Enhancing Person-Centred Dementia Care through Neuroaesthetics and Art-Based Technologies

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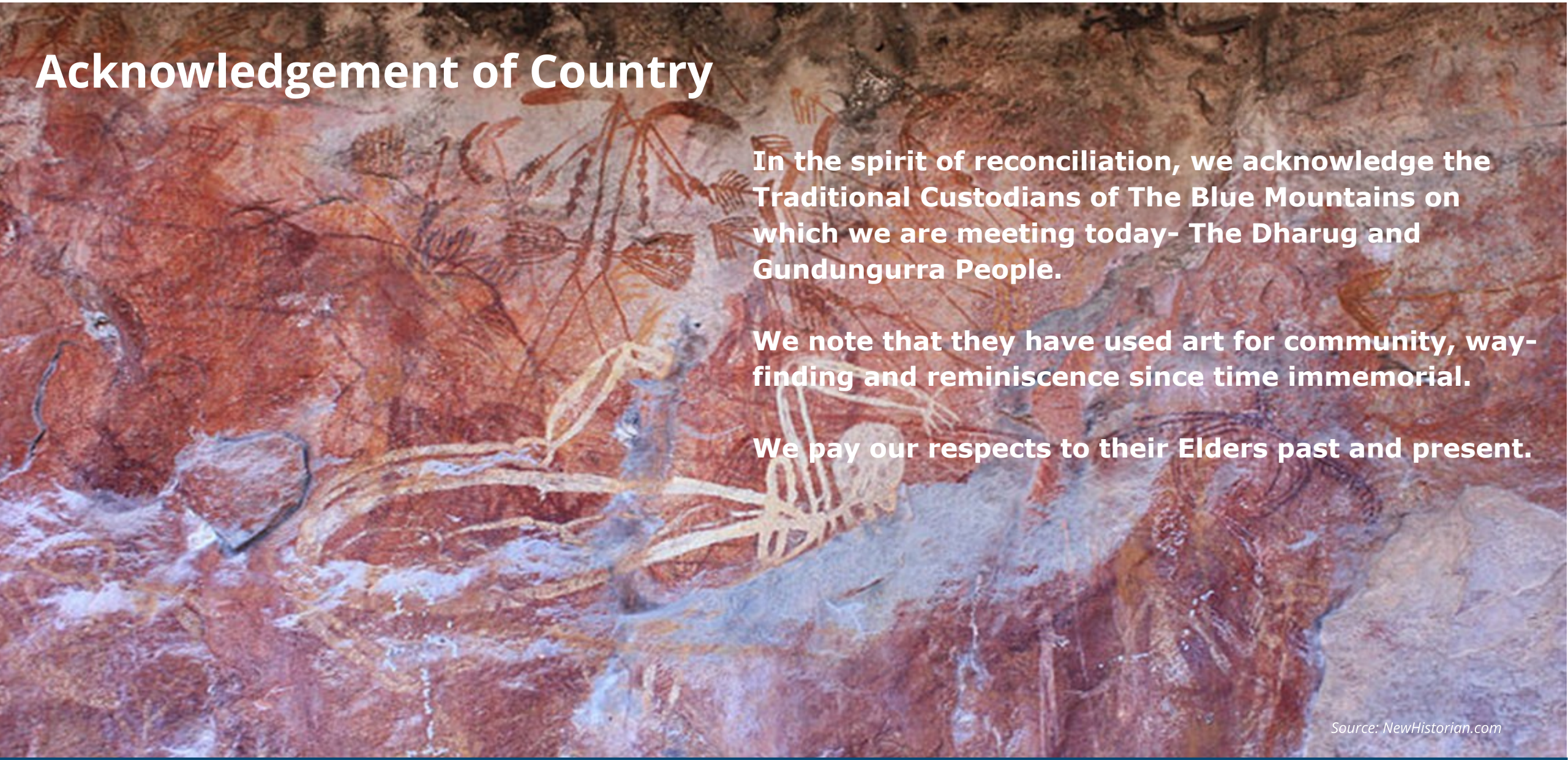
...because Tailored Art Works!

