



A TREE'S WORTH

VALUE A In New York City, the Parks Department says, every dollar they spend on trees returns \$5.60. **VALUE B** After they cleared the trees, Elizabeth Street was a brawling torrent, people and bullocks drowned, carts bogged, drunkards and hapless police were pulled from the mud with boathooks, white ladies lifted their skirts to no avail. Today the benefit of Elizabeth Street's trees, in nitrogen reduction alone, is valued at \$1000,000. **VALUE C** The global value of ecosystem services is estimated at an annual one hundred and twenty five trillion dollars (\$125,000,000,000,000,000). **VALUE D** City of Brisbane calculates their trees provide \$1.65 million of benefits every year. **VALUE E** The survey asked: *How much would you pay to protect this tree?* One person declared willingness to pay an infinite amount. Credible economic theory says, taking the average of the answers will give us the tree's worth. This tree is infinitely valuable (on average). **VALUE F** *The absurdity of dollars, in the face of breath, of coolness, of stored carbon, of intercepting floodwaters, of hosting trillions, of making soil, of organisms that can scream, learn, feed their children.*

A TREE'S WORTH
is supported by the *Australian Research Council Discovery*

PROJECT
Seeing the good from the trees: remotely sensing the urban forest
DP150103135

CURATORS
Aviva Reed
Marco Amati

Most importantly, we would like to acknowledge our collaborators, the trees and plants, who without their presence we would not be alive. Thank you.

ACKNOWLEDGMENTS

DATA *Where should all the trees go?* Funded by Horticulture Innovation NY16005 (canopy lost/gained); *Urban Heat and Green Cover Baseline Project*, OEH NSW (tree heights); *Metropolitan monitoring and analysis of vegetation cover, heat and land use*, DELWP, Victoria (tree heights); Baptista, Mariana D., Stephen J. Livesley, Ebadat G. Parmehr, Melissa Neave, and Marco Amati. “Variation in leaf area density drives the rainfall storage capacity of individual urban tree species.” *Hydrological Processes* 32, no. 25 (2018): 3729-3740. (leaf area/volume).

AILS A While I created these poems I was reading, listening to and sitting in the presence of artworks by: Jeanine Leanne, Robin Wall Kimmerer, Bruce Pascoe, Tony Birch, Alexis Wright, Ambelin Kwaymelina, Aviva Reed, Sofia Sabbagh, Damien Wright, Marco Amati, Brian Coffey, Gregory Crocetti, Briony Barr, Robyn Annear, Christie Neiman, Deborah Frances White, Tim Morton, Jonathan Metzger, Mark Whitehead, Jon Sadler, Adam Bates, James Hale and Philip James, Lawrence Kitchen. Also thank you Kathy Holowko for laying out the poems in the exhibition.



LANGUAGE

Language frames the way in which we see the world. For more than 70 years, the term ‘ecosystem services’ has become a way to describe the important role nature plays in ‘supporting’ humans. While this language commodifies nature, it also gives it a monetary value giving nature a bartering force within capitalist governance structures. This exhibition aims to question the acceptance of nature as a service by using the theme of trees and their earth rights, voice, agency and their capacity to mitigate a changing climate. Involving a collaboration between artists, writers, scientists, planners and policy makers, A Tree’s Worth questions the paradox of language, exploring the role that data may play in the contemporary human journey of learning to listen to trees, simultaneously celebrating trees and their ‘worth’ in society.

GUWAYU – STILL AND YET

—

witnesses

think of the memory of trees
shedding bark in layers of memory
back to forest floor to the
underground story of deep time
growth and age flourish and decay
rot and rejuvenation

living literature

trees are old stories
pods and seeds are words that grow
bark chapters fall to earth
turn to dust scatter and renew
wood is a deep archive
an ancient custodian of memories

history

Melbourne is Naarm
her stories
are stored in melaleuca
etched in eucalypts
flowing with the river
living over time

—

Dr. Jeanine Leane
2019

DR. JEANINE LEANE

is a Wiradjuri writer, poet and academic from the Murrumbidgee River southwest New South Wales whose works explore deep time and spectral voices in poetry. She is currently teaching within Aboriginal Literature and Creative Writing at Melbourne University.



