and people outside the economy of salvation. That is, Australia, the inexplicable antipodean aberration in God's global scheme was assigned to the forces of evil thus allowing the settlers to move with zeal and reason for vengeance.

The rich and flexible metaphoric scope of the Garden of Eden was retracted to a simplistic frame for good versus evil whereby animals and indigenous culture were bundled up into the same Satanic threat. As they were erased, animals, plants and Aborigines were sent home as *memento moris*, curious attractions, freaks from hell. The aesthetics of the garden (of Eden) as the signature of reclaimed virtue had to be forced into the hellish wilderness but the Australian landscape resisted counterfeit European landscape styles, exacerbating the fear and loathing of the country's own peculiar aesthetic and ecological limits. In fact, concerted effort was made to repopulate the Australian landscape with exotic animals so as to make up for its apparent inadequacies in this regard. Cute emblems of the familiar, such as rabbits quickly reached plague proportions and continue to undermine, invert and confound the shepherd's prelapsarian arcadian prospect. Ideally then, the country was to be remade as a vast, picturesque, zoological garden from which

the fallen and bestial would be excommunicated. Shards of this vision remain with us as zoos embedded in every major Australian city.

Generally, the place and meaning of animals in history is ambiguous and richly varied but orang-utans particularly so. Linnaeus' *Systema Naturae* (1736) named the orang-utan *Homo-nocturnis*, placing them close to humans yet separate from other animals which were classified on mass as simply dumb, hairy and quadruped. Of course, after Darwin the notion of humans as merely *hairless apes* became current and contentious. Despite shifts in relations throughout history a boundary between us and them is always heavily policed. Animals are the reference for many of the qualities we condone in people (or indeed nations) just as they are referents for that which we abhor. In reaching out to, or denying animals, or assigning them autonomous value (as do 'deep' ecologists), it is always our identity, which is at stake. If we accept the main residue of Western Humanism, that we are responsible for our own actions and know of no higher authority to determine if what we do is good or evil, then it can be concluded that we rule the 'animal kingdom' by violence not by right. And yet, now more than ever, the masters are nothing without the slaves.

THE CITY AND THE ZOO

The city's boundaries, like the zoo's, shift and relay between the local and the global. The zoo and the city are also both vestiges of the past clinched in the present yet rife with, and sustained by narratives of the future. Both the city and the zoo protect certain types of wealth, based on uncertain futures, however both the city and the zoo would now agree that wealth is information, for the zoo genetic, for the city economic.

The city's historic mission has been to liberate us from nature's shackles, (and its amoral cruelty) fragments of which the zoo now claims to preserve for posterity. The city of Perth with its Kongian spires is positioned dialectically across the Swan river from the Zoo. Fore fronting the CBD is the Supreme Court which deals with inmates as opposed to primates. The Court's role is to civilize and reform whereas the Zoo's role is to educate and save. Both zoos and prisons distrust humanity. Both are, inversely, institutions of protection. Both bemoan the necessity of their existence and would prefer to confidently release their inhabitants.

The city is an economic wilderness in which *homo sapiens* try to "make a killing", whereas the Zoo is a gardenesque souvenir of wilderness from which Darwinian struggle has been replaced with *meals on wheels*. The Zoo is a niche of culture's dim evolutionary memories, the city's heart of darkness rendered petite except on full moons when the surrounding residents endure and complain of a wild cacophony.

The Perth Zoo was begun in 1897, when the Director of the Melbourne Zoo, Albert le Souef was invited by the West Australian Acclimatisation Committee to choose a suitable site. The Zoo began with the purchase of two tigers and a lion for 100 pounds. The Perth Zoo is noted for its gardens and rolling lawns and whilst the figure of the plan with attractions strung out along serpentine paths is essentially picturesque, the gardens are also botanic.

The main plantings are accredited to a local horticulturalist, Harry Steedman who worked the site for 31 years.

In terms of their design, many zoos remain caught in the boundaries of 19th century systems of classificatory knowledge and the aesthetic lullabies of the picturesque. Additionally, zoos are caught in the nexus of contemporary marketing that befuddles the operations of many enlightened institutions, which in principle were not established nor equipped to make money. The Perth Zoo has a history of financial struggle from which we can gauge the ambiguities of the Zoo as a learned institution and the ways in which its public profile and meaning has changed over the course of the twentieth century. Suffering financially in the 1920's it developed a range of attractions such as baby shows, treasure hunts, open air concerts, circus shows, lumpers picnics, and a miniature railway opening in 1932. The Zoo's most recent developments include *Microworld* which focuses on soil conservation, *The Conservation Discovery Centre* which explains the Zoo's role in international conservation, a *Butterfly World*, and *Harmony Farm* which deals with sustainable agriculture, low energy living and recycling. The Zoo is also the setting for a continual program of themed events and exhibits variously announcing didactic environmental messages more often than not sponsored by the (greenish) chameleons of private enterprise.