Acknowledgement of Country



In the spirit of reconciliation, we acknowledge the Traditional Custodians of The Blue Mountains on which we are meeting today- The Dharug and Gundungurra People.

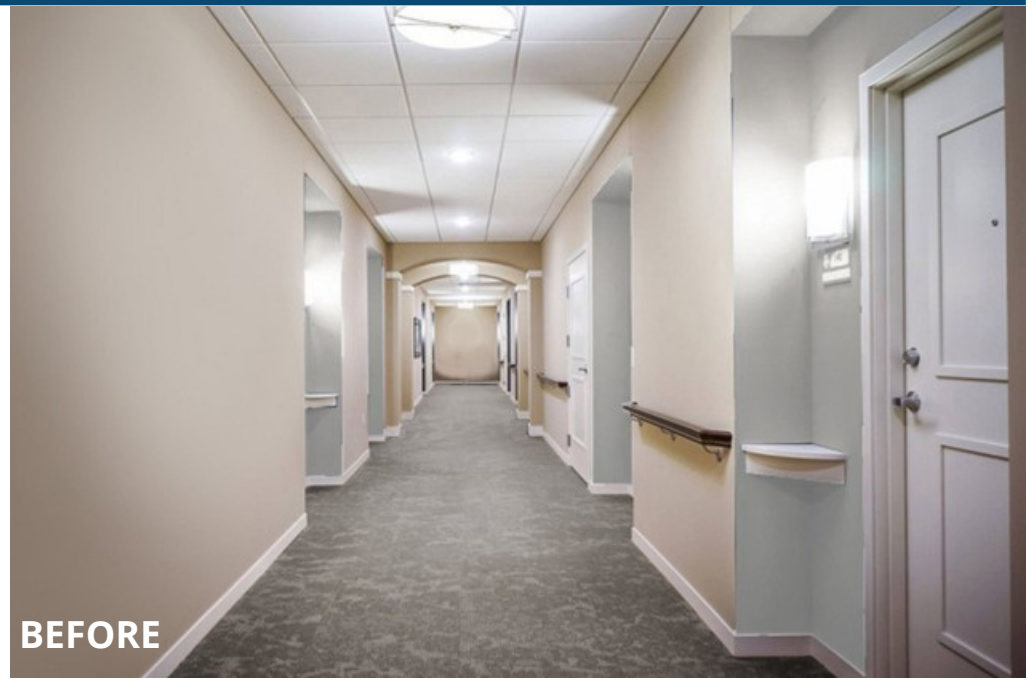
We note that they have used art for community, way-finding and reminiscence since time immemorial.

We pay our respects to their Elders past and present.

Source: NewHistorian.com

Presentation Overview (25m + 5m Q&A)

- Recreational Therapists & Person-Centred Dementia Care
- Why integrate Art into Aged Care?
- Gallery Visits vs Permanent Benefits
- 'Deprived' vs 'Enriched' Environments
- The Neuroaesthetic Science
- Improving Way-finding thorough Permanent Memories (‘Saliency’)
- Harm Minimisation vs ‘Dementia Deceit’
- Reducing Falls with Intuitive Signage
- Resident Room-door Way-finding
- Art → Culture → Community → Humanity
- Government Guidelines in Aged Care
- Conclusions
- References
- Author contacts



Recreational Therapists and Person-centred Dementia Care

As Recreational Therapists you are central to dementia care - bringing meaning, dignity, and connection where medications alone fall short. Your skills with the arts deliver creativity, engagement, and joy that can directly improve quality of life.

How can interactive art viewing in person-centred care increase your therapeutic impact, professional success, and sense of achievement?