ARTIST
Sofia Sabbagh

TITLE
Kookaburra

YEAR
2018

SIZE
500mm(w) x 300mm(h)

MEDIA
Mixed Media including
Common Brown Butterfly wings
and Eucalyptus leaves from the
Merri Creek

Using materials from trees and their corresponding environments to engage with them, learn from them, and reflect on my place among them.

Observing the expression of seemingly passive entities, and collaborating with their patterns, I engaged in a reverence, admiration and respect – for their materiality and presence they actualise through their collaborations with the air, soil and community, their aliveness. What does it take for the rights and personhood of trees to be considered In Australian policy? For the dignity and generosity which trees give us, to be reflected back for them?

SOFIA SABBAGH
was born and raised on Wurundjeri land, a Palestinian Australian she uses art-making to engage with her environment and learn from the material and the sensorial.



ARTISTS
 Bonhula Yunupingu
 Damien Wright

TITLE
Bala Ga Lili "Two Way learning"

YEAR
 2017

SIZE
 1200mm(w) x 2100mm(h) x 2100mm(d)

MEDIA
 Gadayka timber, Ancient Red Gum,
 copper wire, found glass, epoxy resin

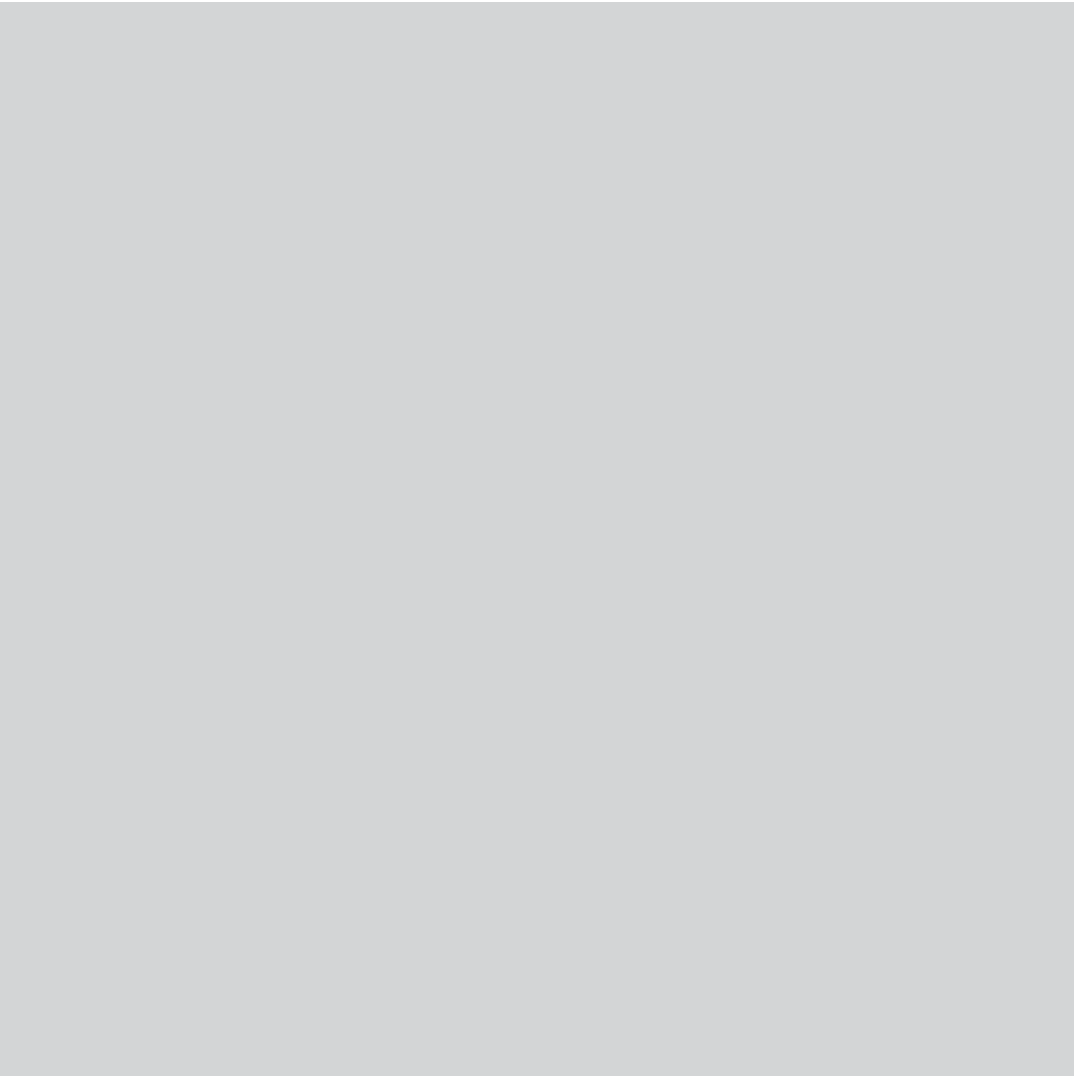
Photographed by Fred Kroh

BONHULA YUNUPINGU
 is a Gumatj man from North East
 Arnhem Land. Bonhula worked
 with the Dharpa Djama furniture
 studio from its inception. Bonhula
 is currently looking after family and
 country.

DAMIEN WRIGHT
 is a Melbourne-based, award-
 winning designer/maker who
 specialises in furniture and
 sculpture which make innovative