A public zoo is science backstage and an eco-circus on stage, surviving because it is "somewhere to take the kids". Zoos are familial places trying to be happy, leisurely and educational, (edutainment)keenly avoiding any suggestion of cruelty which the public immediately associates with the raw aesthetic of the 19th century iron and concrete cage. The Perth Zoo, Australia's most heavily visited zoo, attracts half the city's population every year. Indeed, with all due respect, it is marketing which makes orang-utans particularly important to zoos. Unlike other animals which are notoriously slothful and reclusive, the orang-utans put on a good show. There are over 200 orang-utan collections (900 animals) in the world's zoos.

One could ask why we are attracted to the orang-utans and answer that since Perth is described as "*The Family City*" it makes sense that people visit their relatives on the weekend. More seriously, perhaps when we confront the orang-utans we partake of a deeper taboo, briefly relinquishing the burdens of civilisation. Conversely, the lewd antics of the orang-utans enables us to affirm and confirm our humanness. Probably, it is the oscillation of the orang-utan between being like us, yet not us, which holds our attention. Queen Victoria, upon seeing 'Jenny', the orang-utan dressed in nursery clothes and drinking Darjeeling tea at the London zoo in 1842, expressed this ambiguity when she said, "*He (sic) is frightfully and painfully and disagreeably human.*"

THE CAGE AND THE CLIENT

The orang-utans are described by the Perth Zoo administration as "diplomats" for the rain forest but they are actually political prisoners or refugees. Orang-utans born or kept in captivity are a type of denatured animal but unlike chickens and pigs they are only for

looking at, thinking about and artificially preserving. They are caught directly in a system of meaning and reproduction, refugees from a system of production.

The Perth Zoo prides itself on its orang-utan collection. To determine if the animals are happy is beyond empirical data but the Zoo's statistics of animal longevity and breeding indicate internationally outstanding success. This success is related by Zoo staff to the main architectural principle of the enclosure. Unlike in other zoos which tend to group their orang-utans in one big cage to avoid the typically distressing image of an individual animal in solitary confinement, at Perth the animals are isolated from one another by individual rooms within the overall enclosure. The reason for this is that apart from necessary mothering periods or breeding times orang-utans are not social animals.

The enclosure is a mini-fortress designed according to the arm spans and climbing capacities of mature orang-utans. The enclosure consists of five grassed, dry moated enclosures. Each of the five has an area of 157m² separated by brick walls to a height of four metres. The enclosure is structured so that the staff occupy a central building in which the animal's night dens are located as is the 'crush cage' wherein an animal can be restricted to enable veterinary work. The public moves around the outside of the enclosure, peering through glass or across the 4-meter deep dry moat. The animals are framed between the staff building and the public gallery, a double panopticum. The animals are locked inside their 20 m³ night dens at four pm, coincidentally the same time as prisoners in Western Australian institutions are locked in cells.

In rainforests orang-utans like to move horizontally, but rarely touch the ground. An orang-utan in the wild usually has 2 square kilometers of arboreal networks whereas in the Perth Zoo they have small steel pipe 'monkey bars' common to school playgrounds. We were told they like to have a variety of unattached toys, which cannot be provided because the orang-utans have been known to throw things at visitors. The animals are provided with dead vegetation, car tyres and plastic garbage lids to fill the time they would otherwise spend foraging for food.

The enclosure requires at least two more individual cages since the enclosure is overpopulated, forcing some animals to stay locked up in their dens. The orang-utans apparently need more privacy and flexibility, more mental stimulation, more generous infrastructure for rigorous exercise and protection from sun, wind and rain such as that normally provided by a rainforest canopy. At present they use cardboard scraps to assemble their own shade structures and appear to be bored, although the staff stress that orang-utans do not appear to be happy in a way which we recognize and encourage us to not confuse our facial expressions with theirs. It was also noted that interaction at a distance with the public was considered a good thing but that the animals also need spaces into which they can retreat from the public gaze. Ideally a new enclosure would create multiple possibilities for the audience to see the animals without the animals knowing it.

