

Beyond 2020 Vision

A Publication of Morialta Uniting Church

August 2023

Morialta Uniting Church—follow us on Facebook or check out our website at www.morialtauca.org.au

Welcome to our August edition

Colin Cargill, Editor and Helena Begg, Publisher

In this issue, Stan Grant reflects on Affliction, Indifference and Hope and Keith Giles reflects on how the Kingdom is within us.

We have more brilliant flower arrangements from the Mother's Day service and photos of some of our revered older folk achieving some of life's great milestones.

The cut-off date for September Vision will be **Thursday 31st August**. Either drop a copy in to Nicole at the Office or call/email Colin on 0427 122 106 or snout-n-about@bigpond.com



A First Nation and Christian's reflection on 'affliction, indifference and hope'

Adapted from an article by Stan Grant on the ABC News app.

During Holy Week I sat with affliction. I pondered the great suffering and abandonment in our world. I think of those who know war, famine, oppression; children torn from their families; those who die lonely deaths in dark places. Those who live under the yoke of injustice.

The French philosopher and Christian mystic, Simone Weil, called affliction "the chill of indifference" ... "it is anonymous". It deprives the victims of their personality and turns them into things. The afflicted cry out: Where is God? How can a God who wills all, allow such horror?

This year, as Australia prepares to vote in a referendum that could grant First Nations people a Voice in our country, I am confronted with the suffering of my people. We who have felt the metallic chill of indifference. Where was God when our land was invaded? Where was God when we were killed in the Frontier Wars? Where was God when men wielding bibles sought to "Christianise" us by stripping us of our own culture?

These questions shake my faith to the core. But I don't ask, "Does God exist?" As a Wiradjuri person that would be absurd. I was born into the wonder of God. Every tree is God's cathedral and every bird is God's choir. We call God Baiame –

the creator spirit. Baiame gives us our law. Our land. We did not need white people to bring us God.

People have always cried out to God. Like the people of old Jerusalem, I lament and I know that while there is judgement on those who do evil, in my affliction there is judgement on me too.

What do I do amid such suffering? Do I fall to resentment and vengeance? To become a mirror image of our persecutors? Is that not the greater affliction – to be defined by suffering. In affliction I am presented with a choice: surrender to the hopelessness brought upon us or to reach for hope.

I was raised by people with hope in God. A hard hope. The despairing hope of a people forsaken. A people who wait for God's justice. This is the core of my faith. It is not for me to ask questions of God but God to ask questions of me.

I can understand why some cannot believe. But I do, and that makes this question even more brutal. Where is God? And God answers: I am there with the afflicted. The God I know is with God's people, those in the image of God. Because God is love. This is, for me, the beauty – the voice of God – in the Voice of First Nations. The Voice of my people.

It is the Voice of those afflicted. Those who know the worst, whose prayers can go unanswered. They know what faith truly is. It is the voice of those who wait. Who endure.

You can read the complete article at <https://www.abc.net.au/news/2023-04-09/voice-referendum-mediation-on-affliction/102139832>

Stan Grant is an Australian journalist, writer and radio and television presenter. He has written and spoken on Indigenous issues and his Aboriginal identity and Christian values. He is a Wiradjuri man.

Join a Q & A with Noel Pearson

Wednesday 16th August 7pm ACST

Are you thinking about your vote in the referendum? Hear directly from Indigenous leader Noel Pearson about what a Voice to Parliament would mean for Australia in this special Q&A webinar.

In conversation with Uniting Church in Australia President Rev Sharon Hollis, hear about Noel Pearson's journey leading up to this referendum. Noel comes from the Guugu Yimidhirr

community of Hopevale on South Eastern Cape York Peninsula and is a widely respected community elder, Australian lawyer and land rights activist.

Noel has described the referendum as the most important vote for Australian people since federation. In this webinar, hear why he thinks a successful referendum is an opportunity to complete Australia.

