

Why Do Extinctions Matter?

Mourning the Loss of Indigenous Flora in the Southwest of Western Australia

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Introduction: A 'Species' Does Not Exist

The expansion of human populations and the demands of technological growth have placed global pressures on wild communities of organisms. Accelerating declines in habitat and the pollution of air and water have led to an extinction crisis unprecedented in the history of three billion years of life on Earth.¹ Biodiversity 'hotspots' such as the Southwest corner of Western Australia are particularly susceptible to the kinds of pressures and transformations ecological systems are undergoing worldwide. The diverse and unique flora of this corner of Australia provides a poignant study of the pandemic of biological extinction. Public awareness and scientific recognition of indigenous flora in the Southwest offer the possibilities of conserving plants, alleviating the pressures leading to their disappearance and enhancing opportunities for human engagement with more-than-human life.

Extinction, however, is not just an environmental crisis solved by biological, political or legal measures. The disappearance of species, as a complete extinction or as a gradual decline in occurrence, has emotional and aesthetic consequences that entail dealing with loss, silence and absence. Not only are the flesh, bone and blood of the organism and its collective species gone, so are its colours, sounds, smells, behaviours and relations. With every extinction our sense worlds are impoverished, and through the eerie silence of the landscape the loss is made more profound. The mosaic of life, of

which we and the animal or plant are part, is irrevocably altered. Extinction is ecological and eschatological, requiring both biology and poetics as palliative measures. Through the tragedy of near-extinction or complete-extinction, our connectedness to the world and to other beings, paradoxically, can be reconfirmed. But this requires a framework and actual modalities for mourning.

Extinction involves broad temporal and spatial scales and monumental finality that can be hard to comprehend. As prominent Southwest Australian botanist Stephen Hopper cogently remarks, “the loss of biodiversity is irreversible. Extinction, *the death of birth*, is final [emphasis added].”² The finality of loss, as in any death, should precede a ritual of mourning. However, as anthropologist Shiv Visvanathan has commented, “science has no mourning rituals” and, thus, societies struggle to rationalise why extinctions even matter.³ Part of the difficulty in rationalising the extinction of species lies in the concept of the ‘species’ itself. The species is part of the “discourse of nature” described by Michel Foucault in *The Order of Things: An Archaeology of the Human Sciences*.⁴ Species is a construct of natural science and part of its classificatory schema emphasising the reproductive structures of fruits, flowers and seeds as well as evolutionary relationships between organisms.⁵ A species is an idealised form insofar as it generalises how an organism should appear, on the ground, without the consideration of the nuances of individual herbs and trees, or of the behavioural relations between lives in an ecosystem. In other words, the abstract, taxonomic construct of ‘species’ makes absent the body, flesh, pulse and sensorium of the individual plant. An organism, beyond its scientific appellation, is a singular sentient life, with multiple relations and an aesthetic distinctiveness of its own. The individual sensate organism slips between categorical abstractions, such as taxonomies, through its own breathing, sensing, pulsing and all the various volitions that, in sum, express it as existing.

To find our way through mourning the more-than-human, we must sift through two layers of absence. The first layer of absence is the reified aspect of the species itself, while the second layer of absence is the loss of botanical life on the ground and in actuality. A species cannot be touched, smelled, seen, heard or loved. A taxonomic species functions in the first place because it represents an absence of the being enmeshed in its particular sense world. Classificatory naming succeeds as the primary methodology of natural science because it extrudes the living plant from its ecology. The natural world is reduced to a series of signifiers. The disjunction between species as signifier and the organism as the signified therefore raises several problems for human engagement with the natural world and the mourning of loss. How do we mourn the loss of a species when a species does not actually exist but rather points to the botanical body in absentia? How can we then even approach the question ‘why do extinctions matter?’ when a species is reified, or substitutes for actual living plants and abnegates the human sensory experience of those plants? To come to terms with extinction as an ongoing possibility in the technological age, we move to embrace, figuratively and actually, plants as multi-sensory beings with corporeality rather than as taxonomic schema, which neatly distil the plant down to a classification and name rather than a living presence. In order for extinction to matter, we need to engage the power of our senses and emotions, and contact the particular life cycles and seasonal patterns of plants to make meaningful such a monumental, hard-to-grasp and reified event as the extinction of a species. The abstract, disembodied quality of the concept ‘species’ compounds the scale and severity of ‘the extinction of species.’

With regard to mourning the loss of Southwest Australian flora, this essay will argue for three needs: the need to reconceptualise plants as bodily presences rather than as taxonomic abstractions, the need for poetics and aesthetic appreciation in the representation of extinction, and the need for a new model based in connectivity to guide mourning the loss of biodiversity.

Towards this argument, the essay takes a four-fold path. Firstly, how does the flora of the Southwest of Western Australia fit within the global context of species extinction? By defining biodiversity and extinction, the section 'The Sixth Great Extinction' aims to show that the aesthetic consequences of species loss have been only minimally articulated in the literature of extinction. This section then addresses the severity of 'the sixth great extinction' and situates the flora of the Southwest corner of Western Australia within the broader context of global extinction. Secondly, the section 'Landscapes of Absence' expands upon the ecological, economic and ethical consequences of extinction and articulates the aesthetic ramifications of Hopper's "death of birth." How do landscapes of extinction look, smell, taste, sound and feel? This question calls forth the host of absences — the sensory deprivations — that extinctions precipitate in landscapes. Considering this, in the section 'Botanical Memorials,' the essay thirdly presents several artistic and literary responses to the extinct or precarious status of many plant taxa in the Southwest and considers the role of the arts in making extinction matter. What is the role of the literary and visual arts in creating botanical memorials to species lost? Painter Adolph Plate depicted the flora of the Southwest in the early twentieth century, writer Barbara York Main in the mid-twentieth century, and contemporary visual artist Gregory Pryor in recent years. Botanical memorials to extinction emerge as artists and writers record or respond to Southwest landscapes on the brink of serious change.