As noted, a dry moat and glass are the main divides between humans and orang-utans at the Perth Zoo. The deep moat is an appropriate abyss between subject and object, audience and stage. In the case of the glass divide, the animals on the other side can comfortably sit up against it. The pawing public can look an orang-utan in the eye reducing the spatio-temporal span of evolution to eight millimetres of transparency. The glass screens between us and the orang-utans quite literally identify us as viral since, as explained by staff, the animals have to be protected and distanced from influenza and other diseases carried by humans.

Glass is an invisible perceptual screen over which a grid could be drawn and nature captured in perspective. With glass, science (i.e., chemistry and bio-chemistry) could emerge accurately since glass is a non-reactive material. Glass is central to most technologies of vision, but in glass one also catches a fleeting, anamorphic reflection of one's self. Glass must also have separated Descartes from the world when he concluded that animals are *thoughtless brutes* and mere *automata*. Funnily enough, orang-utans are excellent Cartesians for they will take any complex mechanical object, focus intensely on it for hours and pull it apart bit by bit. However, as far as we know they do not then draw universal conclusions from their findings! Perversely, *mere automata* are now known as audio-animatronics, the technology central to Disneyland's success. One might also note here that Disney's recent landscape creation; *World Showcase* in Orlando is rather like a zoo except there one consumes naturalistic representations of national cultures extraordinarily unaffected by modernity.

In theory boundaries are the zoo's weakest yet best disguised lines. In practice the boundaries are precise and impenetrable. The zoo must carefully orchestrate the boundary between humans and animals, between animals and other animals and between the zoo itself and the city beyond. The contemporary zoo however, wants to avoid the ecological misnomer of presenting a collection of isolated objects. Zoos like the Perth Zoo which have inherited nineteenth century Master plans struggle to reconfigure their circuits so as to better convey the message that all living things are interconnected or at least form larger bio-regional groupings. The Perth Zoo's recent Master Plan document states in its introduction that *"new exhibits will be designed to immerse the people in the animals' environment which will awaken people's feelings and generate excitement. This is effectively accomplished by organizing the Zoo in the same way that Nature organizes the Earth."*

Boundaries within and between enclosures are generally heavily concealed with planting. Does a camouflaged cage fool an animal? Does it fool us? Like most cosmetic landscape architecture, planting which feigns the natural only softens the hard edges of fact and lulls us into the lies of a pastoral modernity. But then what is one to do?

NATURE AND NATURALISM

Whilst one could be excused for expecting to see orang-utans in a verdant arboreal setting, the design of an orang-utan enclosure can never be literally naturalistic, not least because the animals would destroy any living matter. Whilst living vegetation is inappropriate for

captive orang-utans one must be careful to accept that a degree of naturalism might be good for some other, less boisterous animals.

Given that naturalism is actually unavailable to us in designing an orang-utan enclosure then we face a problem for no one can know the aesthetic predilections of orang-utans. One could in some way simulate a rainforest but perhaps they would enjoy something entirely different. After all, many of the animals have never seen or felt a rainforest. Like us, they might prefer to sit in couches with remote controls viewing David Attenborough in Kalimantan rather than being there or being stuck in lousy little copies. They might prefer a derelict building, a body building gymnasium... anything?

Although this might go without saying, put yourself in their position and imagine a species more powerful than us with whom we could not communicate deciding the aesthetic and structural form of our environments. If this more powerful species destroyed our living environments yet wished to keep some of us for posterity then depending on their means of interpreting us they could keep us in any kind of environment. Worse, they might give us poor little copies of our former homes, a final insult more about their guilt than our benefit. After a while, if we bred effectively they might also conclude that their design was good for us. But species breed well under conditions of extreme stress and inmates in prisons can appear exceptionally healthy.

The mid to late twentieth century tendency in zoo design and in landscape architecture in general has been toward naturalism. "Immersion" is the term for zoo design that indulges in the conceit of naturalism. The aims of immersion are not just to provide healthier cages for the animals but also to psychologically *immerse* the audience in landscape tableaux which mimic the global landscapes we are losing or have lost. The aesthetics of immersion obscure the modernism of the cage, justified as creating alliance between animal and habitat of educational value to the audience.