If you have a question, you can nominate your question when you register for the webinar at <https://uniting.church/qa-with-noel-pearson/> and it will be answered during the Q&A session.

Make a note on your calendar!

Don't forget that from Sunday September 3rd onwards our weekly worship service at Morialta UC will begin at 10.00am.



Mother's Day flowers 2023

On May 14th May, flower roster members presented a beautiful floral display focusing on the women of the Bible. Here are some more displays from Mother's Day.



Noah and Moses' wife had strong faith and trust to walk next to their husbands through uncertain times. Jan's arrangement includes peonies, fragile and unpredictable. To walk the path of motherhood is an exciting but scary journey where many must find an inner strength and faith.

Jan focused on the woman who comes to the well to draw water. She meets Jesus and he tells her the Good News, the promise of Jesus Christ. She recognizes him as God's Son. The woman came to the well to draw water but she leaves the well, forgetting her pitcher of water, because, the power of the story is that she herself became a living water bearer!



Rhonda used roses to remember Rebekah, who gave birth to twins: Jacob and Esau. They began fighting in the womb. While Rebekah did favour Jacob, she had to know he was deceptive and underhanded. She knew her son took advantage of others, especially his brother Esau, but she held that in confidence and celebrated his gifts.

Pam Ayles chose to celebrate Mary of Nazareth, the mother of Jesus. The flowers represent the birth of Jesus, His life and His Death on the cross. Legend tells us that the carnation first appeared on earth because of the Virgin Mary's tears when her son was dying upon the cross. So, the carnation, from incarnation is a powerful symbol of a mother's undying love. The carnation is a beautifully perfect flower to celebrate women and a necessary element in Pam's Mother's Day bouquet.



Quilts for two grand warriors



Two of our grand elders, Kingsley Stevens and the late Ervine McCormack, were presented with Judith Purling's beautiful patchwork quilts which had been signed by members of the congregation.

Sadly Ervine passed away on July 21st. We will share his eulogy in the next edition of Vision.

Churches Together SA invites you to "Imagine a Safer World"

Challenging Australian thinking on the meaning of peace in the defence state at the global, national, and South Australian level.

Where does our faith guide us in "imagining a safer world"?

How do we act and live as Christian peacemakers?

How do we "love our neighbours" in a defence state?

What really makes us safe?

Video Presentations

Peter Prove – Director International Affairs
– World Council of Churches (Geneva)

Alan Behm – Director Int & Security Affairs
– Australian Institute (Canberra)

In person

Sen Barbara Pocock
– Senator for SA – Australian Parliament (Canberra)

Sunday 13th August: 2 – 4.00pm at Prospect Rd UCA
174 Prospect Rd
\$15 Afternoon Tea provided.

RSVP <https://shorturl.at/fhtRU>



Hidden women of history

Andromachi “Mary” Mavrogeni Papanikolaou

Andromachi “Mary” Mavrogeni Papanikolaou was the descendant of the Phanariote Mavrogenis family, which made history fighting against the Ottomans in the Greek War of Independence. Her name (Andromache) means “a woman fighting alongside men”, but she preferred to be called Mary.

She met her husband Georgios on a ferry boat journey to Athens, and he fell in love with her charming personality. They eloped shortly after Georgios obtained his PhD in zoology at the University of Munich, after he returned to Greece following the death of Georgios’ mother. They emigrated to New York City in 1913. Neither Papanikolaou nor her husband spoke English, and they arrived with \$250 – the amount then required to enter the U.S.

Papanikolaou took a job at Gimbel’s Department Store as a seamstress, sewing buttons for \$5 per week and Georgios obtained a position at New York Hospital’s Pathology Department and Cornell University Medical College’s Anatomy Department. Later Mary joined him as an unpaid technician, managing both his laboratory and their household affairs.