 use of Australian native timbers
 and traditional joinery techniques.
 In 2010, Wright was invited by
 Galarrwuy Yunupingu to establish a
 furniture studio ("Dharpa Djama") on
 Yolngu land in Gunyangara, North
 East Arnhem Land.

Bala Ga Lili engages the history of mining and timber.

This sculptural piece is made with Gadayka from North East Arnhem Land and Ancient Red Gum from Wadonga, Victoria. Gadayka (Darwin Stringybark) is the dominant species of the savannah forest of the Gove Peninsula. Under it lays one of the world's largest bauxite deposits. Yolngu have joined, built, sculpted and sung Gadayka for an eternity. Ancient Red Gum is a timber mined from the earth; a by-product of a road rock gravel mining operation. The same flood events that 15,000 years ago deposited the gravel also buried the tree. The buried tree turns from red to black in an alchemic oxidization process. **Bala Ga Lili** combines Yolngu joinery techniques, design and spatial and tactile relationships with European settler joinery, function and logic.



ARTIST
Aviva Reed

TITLE
Forest Rain

YEAR
2017

SIZE
1400mm(w) x 1400mm(h)

MEDIA
Watercolour, ink and charcoal on
cotton ragpaper

AVIVA REED
is a visual ecologist whose
work explores space, time and
relationships between and
within the human and more-
than- human words.

SAP SENSORS AND SKYRIVERS

the molecular dance of hydrogen and oxygen
deep threads underground
lifted sucked drawn risen misted evaporated
puffy white fluids of the air; pouring over mountains
skyrivers
patter onto leaves into soil seep
down
down
down