Richard Payne Knight (1750-1824) one of several key authors calling for a less prim picturesque, (a more naturalistic and rustic design style) curiously suggested that the landscape designer's role is to make the landscape *speak*. We might well remember his meaning and forget his forms. Many landscape architects are still using his language of landscape design to speak of our radically different cultural condition. In zoos, landscape designers who oft bemoan the loss of the wild (but reap the benefits of the modern), can practice these naturalistic simulations untroubled by representational self-consciousness. For example American zoo designer, Charles Coe makes grandiose claims for naturalism. "*What we want to create is what appears to be the real thing and not somebody else's artifact. A zoo can offer a close in, super heightened wilderness experience, a zoo can show us how to restore damaged lands to true wilderness.*" At the time of writing, one male orang-utan in Perth was watching *the real thing* on television to distract him from picking a wound he gained from his rusty `monkey bar'. When I asked the Zookeepers what he is watching, they answered "*animal shows*". Alexander Wilson describes Disney's animal

shows as *"transparent allegories of progress, paeans to the official cult of exploration, industrial development and an ever rising standard of living."*

The 'nature', which landscape architects often have in mind, is only a nostalgic surface image of landscape, a culturally specific selection. Typical to specious strains of romanticism, it is the organic, unmediated landscape that is supposed to behold redemption for corrupt, urbane civilization. Landscape architects have failed to apprehend the (delightful) conceit of naturalism as only one of many aesthetic possibilities, they have failed to acknowledge that naturalism is in fact a manufactured contrivance.

As Baudelaire has said of set design, *"our landscape painters are liars precisely because they fail to lie."* That is, landscape architects who earnestly practice naturalism engage in plagiarism as opposed to rhetorical quotation, they manufacture copies of the organic yet invest these copies with puritanical notions of the truth, beauty and authenticity - values apparently encrusted in landscapes unaltered by human hands. The fact that such unmediated landscapes no longer exist as such seems to matter little, and nor are they troubled by the fact that their copies can never attain the integrity of the original. Such naturalism is often presented with the vague notion that nature and culture will reach some kind of "harmony", an unbelievable, all too easy, static synthesis which does more to reiterate a fallacious nature / culture divide than reimagine it. Focusing more on biophysical systems than cultural systems, landscape architecture has zealously met the late twentieth century with the *true* language of *nature*. But *the true language of nature* is something of an oxymoron for we always put words in *its* mouth. Moreover, we are it, are we not?

Of course, *nature* is just a word. The word's problem is its outstandingly generic scope, its ideological flexibility and its ability to give dialectical rise to the "unnatural" as nature's inferior aberration. Whilst all that to which we refer with the word's reckless use is surely not only a *cultural construct* our psychological means of being in the world and changing that world are powerfully culturally determined. Zoos bring this into relief even as they attempt to blur it. The zoo is a strictly manicured garden but a semiotic wilderness, a labyrinth in which the human is the minatoar. Language rules the zoo and its inmates are illiterate. Language is perhaps the last landscape left to destroy or the first we need to remake. Language is both the equipment of our liberation from nature's shackles and our *great* cage.

Wilson has also said, *"[T]he whole idea of nature as something separate from human experience is a lie. Humans and nature construct one another"*. In respect of this, (or belittling this) some zoo set design now shifts tentatively away from a pristine naturalism toward a realism wherein cultural artifacts are included in the scene. This is a realism learnt from television and inspired by theme parks and their spectacular profits. This realism places humans in the scene as *managers*. For example, a description of the African exhibit in the Perth Zoo reads, *"Once entering the exhibit the visitor is introduced to a land of open spaces, rock kopjes and dry river washes. On the outskirts of the habitat is a tent camp immersed in a thorn forest. An old land rover will stand by as if ready to carry*

a scientist to the research site. Here also, docents and education staff will hold talks on Africa and conservation." After analyzing such scenes Huxtable concludes that, "if these recreations teach something... They also devalue what they teach; the intrinsic qualities of the real place are transformed and falsified. "

Pursuing Payne's directive to make landscapes *speak* raises the spectre of representational honesty. What should or could zoo's look like and bespeak when we discard the simplistic pap of naturalism or a pseudo realism to which we are accustomed as singular strategies? We can imagine a range of aesthetic possibilities. A case could be made for a zoo, which more overtly expressed its technological *nature*, a zoo designed by Richard Rogers et al. Or we can think of a zoo which incorporated the naturalistic, bringing it into sharp relief self-consciously as a recreation at the knives' edge of cultural forces. If used sparingly in relation to other aesthetic strategies within the zoo, naturalism could be used as a powerful register of loss. Nostalgia need not be only conservative, forlorn and phony. Regarding realism, we can also understand and imagine the zoo as a holocaust museum, but if it was figured as such would the public return with their kids in prams on a sunny Sabbath? The zoo is a complex fabrication, a mytho-poetic terrain, an evolutionary diagram, a political field, a philosophical problem, an ecological paradox - all of which are aesthetic issues met by complex knots of references not declarations of representational truth or falsity.