Georgios was observing the ovulatory cycle of guinea pigs, but wanted to study human females. However, because he was not a clinician, he lacked access to patients. So, for 21 years, Mary volunteered as an experimental subject for her husband, climbing onto his examination couch every day so that he could collect a cervical smear sample. They decided not to have children so that she could continue collaborating

with her husband. For her, “There was no other option but for me to follow him inside the lab, making his way of life mine”.

Partly through his wife’s voluntary efforts, Georgios was able to determine that the monthly changes to guinea pig vaginal discharge that he observed could also be seen in humans. To provide additional subjects for her husband’s research, Mary also held a party for some female friends, who agreed to have their own cervixes sampled. After one of these women was later diagnosed with cervical cancer, Georgios examined her sample again and, with the help of another cytologist, determined that cancerous cells were indeed visible on the sample

The Pap test is still widely used as a means of early cancer detection and is estimated to have reduced fatalities caused by cancer of the reproductive organs in women by half. By some accounts, the Pap test is considered the most significant advance in the control of cancer in the 20th century. Only a pipette is necessary and an intelligent woman can easily be taught to prepare her own smears when a large number is required for study.

Australia introduced Pap tests in the 1960s and in 1991, the National Cervical Screening Program started offering free two-yearly Pap tests in sexually active women aged 20 to 69 years. It later included 18 and 19 year-olds. Cervical cancer incidence and mortality has since halved.

In the words of Karen Canfell, director of the Daffodil Centre and chair of Cancer Council Australia’s Cancer Screening and Immunisation Committee – “It has undoubtedly saved millions of lives, and ... it was extraordinary. Mary’s contribution was a key foundational contribution – equally as important as George Papanicolaou’s contribution.”

Thanks to those who walk beside me

From Act for Peace

With over 110 million people forcibly displaced from their homes, Act for Peace supporters have chosen to walk alongside our local partners and the families who have been displaced. This unwavering support has been a beacon of hope, demonstrating a dedication to creating a world where everyone has a safe place to belong.

Over the past year, supporters of Act for Peace have been providing ongoing vital support to help refugees and people who have been displaced stay safe whilst living in exile. Due to this support, now many people in several parts of the world look forward to a brighter future.

In Central Sulawesi (Indonesia), Christian World Services Indonesia are helping communities prepare and adapt to the changing climate. They are providing disaster risk management training, conservation farming programs and helping women to start their own sustainable businesses. Not only can the women make a sustainable income for their family, but they are now able to take an active role in her household and community.

In Zimbabwe, Christian Care is helping communities in Zimbabwe adapt to the changing climate. They run a



conservation farming program and are providing alternative livelihood training. This includes specialised training to ensure that all people are provided with an opportunity despite age, gender and ability. Christian Care is also providing training to help carers of people living with disabilities.

In Jordan our partner, Department of Service to Palestinian Refugees (DSPR), supports The Forsa project in Gaza camp, Jerash. This program provides refugees with their basic needs, like food and healthcare, and then facilitates training to help refugees gain employment or create their own businesses. With you by their side, DSPR can help refugees gain a sustainable livelihood and become self-reliant.

Supporters of Act for Peace and their local partners have been supporting refugees and displaced people around the world over many decades. It is in difficult moments that our local partners, often refugees and displaced people themselves, appreciate that people like our supporters are standing alongside them.

You can become a supporter of Act for Peace by calling the supporter care team on 1800 025 101 or sending an email to info@actforpeace.org.au

Fellowship news

At our July meeting we were shown some lovely photos of silos and other artworks, mainly in Western Victoria. We were all in awe of the various artists' works and commented about how they can visualise what they plan to paint and then how they are able to transfer it onto such large, and sometimes uneven, areas for all to see. What talent!!

Thanks to Margaret and Ray once again for sharing their photographic memories of some of their trips. Griffin starred in some of them too.

Next meeting, on August 17th, is lunch at The Clay Cup Cafe located at Rostrevor Baptist Church. Please let one of the committee members know if you would like to join us so we can let them know how many to expect. Everyone welcome.