Lastly, what is the role of the grieving subject in mourning the loss of indigenous flora? The final section 'Connectivity and Mourning' looks towards aesthetic engagement of more-than-human life as one framework for mourning and revisioning the mourned object. Freud propounds a theory of mourning in his seminal essay, "Mourning and Melancholia,"⁶ that proves inadequate for establishing a conceptual framework for grieving the more-than-human. Mourning, in Freudian egoistic terms, dichotomises

the subject and object, the mourner and the lost one: the mourner mourns his or her inevitable loss rather than the lost. Freudian mourning replicates Foucault's "discourse of nature." Aesthetically rich knowledge of plants, however, opens the way for mourning based in connectivity that concretises the absence of extinction. In establishing this final point, the "connectivity ontology" proposed by ecological humanities scholars, such as Deborah Bird Rose, potentiates the mourning of lost flora through sense experience and aesthetic representation. This opens the possibility of intersubjectivity between the lost one and the mourner.

The Sixth Great Extinction

How does the flora of the Southwest of Western Australia fit within the global context of species extinction? Extinction threatens planetary and regional biodiversity. Scientists estimate that fifty percent of the Earth's species might disappear by the end of the twenty-first century.⁷ As Rose and van Dooren observe, "we are living in the midst of the Earth's sixth great extinction event. At the present time, species are dying more quickly than we can count them – let alone conserve them."⁸ For the purposes of this argument, I distinguish between 'extinction' as an evolutionary process that arguably has given rise to the biodiversity we now protect, and 'extinction' as a phenomenon of modern technology-driven overconsumption and human alteration of biodiverse habitats. The elaboration or rationalisation of this distinction is beyond the scope of this essay. 'Extinction' here refers to the global disappearance of a plant species along with their economic, ecological, ethical and aesthetic value. Extinction refers to the processes through which a plant reaches the brink of extinction, or critical endangerment. The variables of extinction — habitat loss, introduced exotic plants, overgrazing by feral animals and diseases — are held in common by different species of plants.⁹ Furthermore, local extinctions are of tantamount

significance to global extinctions. A local, or regional, extinction is the complete disappearance of a plant from a locality, such as a discrete forest or desert system or a mountain range, although the same species may be found in distant regions or ecosystems. The concise status of a plant — globally or locally extinct, endangered, or threatened — recapitulates the semantics of federal conservation protocols. The extinct, endangered and threatened situations of plants are kinds of absences, whether total or partial.

If we are to ask why extinctions matter, we must first ask: ‘why does biodiversity matter?’ If extinction is absence, biodiversity is the multifarious presencing of species evolving over vast spans of time. Biodiversity is a measure of biological variety expressed commonly as the number of species in a region as small in scale as a forest ecosystem or as large in scale as the globe.¹⁰ In biological terms, Edward O. Wilson defines biodiversity as everything that exists:

All hereditarily based variation at all levels of organization, from the genes within a single local population or species, to the species composing all or part of a local community, and finally to the communities themselves that compose the living parts of the multifarious ecosystems of the world.¹¹

Writers identify four reasons why biodiversity is important: economics, ecology, ethics and aesthetics. Economics, with regard to the value of botanical biodiversity, refers to the preservation of the genetic pool of crop plants on which human civilization depends. The transfer of genes between wild and domesticated plants is a necessary strategy to enhance crop yields and maintain disease resistance over time.¹² The economic argument for biodiversity preservation often uses metaphors such as ‘genetic storehouse’ or ‘unread library’ to describe plant populations. The ecological rationale for protecting biodiversity observes that the earth is a balanced system, and that the extinction of species removes precious ecological influences from that balance causing overt or unforeseen consequences. Both the economic and

ecological arguments perceive plants for their utilitarian value as safe keepers of genetic information, providers of food, fibre and medicine, and agents for the maintenance of overall balance in the biosphere. The ethical rationale, instead, argues that human societies have the responsibility to protect biodiversity for the intrinsic sake of the plants themselves and for the benefit of future human generations. While these three reasons have been argued for persuasively in conservation literature, the fourth reason, aesthetic value, is of central concern here.¹³

Roger Lewin and renowned paleoanthropologist Richard Leakey characterise the sixth great extinction, the current human-driven mass disappearance of species, as similar to previous biological catastrophes in the Earth's history. This extinction, however, is unique because of the wide variety of plant species being brought to extinction.¹⁴ They identify three primary motivations for valuing and preserving biodiversity: economic, ecological and aesthetic.¹⁵ Of the three, the authors concur that the aesthetic value of biodiversity is the least tangible but the most crucial for tapping "deep into what it is to be human."¹⁶ In the chapter "Does It Matter?" Lewin and Leakey conclude by emphasising the value of a holistic perspective of nature: "And when we understand the Earth's biota in holistic terms ... we come to see ourselves as part of that whole, not as a privileged species that can exploit it with impunity."¹⁷

In Lewin and Leakey's terms, beyond economic and ecological justifications for biodiversity preservation, there is an ethical responsibility to preserve the diversity of species, especially when many of the variables creating species extinction, such as human overpopulation and habitat destruction, are within human control. As we grow more connected to other forms of life and thus towards a holistic view of our place within nature, the attitude to preserve plants grows stronger. Aesthetics, the third value mentioned by Lewin and Leakey, but the least articulated in their book, signifies that the extinction of a species is the impoverishing of the sense

world. This is a shared sense world, held in common, in this case, between humans and plants, although certainly also between humans and reptiles, and humans and humans. And sense experience invariably binds and bonds us to the phenomena around us and heightens a feeling of connectivity to the more-than-human world.