AESTHETICS OF THE DENATURED

In 20th century culture, vision and perception has been radically explored, however, we await an ecological vision. Ulrich Breck exaggerates yet makes the point that ecology *"has fallen prey to a fallacious, naturalistic conception of itself. It reacts to a global fusion, rife with contradictions, of nature and society; this fusion has sublated the two concepts into a blend of reciprocal interconnections and injuries of which we have as yet not the faintest idea, let alone a concept."*

In 1857 the British naturalist H. Noel Humphreys remarked that, *"we need to develop our vulgar eyes."* Perhaps now, an ecological vision means we need to learn to see relationally. Take any object and ignore its immediate object hood as we see it - try to see (imagine - trace) its spatio-temporal relationality, that is, where its constituent parts came from; what processes they went through; where the object has travelled and what it has effected: how it was transformed and where it might be going and what it might then effect. One could call this a *network of invisibility which* emanates from any object which appears before us. To map (see) this network of invisibility comprehensively is not possible but what I wish to indicate is that a more relevant method of reading objects and places now lies in their relationality to other objects and to other places. The orang-utan enclosure is an example of a design problem where one could consider working with relationality as opposed to singular images or simply using materials and forms with no consideration of their sources, transmutations and (inter) connections. Doreen Massey confirms this by suggesting, *"we need a global sense of the local" and that "[I]nstead of thinking of places*

as areas with boundaries around, they can be imagined as articulated moments in networks of social relations and understanding."

Generically, this conceptualization of relationality indicates the kind of visual / mental process suited to an ecology of vision and constitutes an ecology of information. Shifting from objects or static, singular and selected images relationality would suggest that one not vainly attempt to establish enclaves of (pseudo) authenticity which are "immersed" in a pristine romance of the past. Indeed, orang-utans are not isolated objects, they are living signifiers of a complex set of relations and conflicts involving indigenous peoples (Dyacks), Indonesian demographic policy, logging and mining companies and world heritage interests. This could be similarly said of any zoo animal, they are all mascots of global knots in which (post) modernity and environment are inextricably bound, a condition radically simplified by the landscape tableaux of the zoo.

An orang-utan enclosure is an extreme example of what Harvey refers to as "*space time compression*", a quintessential characteristic of the post modern condition for any species. Moreover, orang-utans are our relations (as indeed are all living things) and one would expect design to cope with this in some depth. The only relationality achieved by most contemporary zoo design is to indicate that an animal is (or was) part of a particular habitat geographically remote from the actual zoo.

The zoo is about technologies of survival, the hard edges of which design often attempts to conceal. In post modern culture, technology is entering bodies and ecosystems so deeply and creating surfaces which do not necessarily reveal their content that it is becoming increasingly futile and difficult to determine what is authentically natural or authentically cultural. Donna Haraway's writings on Cyborg's may be useful here in so far as they theorise the denatured space emerging from space in between the binary opposition of nature and culture. A 'Cyborg', as the spliced term suggests, is a coupling of 'cybernetics' and 'organism'. It is easy to understand the zoo as a 'machine for living' which befits the notion of the Cyborg in so far as zoo inmates are controlled by, dependent upon and born of, technology. Whilst the zoo's individual compartments structurally embody a nature /culture divide, in its entirety a zoo is a Cyborg. It is also easy to understand the whole earth as a Cyborg so long as technologically advanced humans are involved in its fate.

Haraway's relevance is that she speaks of our manipulations of organic bodies not as creations which can return to purity, but rather as by-products of a conscious shift involving sophisticated mergences between technology and organics for which we are responsible and which may counter or subvert the teleological domination of technology. Indeed Haraway is concerned with mutant prosthesis which we may appropriate for liberatory purposes. Paradoxically, precisely on the occasion of technology's complete domination Haraway sees a chance in appropriating technology's new forms to the purpose of deconstructing the logic that made technology's dominance possible. She does this to refute the various mythologies of wholeness specific to feminist discourse yet this stance is also well suited to waking landscape architecture from its despair, and nostalgia or jolting its unconscious complicity in the cosmetic surgery of 'progress'. In short, Haraway means

to say that models of resistance to the lethal domination of technology which are themselves versed in the nature/ culture opposition are no longer tenable or useful. She could be speaking of landscape architecture when she says "*The Cyborg body is not innocent , it was not born in a garden: it does not seek unitary identity...[t]he machine is us, our processes, an aspect of our embodiment. We can be responsible for machines: they do not dominate or threaten us. We are responsible for boundaries; we are they.*"