The research is clear:
A review of 19 studies involving nearly 4,000 participants found that person-centred care significantly:

🧠 ↓ Agitation, depression, neuropsychiatric symptoms
💜 ↑ Quality of Life (especially in less severe dementia)
🎯 Short, individualised sessions → fastest relief
📈 Long-term staff training → sustained improvements

Comparing study outcomes:

- Gallery programs: costly, short term results
- Permanent art-based technology installations in facilities are:

∞ **Persistent** – permanently installed = always visible

⏱️ **Repeatable** – daily engagement without effort

👥 **Trainable** – therapists can leverage to train staff

🔁 **Scalable** – 650 catalogued designs, 'PhotoShop visualisation', semi-automated pre-production customisation, quality review, etc.

💰 **Cost-effective** – effective 24/x7, no impost on staff

As Recreational Therapists you can drive both well-being and long-term therapeutic value. Art-based Technologies are about doing better than just art by integrating art with science and policy and why should we do that?

Why integrate Art into Aged Care?

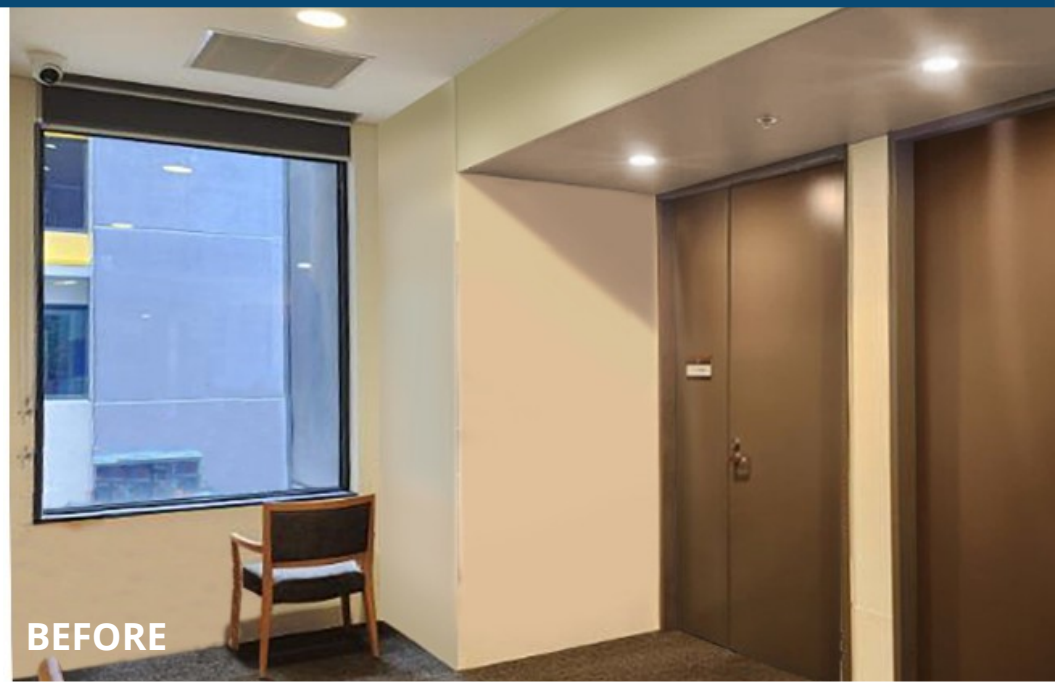
What if we thought outside of the box and used science to make Art-Work with operations and clinical care to reduce institutional design triggers and facilitate person-centered care for residents. How can we do this?

Art-based Technologies (ABTs) are neuroaesthetically designed artworks that create visual and sensory interventions for PLwD in ways that measurably reduce the environmental triggers. ABTs can improve overall behaviour and well-being which can reduce operational costs, staff interventions and medications.