The impacts of the activities of humanity on the environment have become so significant that scientists such as Nobel Prize-winning atmospheric chemist Paul Crutzen have coined the term 'Anthropocene' to denote the current epoch in which human societies have become a "global geophysical force."¹⁸ Beginning around 1800, the Anthropocene corresponds to the rise of industrialisation and is marked by a drastic increase in the use of fossil fuels.¹⁹ As Steffen, Crutzen and McNeill plainly state, "enormous immediate challenges confront humanity over the next few decades as it attempts to pass through a bottleneck of continued population growth, excessive resource use and environmental deterioration."²⁰ While such concerns expressed by the scientific community are expressly anthropocentric, the farther-reaching consequences of resource exhaustion and land development extend to all life. Extinction is the most pronounced, and irreversible, of the effects of environmental decline. This has been particularly evident in Australia where, according to Hopper, "European colonisation has resulted in the extinction of 20 mammals and 100 flowering plants in the short space of two centuries. More than 3,000 Australian plant species are now rare or threatened, including 16% of our eucalypts."²¹

In Australia and worldwide, the deterioration of the environment and increased human populations striving towards higher and higher levels of technological consumption mean greater competition for resources between humans and plants. All too often, endangered plants cling to marginal habitats. Most rare and threatened plants survive in severely fragmented pockets of indigenous vegetation. As Leakey and Lewin write, "the most vulnerable species are those whose geographical distribution is limited."²²

The Southwest of Western Australia exemplifies a vulnerable and unique indigenous flora with limited geographical distribution. Nearly three thousand species, or fifty percent of all indigenous plants, in the Southwest are endemic, occurring nowhere else on Earth in an uncultivated state (in the wild, outside of greenhouses or gardens).²³ The flora also includes some of the largest trees in Australia: the karri, jarrah, marri and tingle trees. Isolation from the rest of Australia by the arid central deserts, extreme climate shifts and poor soils have forced the indigenous flora to exhibit uncanny adaptations to their environment.

The greatest impact on the ecology of the Southwest has been the clearing of indigenous vegetation for agricultural land. In the interior Wheatbelt region for example, the eradication of native plants has led to the salinisation of the topsoil, or “the salinity crisis.”²⁴ Other factors affecting indigenous plant populations include diseases, mining and introduced exotic species. Presently, only about one-third of the original pristine vegetation (found at the time of European settlement in the 1830s) remains and almost eighty-nine percent of the *Eucalyptus* woodlands including many of the large trees just mentioned have been lost.²⁵ Neville Marchant, former director of the Western Australian Herbarium, comments that “a sombre thought is that diversity of WA plants will decline significantly before its incredible range in plant form, flower structure, pollinators and survival strategies are fully appreciated in Western Australia.”²⁶ Marchant, like Lewin and Leakey speaking more broadly of the global extinction crisis, suggests the real possibility of losing the aesthetic value of the region’s plants.

Landscapes of Absence

How do landscapes of extinction look, smell, taste, sound and feel? For a research project started in 2008 and continuing to 2011, I am surveying sites

of high botanical diversity in the Southwest of Western Australia. The purpose of the research is to clarify and expand upon Lewin and Leakey's third value of biodiversity as it pertains to flora. It is thus an exploration of the aesthetics of flora in the Southwest through analysis of historical representations, ethnographic interviews of botanists and the researcher's poetic enquiry into the flora at biodiverse study sites. Lewin and Leakey argue that aesthetic value is as threatened as economic and ecological value when a crush of variables, such as habitat loss and pollution, threaten a species. Recognising the present imperilled status of many Southwest plants, the project, then, sets out to articulate the aesthetic value of the flora and offers possible conceptual models for deeper sensory and emotional engagement with the more-than-human. Although the research incorporates elements of botanical science to identify indigenous plants and comprehend ecological relationships, it is primarily focused on the sensory aspects of individual plants and whole floral communities.

Places look, feel, smell, taste and sound certain ways, in part, because of the plants they harbour. Field studies conducted in 2009 have shown that, just as certain plant species have distinct economic or ecological facets, so do they have particular aesthetic or sensory attributes that express the overall character of the landscape. While the field sites are botanically diverse and rich, they also reveal a greater absence within the broader regional environment. The extinction of plants alters the landscape and thus irreversibly changes the human experience and perception of the world. It has also become evident that populations of indigenous flora cling to remnant island habitats, as Hopper has observed of the Southwest.²⁷ This phenomenon is especially noticeable at the Stirling Range National Park, one hour's drive north of Albany, Western Australia. Situated between the inner Wheatbelt and the outer coastal habitats, the Stirling Range consists of about one-third of the flora of the Southwest, or one thousand five hundred species including eighty-seven endemic plants and rare local orchids.²⁸

Only one of two major mountain ranges in the Southwest, the Stirling Range provides an unparalleled vantage point for observing the island effect where indigenous flora cling to montane slopes surrounded by agricultural land. One can see, hear, smell and at times feel the incursions of settlement upon the Stirling Range. The effect is one of pressure; roads and vehicles, fenced pastoral lands, domesticated animals and feral exotics engulf the plants. The aesthetic experience of flora is entwined with the awareness of industrialised human transformation of the Southwest landscape. Employing poetic enquiry as a qualitative research methodology into the aesthetics of Southwest flora, in “Three Peaks Tryptych” I write from Bluff Knoll, the highpoint of the Range:

bluff knoll watches
each & every finger flick
& twitch of the eye
bala mial bula mial
his eyes many eyes
watch the alluvium
of north-stretching Bremer
Basin: (a sentinel
of the sedimentary).

I flick breadcrust flakes
into a bivouac of plastinated
shrubs, into a bevy of
slope-hungry bushes,
mial bala mial
the staccato of autos
duodenum of road carlot
a vestigial tissue
bursting into the pink,

inflamed irradiance
of bottle brushes’ late
blooming so, measuring
its own metes & bounds
so, registering its own
cadastre.
between grazing land &

mountain, the limina
transected,

by an impetuous bitumen
tube.