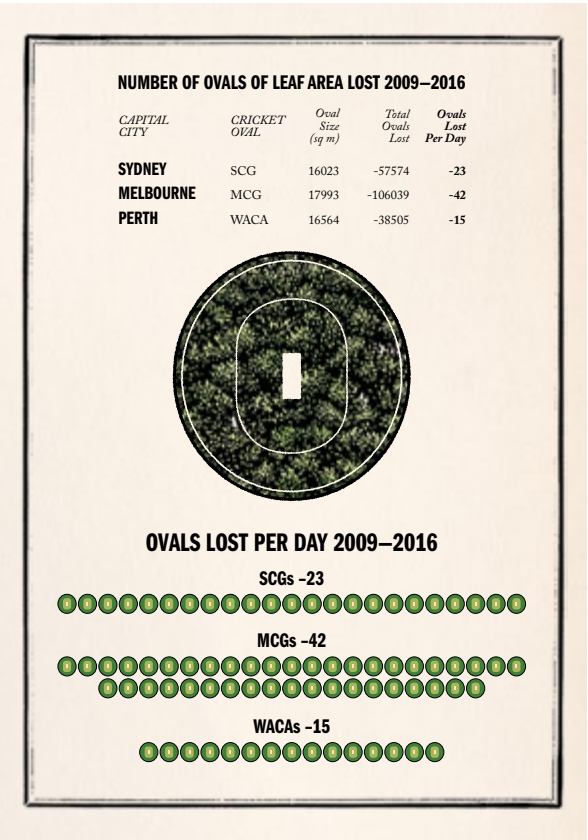
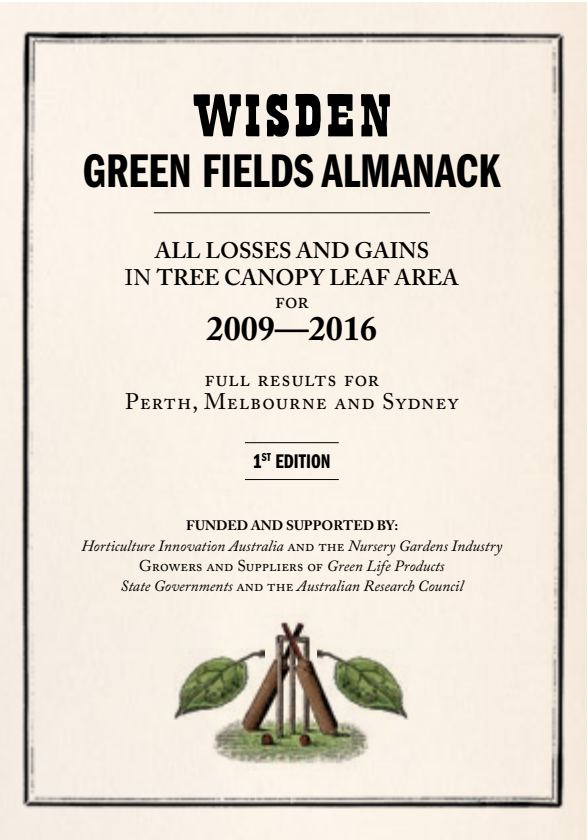
between roots that shape the river that shapes the banks that shape the river
that flows through forest which is cup sponge reservoir pump
lifting threads of water through root, trunk, branch, leaf
lifting dancing molecules up up to the skyriver

Ailsa Wild
2019

wisdom
vision omniscient
listeners that never sleep
standing still growing quietly
speaking nothing storing all
remembering everything

Dr. Jeanine Leane
2019

AILS A WILD is a writer-performer who creates fiction, non-fiction and physical theatre



ARTISTS
Marco Amati
Samantha McFadden

TITLE
Folk-metric

YEAR
2019

SIZE
210mm(w) x 297mm(h)