Proven since 2008, ABTs are scalable across facilities to:

- **Foster reminiscence** and wayfinding through curiosity
- **Support de-institutionalisation** through homely aesthetics that prioritise residents' privacy and independence

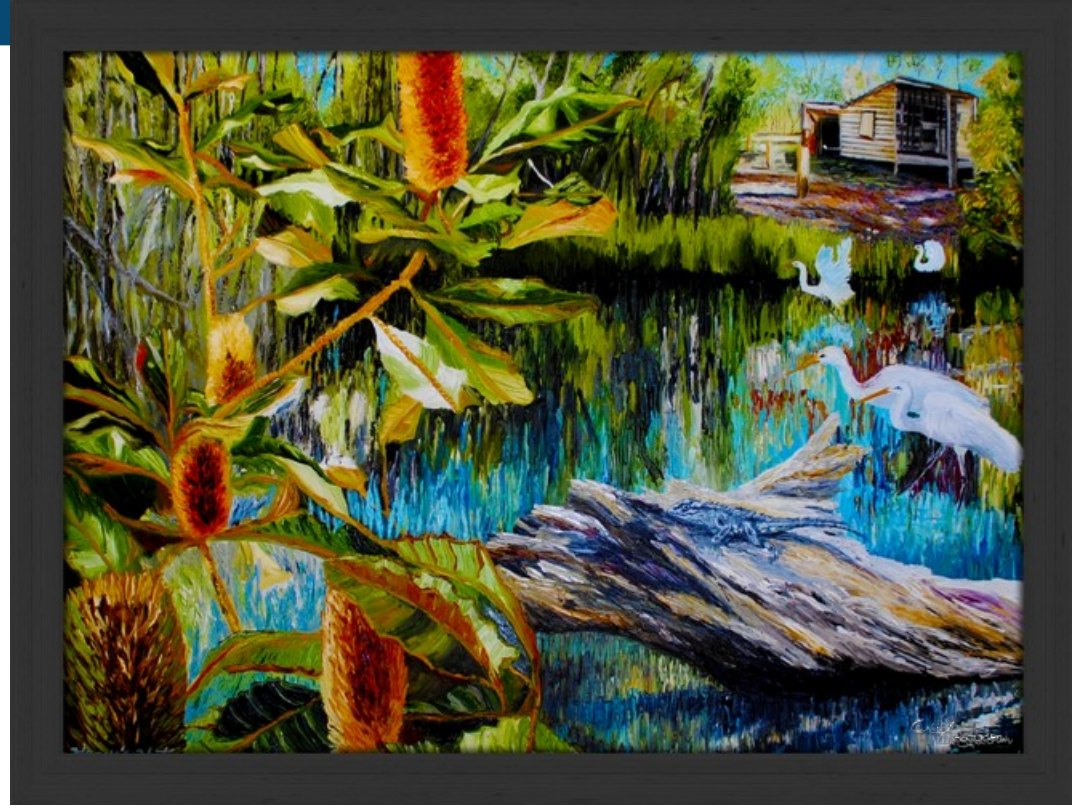
Integrating art in to Aged Care can increase both resident well-being and staff effectiveness.



Gallery Visits vs Permanent Benefits

Gallery trips are costly and fleeting - studies show these activities create only short-term memory engagement

- **A study on residents** - preferences for private artworks in apartments and collectively interesting artworks in community spaces avoided arguments, favouritism, and spark daily conversations.
- **ABTs use research that uncovered common themes:** water, nature, light, love and travel
- **Daily engagement supports person-centered care:** passive viewing enhances emotional connection, memory, and autonomy
- **Non-verbal residents benefit** - visual stimulation provides purpose → reduces boredom → lowers anxiety/depression – art viewing without judgement
- **Therapists benefits** – use cues in Art-based Technologies as context for discussions, interactions and shared experiences
- **De-institutionalising benefits** – creates 'environmental enrichment'