Settlement pressures around the periphery of the park have further isolated the montane flora into an island community. Additionally, the flora of the Stirling Range is severely threatened by plant diseases, such as the soil-borne fungus *Phytophthora cinnamomi*, which causes plant dieback. According to Wills and Kinnear, dieback is one of the most serious threats to plant conservation in the Southwest especially in places of high botanical diversity.²⁹

Beyond the Stirling Ranges, the vast inner plateau of the Wheatbelt is a landscape of absence in which hearty well-adapted indigenous plant communities have been eradicated by pastoral expansion, introduced flora and fauna, and federal programs encouraging the destruction of native flora.³⁰ The Wheatbelt, though now cleared of ninety percent of its native vegetation, was once an extraordinarily biodiverse habitat. Robert Austin, travelling through the Wheatbelt in 1854, observed “jam and work tree forests,” “dense thickets of cyprus and casuarina scrub,” and “white gum forest with an undergrowth of prickly scrub.”³¹ Early European settlers, however, cleared the land of indigenous vegetation to plant food and fibre crops. The gum trees especially presented a formidable obstacle to settlement by early colonists for whom an agricultural agenda meant transforming the native bush into viable pasture. In his article “Picturesque Western Australia” Adolph Plate, a German-born artist who immigrated to Western Australia in 1907, extols the natural virtues of the Southwest: “there is the picturesque scenery of the South-West coast, the peaceful inlets, sheltered from the storm-swept seas, and the great forests of gigantic karri trees, that, were they in America, would form a pilgrimage for thousands of

tourists.”³² These landscape features, however, were on the cusp of transformation.



Figure 1.

Adolph Plate

Untitled [WA Bush Scene with Ringbarked Gum], 1912

Penrith Regional Gallery, Watercolour on Paper.³³

In 1913, Plate painted a Southwest Australian bush scene with a ring-barked gum in the foreground (Figure 1).³⁴ The encircling gash in the tree reveals a complex story of Western Australian settlement through the devastation of the indigenous eucalypts. An assumption, and ultimately an error of judgement, originated in the European worldview, according to Southwest landscape history writer George Seddon, was “that the bigger the trees, the better the soil, which led to heartbreaking attempts at settlement in the karri country in Western Australia.”³⁵ On the practice of ring-barking, which ensures the gradual decline of a tree, ABC Radio National program, aptly entitled *Hindsight*, reflected:

The tree died and then the branches fell and we spent years and years picking up those branches ... Dead trees kept dropping branches on fences ... one of the worst risks was of bushfires ... There were hundreds and hundreds of acres of stark, ring-barked forests.³⁶

Plate’s watercolour of the ringbarked gum signifies the complexities of importing European aesthetic values, especially the Picturesque, to the Australian landscape.³⁷ The smoothness of the gum tree’s trunk is dissected by the bark ring and scar tissue. The spindly gums of the background identify this tree as the last of its girth and grandeur: an embattled giant. The ring-bark is a gash embodying, in its grotesqueness, the history of the eradication of the indigenous trees that impeded colonial expansion of the bush. The wound and the roughened scar tissue are tragic distortions along the sleek, upward soaring trunk of the tree. The gash is tactile; the sensations associated with it are felt, and the hardened scar tissue symbolises the destructive widespread rationalisation of ring-barking. Plate’s selection of the ring-barked tree as subject matter marks a departure from the traditional pleasing picturesque landscape scene and inverts the idealism of a pure, circumstantial or virgin forest devoid of a complex history of human interaction. Here, the history of the destruction of the karri forests is written into the body — into the flesh and cambium — of the tree. The scene is

unlike some of Plate's other sublime landscapes that depict the Australian landscape as *terra nullius* — without human inhabitation, lacking a history of human usage, and belonging to no one.³⁸ The ruination of these ancient "pillars of the west" through the colonial practice of ring-barking represents the large-scale changes brought to the ecology of the Wheatbelt.³⁹

Adolph Plate vacillates in his paintings and articles between several conflicting values. He expresses scorn at the wanton destruction of the karri forests by the farming practices of settlers, antagonism towards the trees themselves as hindrances to the conversion of the land and interest in the trees as fiscal objects of international commerce. Writing under the pseudonym 'Boree,' an Aboriginal word for a hard species of acacia wood or a man who has chosen to live independently from society, Plate wrote numerous articles about the Southwest landscape for literary periodicals including his own journal, *The Leeuwin: A Westralian Magazine*.⁴⁰ A 1911 article describes the park-like banks of the Blackwood River as a feast for the eyes.⁴¹ Writing in the *Lloyd Guide to Australasia*, however, Plate takes an attitude of converting the land from "unproductiveness into wealth."⁴²

As a painter, Plate's framing of the picturesqueness of the bush landscape seems in opposition to the settler prerogative to transform the park-like setting of the Wheatbelt into productive, tillable land. Plate reflects other conflicted attitudes of some early Southwest writers such as Fred Davis' *The Lure of the Golden West* (1927) whose initial applauding of the aesthetic value of the landscape is followed by an expression of hope that the scene will become subjugated into arable fields: "beautiful as [the forest] undoubtedly is in its natural state, yet, from a utilitarian point of view, it will be more beautiful still when all under cultivation."⁴³ Plate's work raises the question, can a landscape of aesthetic significance also have economic and ecological value concurrently? Where do these values conflict? And which values result invariably in the production of landscapes of absence,

one in which, for example, close to ninety-percent of the pre-settlement eucalypt woodlands in the Wheatbelt have been lost?

Botanical Memorials

What is the role of the literary and visual arts in creating botanical memorials to landscapes of absence and species lost? In an epoch of great pressures on wild, uncultivated communities of plants, the visual and literary arts have the potential to produce botanical memorials to reaffirm the third value of biodiversity stated by Lewin and Leakey: aesthetics. Memorials, in the form of paintings, poems, memoirs or performances, are elegies to species or landscapes lost. Memorials record sense experience of indigenous flora or invoke an emotional expression of the imperilled status of other-than-human life. Two contrasting botanical memorials from the Southwest address the importance of literary and artistic interpretation of flora. Indeed, arts-based enquiry into flora is as needed presently as science-based methodologies for, in Lewin and Leakey's words, tapping "deep into what it is to be human" through the aesthetic experience of plants.

The first example of a botanical memorial is the work of visual artist Gregory Pryor, particularly his 2005 exhibition *Black Solander*. The second example addressed here is Barbara York Main's 1967 account of the bushland of the Wheatbelt, *Between Wodjil and Tor*.⁴⁴ Main's journal-style first-person account of a tract of the Wheatbelt is more of a naturalist's record of the land through the seasons without explicit commentary on the status of the species. Main, a scientifically trained expert on trapdoor spiders, recreates the tradition of nineteenth-century American non-fiction author and essayist, Henry David Thoreau, for whom careful observation and multi-sensory experience of the flora were recorded in detail through his journal reflections.⁴⁵ The lineage between Main and Thoreau is made



Figure 2.