One can sense the trappings of techno-evolutionary futurism in Haraway's polemic and one can (as much recent cinema does) too quickly fetishise Haraway's Cyborg. But the Cyborg (the denatured) does not license a mere celebration of technology and nor are technologies such as genetic manipulation or cybernetics be in any way visually apparent. Suffice it to say that in thinking of an aesthetic of the Cyborg or what the Cyborg should 'say' (Payne), the modernist desire for truth in representation or the romantic's desire for nature as 'other' are both profoundly unsettled. The zoo operates, (as does much of landscape architecture's general aesthetic appeal), to comfort a society over its losses, gently preparing us for the monstrosity manifested in the condition of the Cyborg whilst also upholding faith in technology to repair the injuries it has created.

OTHER ZOOS

Somewhat contrary to Haraway's anticipation of hybrid creations are 'Frozen Zoos' which cryogenically preserve pure genetic stock. These frozen moments of authenticity are the most concerted effort to stop evolution, or arrest the erasures and mutations caused by human impact. (Walt Disney will inherit these chilling arks if he is thawed out in 2050 as planned). More akin to Haraway's Cyborg model is the Washington, DC Zoo which now has its orang-utans perform for the public by interacting in a computerised class room wherein their mental skills are tested and we witness the results. This cybernetic circus is most fascinating because its scientific purpose is aimed at establishing a common language between humans and orang-utans. The seminal author of the Cyborg Manfred Clynes, has recently said that individual animals might literally become Cyborgs if they were fitted with mechanical simulations of human voice boxes. However, as Stephen Jay Gould points out, we could also mate an orang-utan and a human and then ask the hybrid (infertile) offspring to tell us how they feel, but as he notes, this is the one truly forbidden experiment.

Virtual zoos open new possibilities for zoological display boasting interactivity and extreme spatial and temporal environments. The internet is also thickening with its own "eco" systems, mathematical wildernesses such as *TechnoSphere* in which "cyberbeasts" live. One can design one's own carnivorous or herbivorous cyberbeast and release it into the self organising, fluctuating, (fractal) landscape wherein it proceeds to hunt gather and breed. A cyberbeast will send email back to its "owner" telling of its various exploits or death. In 1996 there were 77,000 "cyberbeasts" inhabiting the 'scapes of *TechnoSphere*, a place which one of its authors, Jane Prophet describes as a new order of the sublime. One can of course retreat from the Darwinian chaos of *Technosphere* and simply purchase a "Giga Pet" or a "Tamagotchi", personalised cyberbeasts, available in most Toy shops. A Tamagotchi is born in one's personal computer and requires constant care and

attention. People speak of their Tamagotchi's with the pathos of a real life situation, as if it were their child.

One can also imagine the broad appeal of computer programs such as the *Blind Watch Maker* which takes small graphic structures (Bio-morphs) on radically accelerated evolutionary paths. One can set certain 'environmental' conditions, run the program and witness the emergent forms, thus simulating (crude) rewinding or fast forwarding of evolution. Clearly such applications of computational logic will assist in partially predicting the future (or range of possible futures) of certain life forms under certain projected conditions.

By implication virtual zoos argue for the demise of actual zoos as entertaining attractions, but the virtual zoo can never repopulate parts of the planet with a variety of material thus it is somewhat outside or beyond the economy of salvation which sustains the meaning of real zoos. However, the grand(iose) sub text of virtual reality is that humanity will increasingly relocate its desires from matter to cyberspace, thus somewhat diminishing the negativity of our impacts on the *stuff* of ecosystems. Virtual reality finds a fascinating yet dubious corollary in Arcadia.

It is the desire for the real thing which sustains actual zoos in the leisure and museum market, indicating that virtual reality is always somewhat unsatisfactory. But zoos are a kind of virtual reality wherein all the machinations and meanings of the zoo's complex fabrication has been edited out. Zoos, like television also pay keen attention to nature's highlights. Despite the indignity of it all, the zoo, like most learned institutions with a public profile is increasingly influenced by theme parks.

JURASSIC PARK

Jurassic Park is the most recent, fictitious yet forboding incarnation of the zoological garden, a place where high technology, profit and evolution take the theme park *back to nature*. *Jurassic Park* is a film about a park as opposed to Disney's strategy of real theme parks about films. *Jurassic Park* warns against genetic engineering and its shotgun wedding with de-regulated capitalism and the mad scientist, in essence reiterating Mary Shelley's Frankenstein message in a more spectacular form. *Jurassic Park* like Haraway's Cyborg is not Edenic. *Jurassic Park* reminds us that the rise of homo sapiens (and all mammals) is causally connected to the extinction of the dinosaurs, an unpredictable loophole in evolution which contrary to our anthropomorphism might know no teleology, no linearity.