MEDIA
Digital colour print on paper

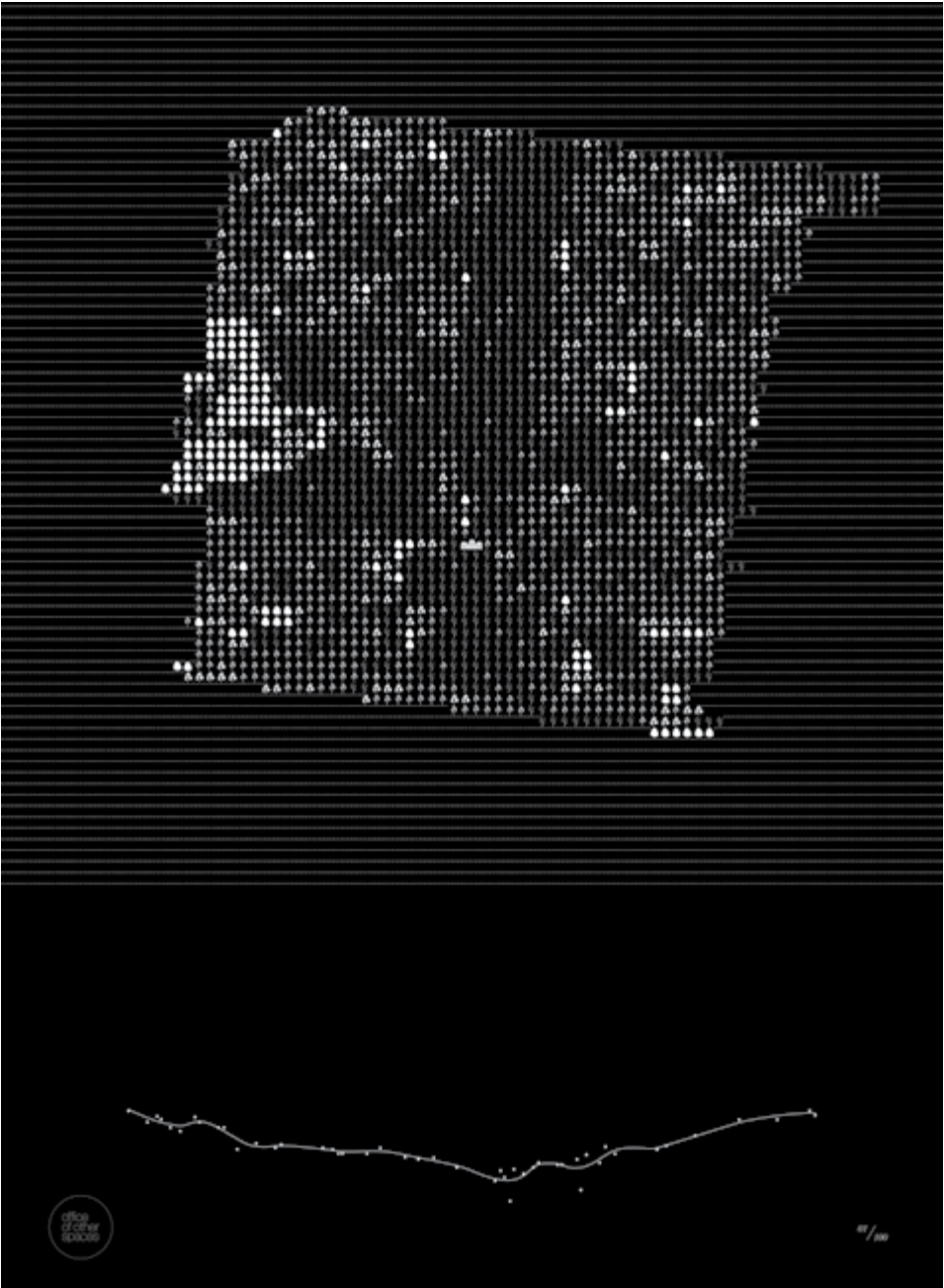
MARCO AMATI
is an Associate Professor of International Planning at RMIT University. He teaches about urban planning and researches urban forestry and history.

SAMANTHA MCFADDEN
is a Graphic Designer providing solutions for design conscious clients of the arts, publishing, music and fashion industries.

Urban trees are complex, fractal, living objects with individual life histories.