What should I do?

Contributed by Colin Cargill

My wife sent me a text that said, "Your great" so, naturally, I replied, "No you're great".

She has been walking around all day smiling. Should I tell her I was just correcting her grammar, or leave it be?

Effect of plastic equal to 5.7 million cars

Adapted from an article by Donna Lu,
Science writer for the Guardian

Plastics consumed nationally in the 2019-20 financial year created 16m tonnes of greenhouse gases. This is equivalent to the greenhouse emissions created by 5.7m cars, which is more than a third of the cars on Australia's roads (Australian Marine Conservation Society and WWF Australia). The report projected that these emissions would more than double to 42.5m tonnes annually by 2050.



Australia generated more single-use plastic waste per capita than any country except Singapore. "It really is quite alarming," Cuow said. "You think that Australia is quite a small country, but we're consuming a lot more plastic than others."

Sadly, recycling did not have as much impact on reducing emissions as experts had thought. The research really makes it clear that we are facing more than a recycling challenge – we're facing a consumption challenge. Increasing recycling alone would only result in around a 10% reduction in the overall accumulated emissions over that time."

The report recommends three actions that would reduce the emissions from plastic by more than 70% in 2050:

Congratulations on worthy milestones...



Merv and Margaret celebrated their 65th wedding anniversary



Margaret celebrated her 90th birthday

Marie E also celebrated her 90th birthday!

The meaning of life is to find your gift.

The purpose of life is to give it away.

Pablo Picasso

- Cutting total plastic consumption by at least 10%.
- Increasing plastic recovery and recycling, powered by renewables.
- Halting the production of plastics made from virgin fossil fuels.

The analysis also showed that chemical recycling was significantly more emissions-intensive than traditional mechanical recycling.

However, with the bulk of our plastics coming from overseas, there need to be global standards and regulations around the use of plastic. Binding obligations as part of a global plastics treaty – now being drafted – would play a key role.

The Australian Government has announced that mandatory rules would be imposed on industry to reduce packaging waste and boost recycling.

Plastic pollution already has detrimental impacts to the environment, economy and wellbeing, and with plastic production and carbon emissions predicted to grow, this highlights the need for solutions to reduce plastic waste and increase circularity.

A whole of system response is required to tackle the issue. This includes reducing plastic consumption, developing alternatives to traditional plastic production, decarbonising energy inputs, and increasing plastic circularity.



Unseen wonders of the creation

Adapted from an article in the Conversation by Adam Frew and colleagues at Western Sydney University.

Beneath our feet, remarkable networks of fungal filaments stretch out in all directions. These mycorrhizal fungi live in partnership with plants, offering nutrients, water and protection from pests in exchange for carbon-rich sugars. Research suggests these microscopic filaments take up the equivalent of more than a third (36%) of the world's annual carbon emissions from fossil fuels – every year.

In our search to slow the climate crisis, we tend to look to known solutions: cutting fossil fuel use, switching to renewables and restoring forests. However, we need to look down too, into our soils.

Mycorrhizal fungi are hard to spot, but their effects are startling. They thread networks of microscopic filaments through the soil and into the roots of almost every plant on earth. And they have been partnering with plants for more than 400 million years, playing a vital role in our ecosystems.

The fungi transport essential nutrients and water to plants and can even boost their resistance to pests and disease. In return, plants pump sugars and fat made by photosynthesis in their leaves down through their roots to the fungi. These compounds are rich in carbon, taken from the atmosphere.

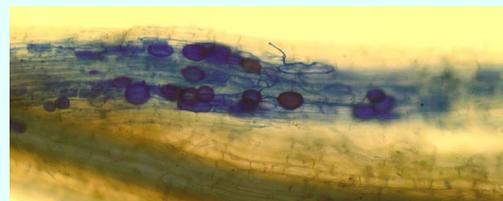
Some of the carbon that is captured by plants through photosynthesis goes into the networks of mycorrhizal fungi.