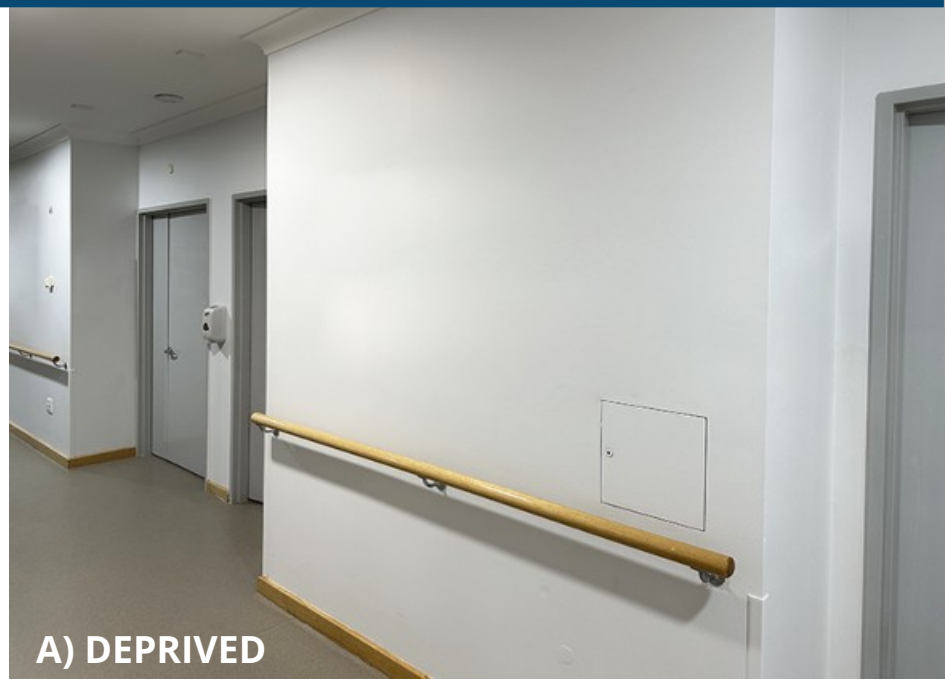
‘Deprived’ vs ‘Enriched’ Environments

Since the 1960s, neuroscience proved neuroplasticity by measuring the differences in animal brains caused by living in environments that were ‘enriched’, ‘unchanged’ or ‘deprived’ of visual, social and physical stimulation. Later studies on humans using Functional Magnetic Resonance Imaging (fMRI) of the brain observing art confirmed that:
- Deprived Environments increase mental decline
- Unchanged Environments have no affect
- Enriched Environments slow cognitive decline

- **Environmental enrichment benefits:**
  - Wayfinding → Reduce fatigue → Fall prevention
  - Relief from boredom and loneliness → Reduce depression

- **Current facility challenges:** Many aged care homes have blank walls which create bleak environments, which may contribute to cognitive decline and associated negative behaviours

- **Art based Technologies are designed to:**
  - Brighten bare walls → reduce blandness → disorientation
  - Individualise doors → reduce wrong-room entries → incidences
  - Minimise glass glare → reduce resident stress
  - Reduce reflections → lower fear/anger from imagined persons



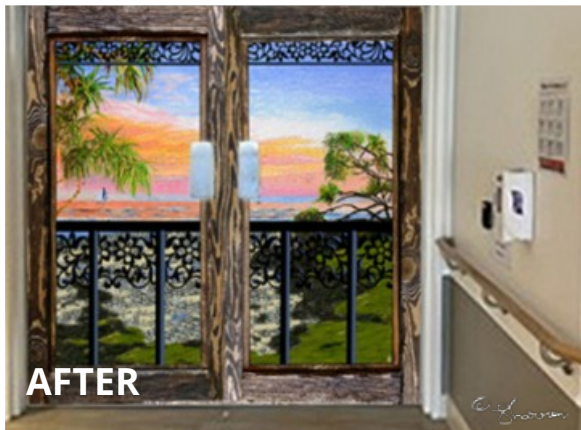
The Neuroaesthetic Science

fMRI led to Neuroaesthetics (n): *how exposure to the arts improves neuro-psychological states in measurable ways*

- From age 65+ the human brain relies more on visual stimulation and increases its sensitivity to notice detail, pattern and contrast to maintain its cognitive ability