They interact with and, for the most part, graciously yield to buildings and roads, the most Cartesian of urban forms. Their resilience and lifespan represent an affront to our brief and busy city lives. Their dimensions are simply not of our own. Therefore, we often have trouble extending our imaginations and thinking about trees and their interaction with the environment. We need to resort to a ‘folk-metric’, a rule of thumb that captures their complexity in our reality.

Folk-metric uses a variety of data sources to calculate the loss of tree leaf area in Australian cities. Leaves are one of the most important surface areas for a tree, but policy-makers typically ignore this. Instead the focus of data capture is on the canopy over the ground or individual tree stands. Using height and canopy cover allows us to see how much leaf area has been lost over time. Because the surface areas are so large they need to be captured using a surface area that many will be able to imagine: a cricketing oval.



Have you heard of the ‘Overview Effect’? A phenomenon experienced by astronauts in space when observing the Earth for the first time.

Tree Fields presents the current ability to observe Earth from space — frequently. We draw on five daily multispectral satellite observations; analysing vegetation cover in the city of Moreland. In this way we consider the idea of the Overview Effect from a city design perspective. Can we prompt perspective change of the viewer to recognise they’re part of a system and a unified tree ‘field’ through near real-time Earth observations? By observing vegetation as light reflectance from multispectral imagery, we visualise a ‘field’ of data existing in continued flux over time. This is nature; heaving, pulsing and exchanging as a field of information.

ARTIST
Office of other Spaces

TITLE
Tree Fields

YEAR
2019

SIZE
594mm(w) x 841mm(h)

MEDIA
Digital Black and White Print?????

OFFICE OF OTHER SPACES
is an organisation dedicated to achieving harmony between humans and nature by delivering projects which fuse the disciplines of landscape architecture and satellite remote sensing time series analysis – connecting planet and place.

field /fēld/ *n.*
The set of elements that are either arguments or values of a function; the union of its domain and range.
Collins Dictionary

NOTE **Tree Fields** draws on 70 number of satellite observations over the year of 2018. Red, blue, green & near infrared light bands are analysed for the mapping of vegetation cover in the city of Moreland.



ARTISTS
Dr. Melissa Neave
Dr. Scott Rayburg

TITLE
Mosaic of light and heat

YEAR
2019

SIZE
???mm(w) x ???mm(h)

MEDIA
Photographic print??????????

Photo taken with a Flir1050SC
thermal imaging camera of
Woodland park, Greenvale.

A Hidden World

Thermal imaging captures the ‘heat’ given off by different objects. This invisible (to humans) spectrum allows us to glimpse a hidden world and provides insight into how trees shape their environment and climate.

Open woodlands demonstrate the dappled light environment and complex habitat that was common in and around parts of Melbourne prior to European settlement. This image, is a preserved forest landscape. This refugia teems with wildlife. Here we can see the ongoing vibrancy of this site evidenced by the juvenile and semi-mature trees that have self-established and continue to grow and reproduce in the park. These adjoin many mature trees that also occupy the park.

DR. MELISSA NEAVE
is a Senior Lecturer in the School of Global, Urban and Social Studies at RMIT University. She is an environmental geographer and is currently investigating the urban heat island phenomenon, specifically considering how it manifests to heat cities and how it can be mitigated using vegetation.

DR. SCOTT RAYBURG
is a Senior Lecturer at Swinburne University of Technology in the Centre for Urban Transitions (CUT). Dr Rayburg’s research focusses on sustainability issues, with an emphasis on Urban Heat Islands (UHIs).

urban forests
growing strong without notice
weathering each season
sheltering strangers shading streets
anchored deep reaching high
standing still always moving

Dr. Jeanine Leane
2019

—

hardwood
eternity is hardwood
worn only over time
by the touch of wings
the wash of rain
the breath of wind

—

Dr. Jeanine Leane
2019

A micro recording of a mutable element, a solid form transitioning, after several thousand years back into to a liquid state.