Some of this carbon will be released by the fungi into the soil. In fact, carbon transfer from plants to mycorrhizal fungi isn't a side note – it's a substantial part of this equation.

While fungal carbon is not a climate solution by itself, it is an important part of the carbon cycle puzzle. We need more research to better understand the role of mycorrhizal fungi in the carbon cycle across different ecosystems, including in agriculture. When we cut down forests or clear land, we not only disrupt life above the ground, but below ground as well. We need to safeguard these hidden fungal networks which give our plants resilience – and play a key role in the carbon cycle.

Because we have tended to treat fungi as a pest and disease, we have long overlooked these vital lifeforms. But as we learn more about how fungi and plants cooperate and store carbon, we will come to appreciate this 'unseen wonder of the creation'.

You can find the full article at <https://theconversation.com/hidden-carbon-fungi-and-their-necromass-absorb-one-third-of-the-carbon-emitted-by-burning-fossil-fuels-every-year-206674>



Mycorrhizal fungi (blue) growing inside plant roots

Let justice and peace flow

Adapted from an article by Peter Arndt from ACBC Office for Justice, Ecology and Peace



Let justice and peace flow is the theme of this year's ecumenical Season of Creation. It starts on 1st September, the World Day of Prayer for the Care of Creation and ends on 4th October, the Feast of St. Francis of Assisi.

One way you can make the Season of Creation a special time to enrich your spiritual life is to devote regular time over the five weeks of the season to reading and reflecting on what Justice and Peace for the creation means.

Last year, Pope Francis went on a pilgrimage to Canada. He visited the shores of Lac Ste. Anne in Alberta, a place where many generations of Indigenous people have come for spiritual sustenance. This experience prompted the Pope to ponder on our relationship with the earth:

...Surrounded by the beating of drums, I thought: "How many hearts have come here with anxious longing, weighed down by life's burdens, and found by these waters consolation and strength to carry on! Here, immersed in creation, we can also sense another beating: the maternal heartbeat of the earth. Just as the hearts of babies in the womb beat in harmony with those of their mothers, so in order to grow as people, we need to harmonize our own rhythms of life with those of creation, which gives us life".

How often do we immerse ourselves in creation? Do we take the time to listen? Do we take the time to harmonise the rhythms of our own lives with the rhythms of creation?

Disharmony plagues our earth and we see many examples of ecological crises. We need an end to what amounts to war on creation:

...Let us heed our call to stand with the victims of environmental and climate injustice, and to put an end to the senseless war against creation.

Pope Francis raised many ecological concerns, including the continued burning of fossil fuels, the depletion and pollution of water supplies, deforestation, the impact on the environment of large mining projects, intensive animal farming and the effect of fracking for oil and gas.

The United Nations Intergovernmental Panel on Climate Change has stated ... *that acting now with greater urgency means that we will not miss our chance to create a more sustainable and just world. We can and we must prevent the worst from happening. Truly, much can be done provided we come together like many rivulets, merging finally in a mighty river to irrigate the life of our planet and our human family for generations to come.*

So let us join hands and take bold steps to "Let Justice and Peace Flow" throughout our world.

What happens at Morialta on Friday mornings?

The art and craft circle is a group from within and outside the church who have been busy and creative in various ways on Friday mornings recently. Take a look at the display in the foyer to see some of our work!

At the same time, tea, coffee and chat are also available to anyone who would like to drop in and join us, whether you are crafty or just looking for some company!

Bring a friend or just bring yourself - you can be assured of a warm welcome between 9.30 and 11.30am.

When is it time to stop driving?

Adapted from an article by Amie Hayley, Swinburne University of Technology – published in the Conversation

Australia is a nation of car owners with a rapidly ageing population. Drivers aged over 70 have nearly doubled in the past 20 years.