Jurassic Park warns of chaos. By indulging in an extreme circumstance such as the resurrection of Dinosaurs, the film distracts us from the quotidian fact that the global ecosystem and our actions within it is always already chaotic. That is, chaos in the sense of Chaos theory, defined as the predictability of unpredictability and the Butterfly Effect. Gould argues that the book by Michael Crichton was essentially a polemic on Chaos theory, an

issue the film could not afford to labor. Zoos are shored up against the unpredictability of the global future, bastions of apparent order. In *Jurassic Park catastrophic*, sudden change emanates from the heart of the zoo, allowing the chaotician Ian Malcolm to elaborate that *"we have soothed ourselves into imagining sudden change as something that happens outside the normal order of things.... we do not conceive of sudden radical, irrational change as built into the very fabric of existence. Yet it is . And Chaos theory teaches us."*

The film ends with with the old message that we cannot recreate what has been and nor can we always control that which we create, that evolution or God's plan can not be rewritten. But the dramatic heights of the film allow us to overlook that evolution has been and is being rewritten by us. Contemporary culture is in a situation whereby the cumulative effects of its past actions place it in a position where it can only intervene, where culture and nature are intertwined at all points. The sequel *The Lost World* concludes with Malcolm telling us we should leave the dinosaurs on the island alone, in other words nature will self correct our mistakes if we leave it to its own logic, again a separation of nature and culture for a world unlike ours. Gould, speaking of Malcom's resistance to meddling in evolution in the film points out the contradiction, asking *"[H]ow can a chaotician talk of nature's proper course at all"*. Indeed, environmentalism of which zoos are now a part rests precisely on this problem, for how can anyone or any institution assert *nature's proper course* so as to act forthwith. Chaos theory and post modernity in general affords relativism, an intellectual culture not suited to conditions of ecological crisis.

Chaos theory stresses the ecological analogy of interconnection between the local with the global, the micro with the macro. This coincides with environmentalism's catch cry *"act local think global"*. But *thinking global* is rendered problematic by postmodernity. Under God, or with 'Progress' we knew where we were in the order of things and hence how to act. Environmentalism borne of the apparent calamity of such arrogant certitudes, attempts to replace these grand narratives with itself but rests also on faith. Aspects of natural science which environmentalism hopes to win to its cause can point to the fact that our survival (as we are) depends on the diversity of living things but it does not necessarily sanction the conservatism of environmentalism nor indeed the stasis of Ecotopia.

Chaos theory (not unlike ecology) is misunderstood by romantics as liberatory when it is in fact concerned with totalised knowledge, the ability to model all, that which has been to date beyond computation. With degrees of unpredictability factored in, the mathematics of complexity can approach the intricacy of ecosystems and possibly tell us more of the relational consequences of our actions but whether this helps us in the discourse of ecological value remains to be seen.

Jurassic Park should have been an epic rumination on these dilemmas, alas, it hopelessly resolves contemporary bio-ethical problems with 19th-century scaremongering. Zoos are always already in the position of Jurassic Park, radical interventions in the order of things yet, paradoxically their sub-text is protection of nature's truth, beauty and authenticity. When

and if zoos take action in the landscapes beyond their confines then that too will be "chaotic", neither acts of nature or culture but the denatured, a post natural nature.

FUTURE PARADOX

Contemporary zoos, like many institutions (and ideas such as sustainability) which have been born (or reborn) under the aegis of environmentalism, suffer from a lack of epistemological grounding. That is, environmentalism in general assumes the moral high ground of the twenty first century casting global aspersions and values with certitude and righteousness, yet this is ultimately based on inherently speculative, personalised philosophical and theological interpretations of the value and teleology of life on earth.

By participating in a resistance to depletion of bio-diversity, zoo's borrow from the virtues of environmentalism. Zoos also borrow from the credit of bourgeois education in arguing that if people come to see the animals and learn about them then (somehow) they become more caring, ecologically responsible global citizens. This ethical logic might have been more convincing before television made everyone a naturalist of considerable experience, before ecological values became popularist values which television, the education system, the popular press *and* zoos tend to present unhinged from the deeper structural economic and philosophical problems environmentalism really calls up for questioning.