These glaciers are melting at an ever increasing and alarming rate. This location is seemingly pristine, a remote landmass still in formation, yet nowhere on earth is protected from the pervasive effects of global warming. The sound recording emanates from within a listening horn, crafted from *Athrotaxis selaginoides* or King Billy Pine, and draws focus on the use and transformation of materials that both pre-date the contested era of the Anthropocene. The weather atlas that trees hold within their growth patterns are diaries, in some cases spanning centuries. King Billy are a slow growing species, found in high altitude, sometimes for millennia.

ARTIST
Selena de Carvalho

TITLE
The Elasticity of Time [souvenirs]

YEAR
2017

SIZE
280mm(w) x 280mm(d) x
1700mm(h)

MEDIA
Icelandic glacier recording, King Billy Pine cone, proximity sensor, speaker, raspberry pi, rammed earth, metal and concrete

SELENA DE CARVALHO
is practice led experimental artist based in Longley Village, Lutruwita (Tasmania). Her work responds to notions of personal ecology and human interaction with the environment.

NOTE This work was informed by conversations with Alistair Hobday, Adjunct Professor at the Centre for Marine Socio-ecology [CSIRO], supported by a partnership with IMAS and Constance ARI.





ARTIST
Sofia Sabbagh

TITLE
Brushing Zeitoon

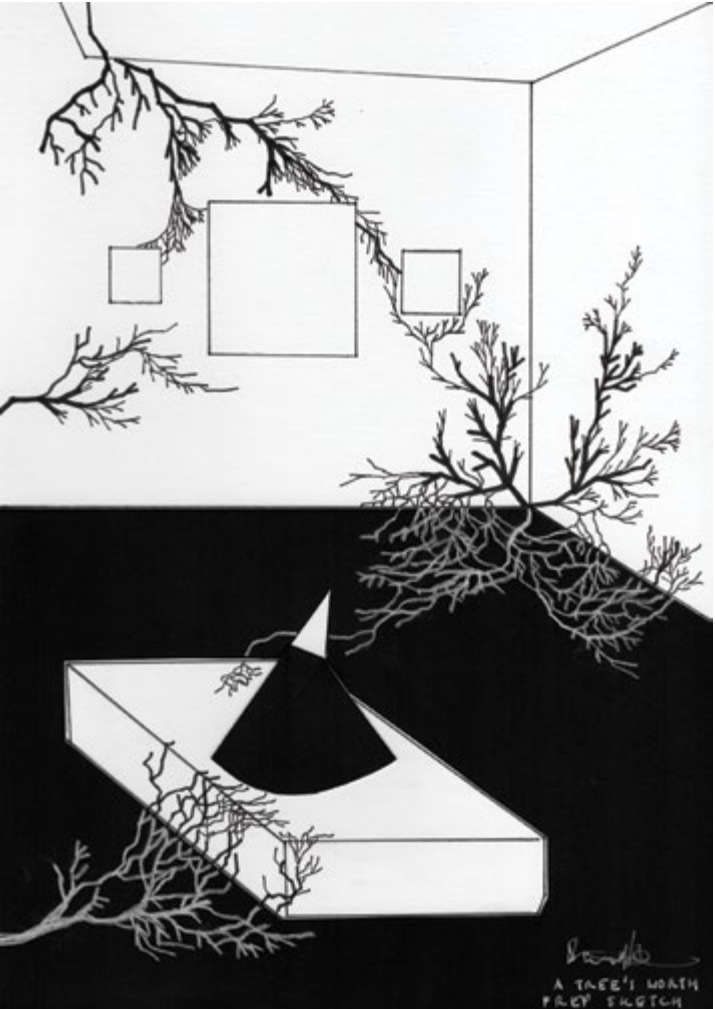
YEAR
2019?

SIZE
?????mm(w) x ?????mm(h)

MEDIA
Ink on paper

How does a respect for trees manifest socially or culturally in Australia?