Gregory Pryor,

Black Solander (detail), 2005

Ink, pencil and spirit-based ink on sugar paper.⁴⁶

obvious in the “Preface” of *Between Wodjil and Tor* in which Main quotes Thoreau’s qualification of wilderness as “the raw material of all our civilization.”⁴⁷ Gregory Pryor, in comparison to Main and her Thoreauvian literary influence, is a contemporary Australian visual artist whose work explicitly comments on the precarious status of many Southwest plants.

The installation work of Pryor exemplifies the role of the visual arts in memorialising extinct and critically endangered flora.⁴⁸ *Black Solander* is a memorial to over ten thousand Western Australian plants rendered as shadowy images on rectangles of black sugar paper to create a tomb-like ambience within the gallery. Shadowy, hastily sketched profile portraits of plants substitute for precise idealised renderings of flowers to highlight the imminence and urgency of native species extinction (see Figure 2).⁴⁹ Exhibition curator and art historian John Barrett-Lennard comments in his aptly titled introduction to the exhibition, “Outline and Absence”: “Repeated in their thousands upon thousands, [these images] stand in for the living — the total flora of Western Australia — and for the dead, the disappeared, the erased — the plants that are no more...”⁵⁰ Pryor furthermore interrupts and extends the scientific lineage starting with state botanist of Western Australia, Charles Gardner, whose specimens in the 1920s formed the initial botanical collection of the Western Australian Herbarium.

Pryor’s inversion of the aesthetic of beauty is made apparent through the shutting out of the sun and the modelling of the gallery as crypt. Paradoxically, the darkness of the exhibition reflects, through the absence of the sun, the luminosity of the Southwest environment, a factor of extreme solar exposure to which indigenous flora are well-adapted. The visitor to the exhibition enters into the body of the immediacy, symbolised by the mausoleum within the gallery enclosure. Physical immersion and sensory deprivation, along with an empathic feeling for the threatened and extinct flora, creates an exchange between the viewer and the subject matter. The

effect is dialogic in which the viewer is given the space to contemplate human impacts on flora and the severity and scale of extinction. The exclusion of light and colour especially create a sombre visceral reaction: a counter-aesthetic experience.

Impending, but hidden still, is a feeling for — a waiting for — the sensory pleasure that is yet to come, the pleasure of form, colour, harmony, balance, sound and touch that could be at stake as the sixth great extinction affects the Southwest. In *Black Solander*, Pryor deconstructs the disengaged viewership model of plants that places the distanced subject at a comfortable and appreciative distance to the plant object in the landscape. The plants are not the frozen, aestheticised images of postcards or the dissected schemata idealised in botanical illustration. Pryor upturns the traditional models of representational beauty and the “loaded aesthetic appeal of the flower.”⁵¹ The shadowy images of Western Australian flora are huddled together *en masse* seeking refuge from the dissolution of their sustenance: uninterrupted habitat, clean water and air and mutually beneficial relationships to other species.

In contrast, Barbara York Main’s *Between Wodjil and Tor* is both a scientific and literary account of the bushland flora with only minor overt commentary on the endangered or threatened status of native plants central to Pryor’s exhibition. Rather than invert the “loaded aesthetic appeal” of the flower as Pryor does, Main memorialises the aesthetic features of the flora with scientific veracity. In the “Preface,” Main comments on the value of her dual scientific and literary focus: “But perhaps it is the juxtaposition of wilderness and the man-made orderliness of farmlands, which is becoming the situation now in our countryside, that will provoke a realization of the inherent interest and value — both scientific and aesthetic — in the natural bushland.”⁵² Through the increasing absence of intact bush ecosystems in the Wheatbelt and the juxtapositioning of vestiges of native vegetation to pastoral lands, as discussed of the Stirling Range, the scientific and aesthetic

value of the flora become more apparent. Absence invokes ecological consciousness, in Main's terms.

Main captures with unwavering precision and attention the pleasurable sensory features of indigenous plants through her immersion in the natural bushland of the Western Australian Wheatbelt. She writes of the botanical community, the mallees:

Dominant, in great shaggy clumps, stood the mallees. These mallees, the Burracoppin mallees (*Eucalyptus burracoppinensis*) sprawled low, many of the boughs even lying on the ground, with their crowns of tough, grey-green leaves sweeping and resting on the yellow sand, each clump forming a great, shaggy, untidy tent. Everything about them indicated age. The twisted trunks of each clump were top-heavy with old dead branches.⁵³

Main clearly evokes her intersubjective engagement with flora. Descriptors such as "sprawled," "lying," and "sweeping" evoke active bodily posture and reflect back to the reader the author's emplacement as embodied participant in the cadence of the landscape. Main writes of the seasonal, cyclical quality of the narrative: "The recurrent theme of the book is the annual rhythm — the changes wrought by the seasonal cycle — with a particular landscape, its dormant plants and a selected group of animals."⁵⁴ Main's descriptions of the undisturbed indigenous Wheatbelt vegetation serve as a record of a landscape that has lost nearly ninety percent of its native flora.

Western Australian poet and literary critic John Kinsella describes Barbara York Main as a hybrid writer bridging scientific zoological writing and literary reflection with "acute local observation of place — flora and fauna, habitat and specificities, but also a sense of the mediating self, of the author being part of the process of identification and belonging."⁵⁵ Main's involvement in the process of belonging to the parcel of native bushland is subtle, yet noticeable, because of the scientific veracity of her prose, which can often overpower a literary voice. Her narrative tone comes through

especially in the multi-sensory language she employs. The vibrancy of colours such as “grey-green leaves” and “yellow sand” mixes with tactile images of decay and gnarled age. Main’s approach is one of naturalistic realism, depicting both the beautiful and grotesque features of the mallee vegetation. As with the rendered botanical images of Pryor’s *Black Solander*, the plants represented in Main’s prose are unaestheticised; idealised form and colour are balanced by a vocabulary of the grotesque – shaggy clumps, untidy tent, twisted trunks and old dead branches.