Even though our ability to drive safely can become compromised as we get older - ageing itself is not a barrier to safe driving. So, how can we ensure ageing family members and friends are safe on the roads?

Driving is a complex task. A driver must be alert and respond quickly to any changes, especially in an emergency. Substance usage, fatigue, and distraction all affect a person's ability to drive safely. So, too, do many of the changes that happen with advancing age.

Declining mobility, eyesight or hearing can impact the ability to turn and check mirrors, or to hear other vehicles, as well as our ability to plan effectively, think quickly and react appropriately.

Many older people can keep driving safely and there are steps individuals, families and friends can take to ensure the safety of older drivers and other road users. Deciding when a person should stop driving can be challenging, especially when they don't think there's any problem.

People can drive freely up to any age in South Australia, Victoria and the Northern Territory. It's up to the individual to ensure they're medically safe to drive.

Interestingly, limited research shows that older drivers in states such as NSW, where medical checks are required after 75, were no less likely to be injured or killed in a traffic accident than people in states with voluntary reporting requirements, such as South Australia.

For many older Australians, having a driver's licence provides a critical link between health outcomes, mobility and social connectedness. Before giving up driving it is important to have conversations about how to access community services and other ways of getting around, whether by public or private transport - for example, living close to a bus route or tram line.

Determining whether an older person is fit to drive should involve proactive conversation, with the goal of enabling them to keep driving for as long as it is safe. Regular health assessments, including cognitive screening tests, making proactive changes in driving practices and choosing a vehicle with the highest tech safety equipment are all practical ways we can help ensure older drivers stay safe.



A recent study in Japan found a decrease in motor vehicle collisions after a cognitive screening test became mandatory during licence renewals for drivers over 75. This approach might help provide a standard way to quickly identify Australian drivers who are most at risk.

A few simple things that can help older drivers remain confident and safe include:

- planning trips in advance
- driving in daytime only
- avoiding peak-hour traffic
- getting regular check-ups that test sight, hearing and mobility.

A warning quote from an obituary published in Vision some years back – “Mum finally saw the writing on the wall and gave up her driving license – it was a pity she hit the wall before she saw the writing”.

The obstacle in our path

Contributed by David Purling

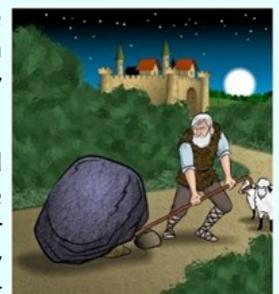
In ancient times, a king had a boulder placed on a roadway. Then he hid himself and watched to see if anyone would remove the huge rock.

Some of the king's wealthiest merchants and courtiers came by and simply walked around it. Many loudly blamed the King for not keeping the roads clear, but none did anything about getting the stone out of the way.

Then a peasant came along carrying a load of vegetables. Upon approaching the boulder, the peasant laid down his

burden and tried to move the stone to the side of the road. After much pushing and straining, he finally succeeded.

After the peasant picked up his load of vegetables, he noticed a purse lying in the road where the boulder had been. The purse contained many gold coins and a note from the king indicating that the gold was for the person who removed the boulder from the roadway. The peasant learned what many of us never understand! Every obstacle presents an opportunity to improve our condition.



The Voice is not a new idea

Adapted from an article by John Maynard, Chair of Aboriginal History, University of Newcastle published in the Conversation

The most revealing point about the referendum for a 'Voice' is the fact the majority of Australians – both Indigenous and non-Indigenous – have no idea of history.

For nearly two thirds of the 20th century, Australian history glorified explorers, settlers, and Gallipoli. Aboriginal people tended to be erased from the historical landscape being confined to missions and reserves.

They were severed from any sense of past – they could not participate in ceremonies, speak their language, tell their stories, practice songs and dances or conduct everyday hunting and living experiences. It became the pattern of misery.