Is this enough to maintain a healthy country? In my father’s homeland, Palestine, reverence and respect for trees is cultural. The olive harvest, and oil infused into the food, is a part of the folklore and contributes to a respect for the trees. I illustrated the processes in the West Bank, where village women taught me their ‘folk lore’ – how they harvest and preserve local plants. Processes they pass on as political/cultural resistance.



ARTIST
Briony Barr

TITLE
Arborescent

YEAR
2019

SIZE
Variable Dimensions

MEDIA
Cloth tape and masking tape
installed on gallery walls and floor.

BRIONY BARR
is a conceptual artist whose work investigates individual and collaborative drawing as a generative system.

The ‘worth’ of single, healthy tree is deeply connected to its relationship to not just other trees, but also to other soil creatures such as fungi and microorganisms.

As part of a community (a grove, a wood, a plantation, a rainforest) a tree is stronger and more resilient. It can feed and hold the soil better. It can transform more carbon dioxide into oxygen. A tree is also stronger as a result of its symbiotic partnership with mycorrhizal fungi who can reach further into the earth than roots, to bring more nutrients in exchange for sugar (95% of plants have a partnership with fungi in this way). These fungal networks also connect individual trees to form a network of underground communication and sharing. This is sometimes referred to as the ‘wood wide web’. This symbiotic partnership between plants and mycorrhizal fungi also helps feed the microbial communities that turn the nutrients in the soil – supporting the tree to grow stronger and healthier... increasing its worth.

The connections between the artists and scientists in this exhibition embody a similar kind of ecology of relationships. Together, we are able to evoke a much richer investigation of the theme, than any one artwork or artist alone.



Wood is a way of thinking about place and time – even deep time.

A river red gum may grow for anywhere between 400 and 1000 years before it falls. And as it decomposes over centuries it becomes a home for new life. Murray Cod lay their eggs in drowned red gums. To work with wood is to think beyond a human lifespan.

When you look at something like the Murray-Darling system from the perspective of a grand, old red gum, you see the fragility and interconnectedness of the waterway, and how rapidly it has degraded with recent human interventions. River red gums were a part of Australia’s environment long before people arrived here. They grew beside the Murray River when it was a wide, cold, fast- flowing stream; they witnessed its transformation in the late Pleistocene into a narrow, sinuous, seasonal river; and they have remained as, over the past 13,000 years, the water has slowed and warmed, forming swamps, low sand dunes and small lakes along the channel, and seasonal wetlands in the wider riverine plain.

These mighty trees have also been absorbed into the social and cultural worlds of Indigenous Australians. Their roots have been dug and hollowed out to create bowls, their bark cut to craft canoes, and their limbs burnt to warm camps and cook food. In recent millennia, they presided over the most densely populated areas of the continent.

ARTIST
Damien Wright

TITLE
Food Bowl

YEAR
2017

SIZE
2750mm(l) x 1300mm(w) x 250
mm(d)

MEDIA
Ancient Red Gum

Photographed by Fred Kroh

DAMIEN WRIGHT
is a Melbourne-based, award-winning designer/maker who specialises in furniture and sculpture which make innovative use of Australian native timbers and traditional joinery techniques. In 2010, Wright was invited by Galarrwuy Yunupingu to establish a furniture studio (‘Dharpa Djama’) on Yolngu land in Gunyangara, North East Arnhem Land.

FOR A REDGUM

warped by heat and damp
hydrogen and oxygen
falling pummelling rising drying
the cracks
majestic as landscape

I touch
this map
of a country

beloved
worked
smoothed
shaped
you gave him callouses
reverence

uncertainty

knowledge

you are a question
rocking here
why art? when you could be a home, food, fungus, bacteria, soil, another tree...
but here
in a gallery
on display
you are not separated from nature

here
this oxygen
my palm
our human gaze
is nature

Ailsa Wild
2019