Unlike Pryor, however, Main’s botanical memorial is less critical of the effects of anthropocentric change on the flora and the landscape. In this sense, Main’s memorial is less of an elegy to extinct species and thereby departs from the theme of Pryor’s exhibition. She writes of her greatest hope that “the landscape will retain its ‘partially cultivated’ mosaic structure in which the *uncultivated* interstices will continue to inspire.”⁵⁶ The juxtapositions of remnant bush and cultivated pastureland inspire, rather than disorient, the author. Kinsella expresses that, while Main’s writing reflects the cyclical sense of the place, she neglects the impacts of European agricultural practices on those cycles: “So there is a classical Beethovenian sense to the place, but not to the place as cleared and rearranged by European farmers.”⁵⁷ In other words, while Main focuses on the presence of native communities of plants in bush parcels, she doesn’t fully communicate, through either literary or scientific language, the magnitude of environmental change occurring in the Wheatbelt.

Beresford, Bekle, Phillips and Mulcock, in their classic study of the salinity crisis in the Wheatbelt comment, “the Wheatbelt has a little-known, but unenviable, reputation: in no other region in the world is there thought to be an area as large which has been cleared of its natural vegetation in so short a period – most of it in the sixty years between the 1920s and the early 1980s.”⁵⁸ Native vegetation in the Wheatbelt evolved deep-penetrating root systems that helped to keep water tables at a depth from the surface.⁵⁹ The

clearance of indigenous flora disturbed such ecological equilibrium, bringing salt levels to the topsoil and inhibiting the agricultural usage of the land. While Main makes no ostensible commentary on the crisis that was beginning to boil around her, other contemporary writers do, such as Wheatbelt poet Tracy Ryan, who in “Mallee Root” writes:

Not what we understand
as wood, this warped
and twisted thing
that had lain hidden,
dry truffle, under a surface ⁶⁰

This poem is an epigraph to the misunderstood, tangled root of the mallee vegetation in the Wheatbelt whose delicate ecological balance once nurtured a highly biodiverse and well-adapted flora.

Connectivity and Mourning

We look towards the visual and literary arts, such as the poetry of Tracy Ryan, the literary prose of Barbara York Main and the visual art of Gregory Pryor for modalities for memorialising species and expressing grief over the extinction of plants. Although science might lack mourning rituals, as suggested by Shiv Visvanathan, the literary and visual arts fill a need. But why does science lack mourning rituals? And most importantly, what is the role of the grieving subject in mourning the loss of indigenous flora? The absence of sensory and emotional attachment to plants constitutes the objective foundations of botanical science. Arguably, we turn towards artistic and literary interpretations of mourning because, within the framework of scientific objectivity, emotional expressions conflict with taxonomic epistemologies. Perhaps inadvertently, Plate’s watercolour and Main’s bushland account memorialise Wheatbelt landscapes that were in the midst of change at the time of each work, and, since, have been transformed

even more intensively by habitat loss and agricultural enterprise. Pryor's renderings, more self-consciously than Main's prose or Plate's watercolours, are simultaneously elegies to species lost and expressions of profound grief.⁶¹

Why does science lack mourning rituals? Although a detailed enquiry has been beyond the scope of this essay, it is nevertheless critical to reference the dominant construction of nature in Western thought. Invariably, this construction of nature has influenced how science and the public approaches the mourning of extinct species. Michel Foucault describes scientific botany as part of a "discourse of nature" that objectivises the other-than-human into institutionalised modes of seeing and saying.⁶² In the discourse of nature, Foucault argues that nature "is posited only through the grid of denominations without [which]...it would remain mute and invisible."⁶³ The discourse of nature sets up an object-subject binary between humans and nature in which the more-than-human becomes objectified, commodified, marginalised or plainly destroyed, as we have seen in the case of the Wheatbelt vegetation. Connectivity and interdependence between living beings is excised out of the discourse of nature, in Foucault's terms.

Taxonomic science encodes the primary grid of denominations to which Foucault refers. In the discourse of taxonomy, the idealisation of a species undergirds the abstraction of extinction itself. A species is a generalisation and an artifice of taxonomy. A species does not exist phenomenologically; it cannot be experienced by human sensory faculties. While the concept of species is functionally valuable as a classificatory idiom, it is insufficient as an aesthetic, sensory or emotional medium. In other words, a species cannot be grieved. Only an individual organism or a collective of organisms can be grieved. A community, a place or a life can be grieved, but not a scientific artifice. Yet organisms, if regarded as objects of grieving as in Freud's terminology, risk objectification through the discourse of nature and the power relations it structures. Despite the problematic conceptualisation of

nature that purports nature as an object and infers an object of mourning, a framework for grieving lost species is still of urgency. As Giblett comments on the loss of wetlands worldwide, “the world should mourn its wetlands which gave it life and nourished it.”⁶⁴ If science and taxonomy have no rituals for dealing with loss, absence and mourning, to where do we turn?

The Freudian concept of mourning, if applied to extinct species, extends Foucault’s discourse of nature by positing nature in a subject-object opposition in order to formulate the object of the human subject’s mourning. For Freud, mourning “may be the reaction to the loss of a loved object.”⁶⁵ In “Mourning and Melancholia” (1917) Freud proposed that mourning ceases when the mourner severs emotional linkages to the lost object, freeing the subjective ego to focus on a new object, and thus creating a substitution for the absence of the lost one.⁶⁶ Freud bases his account of mourning upon the traditionally unified subject in which the subject’s allegiance is to its own desire rather than to the objects of this desire.⁶⁷ Clearly, Freud’s early theory of mourning sets in opposition the mourning subject to the mourned object. According to Clewell, “Freud’s mourning theory has been criticized for assuming a model of subjectivity based on a strongly bounded form of individuation.”⁶⁸ In botanical terms, the extinct plant is mourned, not out of the intrinsic value of the plant itself, but rather as a reflection of the subject’s own inevitable demise reflected back by the loss.