This bias in Australia's recorded history means few of us realise that the call for a Voice to parliament is not a new initiative. Nearly 100 years ago, Aboriginal activists first called for 'a voice to parliament' as part of their political platform.

The Australian Aboriginal Progressive Association (AAPA) was formed in Sydney in 1924. It advocated several key demands in protecting the rights of Aboriginal people, centring on:

- a national land rights agenda;
- protecting Aboriginal children from being taken from their families;
- a call for genuine Aboriginal self-determination;
- citizenship in our own country;
- defending a distinct Aboriginal cultural identity;
- and the insistence that Aboriginal people be placed in charge of Aboriginal affairs.

The call for Aboriginal rights to land was explicit – *The request made by this association for sufficient land for each eligible family is justly based. The Australian people are the original owners of the land and have a prior right over all other people in this respect.*

In 1924, over 200 Aboriginal people attended a conference held at St David's Church Hall in Riley Street, Surry Hills (inner Sydney). The following year the association held a second three day conference in Kempsey with over 700 Aboriginal people in attendance.

Discussion paper: The Voice to Parliament?

Rev Michael Dowling (Blackwood UC) has compiled a discussion paper about The Voice to Parliament. The purpose of his discussion paper is to invite conversations about the Indigenous Voice to Parliament and the referendum to be held later this year. Some might argue that to write such a paper is to go where angels fear to tread. This is such a politicised and polarising issue! Surely, we shouldn't be entering the realm of politics, but should instead leave this subject to the professional politicians!

It was noted in press coverage that *pleas were entered for direct representation in parliament.*



Section of meeting organised by AAPA

In 1927, AAPA delivered a manifesto to all sections of government – both state and federal. One of the significant points was for an elected Aboriginal board to be established, and for state control over Aboriginal lives to be abolished.

The AAPA disappeared from public view in late 1929. Evidence suggests it was effectively broken up through the combined efforts of the NSW Aborigines Protection Board, missionaries, and the police. The exposure of their unjust policies in the media embarrassed the NSW government and the Protection Board.

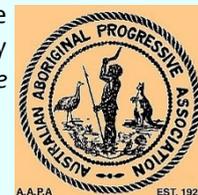
When one ponders upon the legacy of the AAPA, the sad reality is that if the demands of these early activists had been met nearly a century ago, Indigenous people would not be suffering the severe disadvantage that hovers over their lives and communities today

Imagine if enough land had been granted to every Aboriginal family to build their own economic independence. Imagine if another five decades of Aboriginal child removal – and the shocking impact of that policy – had not happened.

If the demand to protect a distinct Aboriginal cultural identity had been taken up, the current task of piecing together the shattered cultural pieces of language, stories, songs, and dances would not be necessary.

If Aboriginal people had been placed in a position to oversee Aboriginal policy and needs, Australia's history of its Indigenous peoples would have been vastly different.

In reality the Voice is a renewal of the demands that the AAPA established nearly 100 years ago. *We didn't listen then – will we listen now?*



But Michael believes there are some topics that are sufficiently important that our broader society should engage with them, even if it means stepping out of our comfort zone. The Voice to Parliament is one those issues but we need process of engagement that will be invitational rather than divisive.

You can read the full discussion paper on the SA Synod website <https://sa.uca.org.au/> - click on Voice to Parliament Resources.

Attention plant killers

Adapted from an article by Alice Hayward, University of Queensland published in the Conversation

Imagine a world where your plants told you exactly when they needed watering. Well, that may not be so silly after all. New research suggests plants can generate airborne sounds in response to stress, such as drought, or being cut.

Plants are “sessile” organisms. They can’t run away from stressors such as herbivores or drought. Instead, they’ve evolved complex biochemical responses and the ability to alter their growth (and regrow body parts) in response to environmental signals including light, gravity, temperature, touch, and volatile chemicals produced by surrounding organisms.

These signals help them maximise their growth and reproductive success, prepare for and resist stress, and form mutually beneficial relationships with other organisms such as fungi and bacteria.