Zoos gain justification for their continued existence as genetic banks saving for the worst-case scenario, a situation they actively seek to avoid, a situation against which their stock is valued. Zoos are insurance against the uncertainty of the future. We have to ask what exactly it means for a zoo to be a genetic bank? The orang-utans, distinguished guests on the genetic ark, are not going 'home' to the jungle in the immediate future so where are they and their offspring going? Exempting a few animals which might be released to recolonise parts of strictly monitored national parks, most captive orang-utans will certainly stay where they are for life if the relationship between late capitalism and ecosystems remains as it is. As the hope of larger habitats becoming available beyond the zoo wanes then the zoo might find itself back to the 19th century, merely an urban novelty without a larger sense of purpose.

Perhaps some of the zoo's offspring will be released into newly designated inter-national parks if we optimistically imagine that the felling of habitats will stop, a prospect for which there is very little evidence. Surely no one really imagines a reconstruction of the prelapsarian on a vast scale. Despite the ecological optimism (and cynicism) surrounding the greening of capitalism and Christianity and our futuristic withdrawal from the material to the virtual, it is hard to imagine that a large yet stable human population on the earth will ever share the planet with thriving habitats. If we can not accept that increasingly sophisticated environmental technologies will mutually enhance the relationship between humans and ecosystems then such a bucolic world is only likely to re-emerge in our physical absence or at least after a significant culling of the global population - a situation to which eco-fascism would be a pre-requisite.

As is common enough in environmental history, civilization and its zoos might collapse of its own accord. Then perhaps the colonist's dreams of a great south land populated by escapee exotica will be realized far more spectacularly than it has been. It is however more reasonable to expect that if the current global civilization collapses then it will take most living things with it. Thinking in evolutionary scales, it is probably correct to assume that the existing diversity of life forms will be partially and gradually replaced by new life forms, whether genetically engineered or not. (One can of course indulge the vision that zoos of the future will be bestiaries stocked with the freaks that emerge from the geneticist's alchemy). We can be sure that new life forms will mutate of their own accord and evolve out of postindustrial toxicity to remind us that life is far more powerful and inventive than the nostalgic imagery which environmentalists have in mind when they speak of "*saving the world*". Whether any future scenario is a desirable one for humans is the selfishness at the heart of most ecological altruism.

If zoos are uncertain about the reason behind keeping their stock then it is only because the world beyond the zoo has no idea of the future it is actively creating. Given that humanity cannot decide upon the value of other living things, whether evolution is random, whether species are inherently right to be selfish or whether evolution has a greater collective purpose *in mind* for every living thing, then zoos do well to buy time for some animals. As it is now, some of the orang-utans in the Perth Zoo take international flights to other zoos, mate and return. This is a global management program involving considerable effort just to keep the world's captive population stable.

Finally, one can ask why zoos still have global collections and do not concentrate in their specific bioregions? Apart from entertainment value the answer is that the respective cultures of respective bio-regions can not be trusted with *our* collective, global ecological inheritance. If the sub text of the Perth orang-utan collection is that Indonesia is not to be trusted with its environment, one could then conclude that other zoos featuring Australian animals do not trust us. Absurdly though, one has to conclude that the Singapore Zoo justifies its collection of Polar Bears with such logic.

It would be facile to see zoos as nineteenth century circuses refusing to pack up. Zoology is after all a discipline which together with all (post) enlightened institutions shares considerable confusion over what ecological crisis really means and how to respond to the distinct possibility that *man* is not the measure of all things.

CONCLUSION

A Garden of Intelligence is a landmark of consciousness. In sharing the earth with other species our consciousness is also our loneliness. Design that emerges from ecological issues could be understood as an attempt to avoid that loneliness becoming absolute. Far from stewarding the earth, or saving the world, in the zoo a designer settles for minor, yet potent representational possibilities, interventions in the symbolic order of things which if

anything, might subvert that which we think we are. Consequently students produced some monstrously beautiful cages.

I would like to conclude with Adorno, who reminds us that, *"In naively condemning the ugliness of a landscape torn up by industry, the bourgeois mind zeros in on the appearance of domination of nature at the precise juncture where nature shows man a facade of irrepressibility. That bourgeois condemnation is therefore part of the ideology of domination. This kind of ugliness will only vanish when the relation between man (sic) and nature throws off its repressive character, which is a continuation rather than an antecedent of the repression of man. Chances for such a change lie in the pacification of technology, not in the idea of setting up enclaves in a world ravished by technology."*

But perhaps the client should have the last laugh.

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