For the purposes of mourning extinction, what is lacking in Freud’s concept of mourning is an expression of human connectivity to the world beyond the desires of the unified subject and the loss of the object of mourning. The possibility of connectivity, rather than egoistic subjectivism, as key to a new concept of mourning lost species, hinges upon aesthetic experience. As aesthetic diversity diminishes along with botanical biodiversity, regional responses to the plight of indigenous flora must be convincingly aesthetic in quality. The ecological humanities provide a useful theoretical structure for approaching the mass and scale of the issue of

species extinction, for grounding the abstractedness of the species concept itself and for engendering actual emotional and sensory responses to organisms in danger of extinction. In other words, the ecological humanities provide a way through the conceptual models of mourning that place the human ego at the centre of being and thus reaffirm the dualities that lie at the heart of human-induced species extinction.

Connectivity observes that organisms are intermeshed and related, rather than purely separate and distinguishable, as the discourse of nature purports through hierarchical subject to object positions. An object of mourning is untenable, when all things are related as such. Connectivity is an epistemology, a mode of reason and a non-linear way of engaging with the world. Rose observes “we are thus experiencing a shift into uncertainty and a shift into connectivity.”⁶⁹ The “connectivity ontology” of the ecological humanities provides a perspective on mourning based on intersubjective relationality: the mourning of the self and the mourning of the lost species both within the context of the two being intrinsically connected. Simply put, one mourns the loss of self, the loss of the other and the loss of the connectivity. Through extinction, the mosaic of life has been irrevocably altered, and mourning must take on a distinctly mosaic quality that recognises the self within the other within the environment.

Rose and Robin assert that “an ontology of connectivity entails mutual causality: organism and environment modify each other. Relations between organism and environment are recursive.”⁷⁰ Hence, the same factors that bear upon the extinction of a species are necessarily related to our human lives, as we are ecologically in union:

The imperative of learning to think about and with connectivity can be operationalised as an imperative to enlarge the boundaries of thought and to enlarge thinking itself – to enhance our ability to think in dialogue and, perhaps, in empathy with others.⁷¹

This suggests the sharing of subjective states in mourning rather than the subject mourning the lost object. We are not so much mourning our own inevitable loss, or the ego reflected in the loss, as we are mourning the absence of the connection. Most importantly, extinction starts to matter because both subjects — the human and the plant — are bound to unified ecological circumstances specific to being embodied (requiring water, nutrients and air) and emplaced (requiring relational connections developed over time in a prescribed region, such as the Wheatbelt). Detachment from extinction, as a media issue or conceptual abstraction, is no longer possible through a framework of connectivity. Extinction, in this sense, is made real, imminent, sensible and a matter of survival for all life. Rose and Robin call this embodied spatiality: “permeability [opening] persons not only to place, but to the substance and history of the place.”⁷² Substance refers to embodiment; history to place. Aesthetic experience, through the body in a place, as expressed for instance in *Between Wodjil and Tor* and *Black Solander*, is one way that extinction can continue to have actual resonance. Consequently, pathways for mourning slowly begin to open.

Conclusion

Why do extinctions matter? In addition to ecological and economic consequences, extinctions impoverish our sensory worlds. With the absence of flora in particular, our aesthetic experience of the landscape is altered irrevocably in the absence of indigenous plant species. The visual and the literary arts provide sensory-rich means of creating “botanical memorials” to the loss of biodiversity. Indeed, artists working in the Southwest such as Plate, Main, and Pryor, have taken the threatened flora as subject matter. A more tenable ecological conceptualisation of mourning needs to consider connectivity, rather than unified subjectivity, as a tool for exploring the deep channels of grief over the loss of the more-than-human.

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- ² Hopper, 89.
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- ⁴ Michel Foucault, *The Order of Things: An Archaeology of the Human Sciences* (London: Tavistock, 1972), 160.
- ⁵ Philip A. Clarke, *Aboriginal Plant Collectors: Botanists and Australian Aboriginal People in the Nineteenth Century* (Dural Delivery Centre, NSW: Rosenberg Publishing, 2008), 57.
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- ⁷ Richard Leakey and Roger Lewin, *The Sixth Extinction: Biodiversity and Its Survival* (London: Orion Books Ltd., 1996), 233.
- ⁸ Deborah Bird Rose and Thom van Dooren, "Unloved Others: Death of the Disregarded in the Time of Extinctions," [accessed 13 July 2009]. Available from <http://www.ecologicalhumanities.org/uo.html>.
- ⁹ Hopper, 89.
- ¹⁰ Thomas E. Lovejoy, "Biodiversity: What Is It?," in *Biodiversity II: Understanding and Protecting Our Biological Resources*, Marjorie L. Reaka-Kudla, Don E. Wilson, and Edward O. Wilson, eds. (Washington, DC: Joseph Henry Press, 1997), 7-14.
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- ¹² Lovejoy, 8.
- ¹³ The aesthetics of nature have been discussed by many environmental philosophers. For an introduction, see Emily Brady, *Aesthetics of the Natural Environment*, (Tuscaloosa: The University of Alabama Press, 2003).
- ¹⁴ Leakey and Lewin, 253.
- ¹⁵ Leakey and Lewin, 127.
- ¹⁶ Leakey and Lewin, 127.
- ¹⁷ Leakey and Lewin, 253.
- ¹⁸ Will Steffen, Paul J. Crutzen and John R. McNeill, "The Anthropocene: Are Humans Now Overwhelming the Great Forces of Nature?," *Ambio* 36.8 (December 2007): 614. [accessed 13 July 2009]. Available from http://www.allenpress.com/pdf/ambi-36-08-06_614_621.pdf.
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- ²⁵ Conservation International.
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- ²⁷ Hopper, 89.
- ²⁸ Greg Keighery and John Beard, "Plant Communities," in *Mountains of Mystery: A Natural History of the Stirling Range*, Carolyn Thomson, Graham Hall, and Gordon Friend, eds. (Como, Western Australia: Department of Conservation and Land Management, 1993).
- ²⁹ Ray Wills and Jack Kinnear, "Threats to the Stirling Range," in *Mountains of Mystery: A Natural History of the Stirling Range*, Carolyn Thomson, Graham Hall, and Gordon Friend, eds. (Como, Western Australia: Department of Conservation and Land Management, 1993), 135.