For example, the buzzing of bees can cause plants to produce sweeter nectar. White noise played to *Arabidopsis*, a flowering plant in the mustard family, can trigger a drought response.

Now, a team of biologists has recorded airborne sounds produced by tomato and tobacco plants, and five other species (grapevine, henbit deadnettle, pincushion cactus, maize and wheat). These sounds were ultrasonic, in the range of 20-100 kilohertz, and therefore can’t be detected by human ears.

The team placed microphones 10cm from plant stems that were either exposed to drought or had been severed near the soil. They then compared the recorded sounds to those of unstressed plants, as well as empty pots, and found stressed

plants emitted significantly more sounds than unstressed plants.



In addition, they also included a soundbite of a recording, downsampled to an audible range and sped up. The result is a distinguishable “pop” sound. The number of pops increased as drought stress increased – before starting to decline as the plant dried up. Moreover, the sounds could be detected from a distance of 3-5 metres – suggesting potential for long-range communication.

The team’s findings suggest that “cavitation” may be at least partially responsible for the sounds. Cavitation is the process through which air bubbles expand and burst inside a plant’s water-conducting tissue, or “xylem”. This explanation makes sense if we consider that drought stress and cutting will both alter the water dynamics in a plant stem.

Scientists have so far failed to detect sounds from the woody stems of woody species, but they could detect sounds from non-woody parts of a grapevine (a woody species).

There is no evidence to date of plant-to-plant communication or plant-to-environment communication to help plants adapt better to change. But perhaps sounds are used by other organisms to detect a plant’s health status.

Perhaps such findings could help with future food production by tailoring water use to target individual plants, or sections of a field making the most “noise”. This could help increase sustainability, intensify production and minimise waste.

For me personally, if someone could give a microphone to my veggie patch and have the notifications sent to my phone, that would be much appreciated!

Incorporating cultural fire practices to help protect koalas

Adapted from an article published in the Veterinarian 2023

In the wake of the 2019/2020 bushfires in which an estimated three billion wildlife perished, a two-year ongoing collaborative project led by researchers from the University of Sunshine Coast, and land custodians from the Quandamooka Yoolooburrabee Aboriginal Corporation, has shown bushfire management strategies would benefit if Aboriginal knowledge was included. Such knowledge could help mitigate the risks bushfires pose for vulnerable species such as koalas.

The study was conducted on 130 hectares in the northeast region of Queensland’s Minjerrabah/North Stradbroke Island, which is home to a wide range of protected flora and fauna including a population of genetically unique koalas. The results showed no negative impacts on the densities or stress levels of the koalas after the first burn in July 2021.

According to Bruce Walker, a ranger with the QYAC, cultural burns are cooler, lower, and slower than ‘hot fires’, enabling better coordination and control to encourage the regeneration of suitable native plants. The burns also controlled species like banksias and wattle, reducing the risk of fire reaching the canopy where koalas lived.

Asitha Samarawickrama, an environmental scientist and environmental educator, with experience as a ranger, believes this to be the first study of Aboriginal cultural burning to mitigate the risk of wildfires on koalas, something that’s increasingly important as uncontrolled wildfires become more frequent and severe with climate change. It showcases how cultural practices over millennia can be combined with cutting edge technology to advance science and support traditional management for conservation purposes.

The research involved counting and monitoring koalas using drones fitted with thermal cameras, and the collection of koala scats from the ground. These were analysed for hormone metabolite levels which could indicate stress.



Team supervisor Romane Cristescu states that “After the 2019-2020 megafires showed the vulnerability of koalas living in fire-prone habitat, an obvious solution was to address the ways we manage fires to try to prevent them. This study is a first step to show that cultural burns have that potential”, she explained.

A second burn during August 2022 was successfully conducted with study and funding partner organisations WWF-Australia and the Queensland Department of Environment and Science.