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- ³⁰ For example, the “Million Acres a Year” scheme was a federally-endorsed program in the mid 20th century to clear native bush for agricultural land. A recent documentary has highlighted the long-term ecological consequences of this program:
http://www.filmaust.com.au/programs/teachers_notes/8601millionacres.pdf.
- ³¹ Robert Austin, *Journal of Assistant-Surveyor R. Austin, Commanding an Expedition Sent by the Government to Explore the Interior of Western Australia, North and East of the Settled Districts, for Extensive Tracts of Fertile Lands* (Perth, Government Printer, 1855).
- ³² A.G. Plate, “Boree”, *The Leeuwin: A Westralian Magazine*, 1.6 (1911).
- ³³ Permission to reprint the image granted by Cassi Plate, 28 October 2009.
- ³⁴ Adolph Plate, Plate 8 *Untitled [WA Bush Scene with Ringbarked Gum]* in Cassi Plate, *Restless Spirits: The Life and Times of a Wandering Artist* (Sydney: Picador, 2005).
- ³⁵ George Seddon, *Landprints: Reflections on Place and Landscape* (Cambridge, U.K.: Cambridge University Press, 1997), 76.
- ³⁶ ABC Radio National, “Margaret River,” in *Hindsight* quoted in Cassi Plate, *Restless Spirits: The Life and Times of a Wandering Artist* (Sydney: Picador, 2005), 266.
- ³⁷ For a discussion of the problematic importation of European aesthetic values to Australia, see Rod Giblett, *Living with the Earth: Mastery to Mutuality* (Cambridge: Salt Publishing, 2004).
- ³⁸ For an overview of the concept of *terra nullius*, see Sven Lindqvist, *Terra Nullius: A Journey Through No One’s Land*, Sarah Death, trans. (New York: New Press, 2007).
- ³⁹ Beresford, Bekle, Phillips, and Mulcock.
- ⁴⁰ Cassi Plate, 276-86.
- ⁴¹ Cassi Plate, 160.
- ⁴² Cassi Plate, 263.
- ⁴³ Fred Davis quoted in Thomas Sidney Groser, *The Lure of the Golden West* (London: Alexander-Ouseley Ltd., 1927), 245.
- ⁴⁴ Barbara York Main, *Between Wodjil and Tor* (Perth: Landfall Press Pty. Ltd., 1967).
- ⁴⁵ Henry David Thoreau, *Wild Fruits: Thoreau’s Rediscovered Last Manuscript* (New York: W.W. Norton, 2000).
- ⁴⁶ Permission to reprint the image *Drakaea* granted by the artist, Gregory Pryor, 21 October 2009.
- ⁴⁷ Henry David Thoreau, “The Maine Woods,” in *Thoreau: Walden and Other Writings*, J.W. Krutch, ed. (New York: Bantam Books, 1962), 401-2.
- ⁴⁸ Gregory Pryor, “Black Death: Species Extinction in WA,” in *Artlink* 25.4. [accessed 13 July 2009]. Available from <http://www.artlink.com.au/articles.cfm?id=2227>.
- ⁴⁹ See forthcoming John Ryan, “Plants That Perform For You? From Floral Aesthetics to Floraesthesia in the Southwest of Western Australia” in *Australian Humanities Review* (November 2009).
- ⁵⁰ John Barrett-Lennard, “Outline and Absence,” in *Black Solander Gregory Pryor*, (Perth, Western Australia: PICAPress, 2005), 3.
- ⁵¹ Pryor.
- ⁵² Main, “Preface.”
- ⁵³ Main, 7.
- ⁵⁴ Main, “Preface.”
- ⁵⁵ John Kinsella, *Contrary Rhetoric: Lectures on Landscape and Language*, Glen Phillips and Andrew Taylor, eds. (Fremantle, Western Australia: Fremantle Press, 2008), 64-65.
- ⁵⁶ Main, “Preface.”
- ⁵⁷ Kinsella, 176.
- ⁵⁸ Beresford, Bekle, Phillips and Mulcock, 11.
- ⁵⁹ Beresford, Bekle, Phillips and Mulcock, 2.
- ⁶⁰ Tracy Ryan, “Mallee Root,” quoted in Kinsella, 167-8.
- ⁶¹ In other words, science has no mourning rituals because emotional involvement with the “object” conflicts with the epistemological premises of science. Science is meant to be detached and hence a framework for mourning is impossible through the “discourse of nature” argued for by Foucault to describe natural science and further echoed in Freud’s theory of mourning, which sets up an object of mourning. It is not that people simply do not care about plants or the natural world; it is that scientific discourse governs our interaction with the natural world. Rather than looking towards science, this paper is arguing, instead, for aesthetic, sensory and emotional engagement with plants as a way through mourning.

- ⁶² Rod Giblett, *Living with the Earth: Mastery to Mutuality* (Cambridge: Salt Publishing, 2004), 1.
- ⁶³ Foucault, 160.
- ⁶⁴ Rod Giblett, *Postmodern Wetlands: Culture, History, Ecology* (Edinburgh: Edinburgh University Press, 1996), 242.
- ⁶⁵ Freud cited in Giblett, 1996, 176.
- ⁶⁶ Freud, 243-258.
- ⁶⁷ Tammy Clewell, "Mourning Beyond Melancholia: Freud's Psychoanalysis of Loss" in *Journal of the American Psychoanalytic Association* 52.1 (June 2002). (accessed 24 July 2009). Available from <http://www.apsa.org/portals/1/docs/japa/521/clewell.pdf>, 1.
- ⁶⁸ Clewell, 1.
- ⁶⁹ Deborah Bird Rose, "Wild Dog Dreaming: Love and Extinction," [accessed 13 July 2009]. Available from <http://ecologicalhumanities.org/wilddog.html>.
- ⁷⁰ Deborah Bird Rose and Libby Robin, "The Ecological Humanities in Action: An Invitation" in *Australian Humanities Review* Issue 31-32 April 2004 (accessed 14 October 2008). Available from <http://www.australianhumanitiesreview.org/archive/Issue-April-2004/rose.html>.
- ⁷¹ Rose and Robin, 2.
- ⁷² Rose and Robin, 4.