- Therefore, continual exposure to visual art stimulates the right parietal lobe for visual interpretation → communicates with the basal ganglia for motor control and habit formation → hippocampus for memory → improves wayfinding

- **How Art-Based Technologies work:**
  Highly visual artwork→perceived as beautiful→and mysterious→creates wonder, surprise and joy→stimulates curiosity→creates attention that directs consciousness→ non-threatening conversations and reflections→sparks meaning making/knowledge→creates Dopamine reward→forms a memory→associates placement→creates Wayfinding 'Saliency'



Improving Way-finding through Permanent Memories ('Saliency')

- ***Saliency (n):*** *Features of the environment or objects that stand out to the brain, making them easier to notice, attend to, and store in memory - helping residents navigate and recall spaces more effectively.*
- **Way-finding studies show:** Residents with or without dementia achieve way-finding saliency easier and faster when landmarks are:

  - Larger and more frequently placed
  - Meaningfully placed
  - Naturally coloured but brighter
  - Coloured over black and white/greyscale
  - Easy to understand
  - Feature meaningful themes i.e. sunset, children's art
  - Figurative or culturally stylised over abstract
  - Textured
  - Stable

Harm Minimisation vs ‘Dementia Deceit’

Studies of people living with dementia show that they are OK with ‘white lies’ - IF they know that it is for their benefit

- **ABTs are designed to:**
  - Seamlessly integrated into the environment so residents can see a desirable scene without physically needing to go there.

- **Therapeutic deception** – designed to guide behaviour to minimise harm i.e. static cues

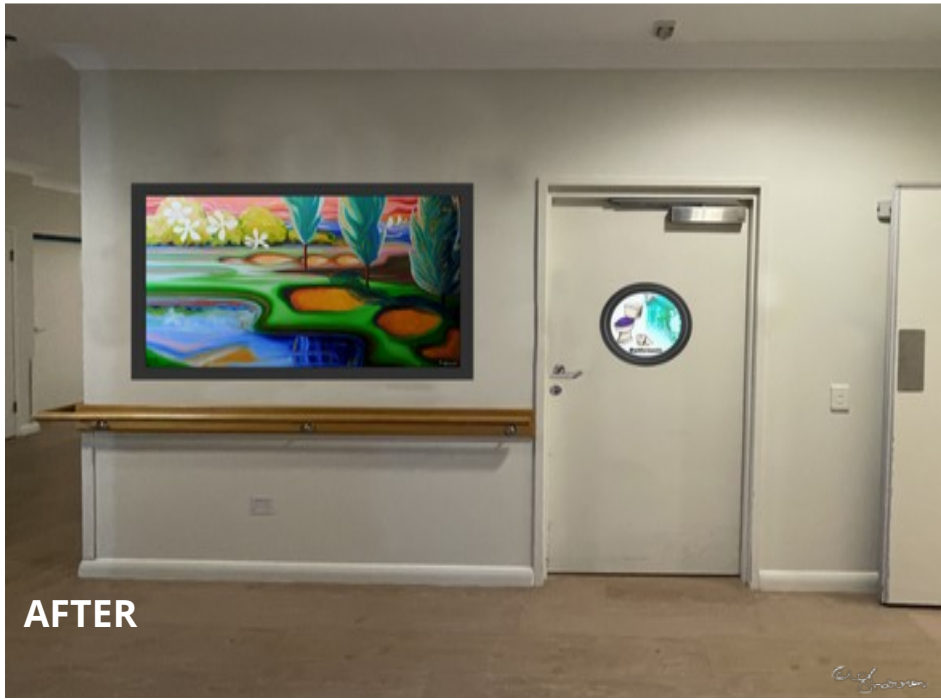
- **Effective design** - imagery designed to align with architectural lines, shadows, and shapes, using textured art to signal “this is art for your enjoyment”

- **‘Artful Disguises’** - can redirect attention away from clinical or unsightly features such as:
  - Fire Exits, Service Doors, Cupboards, One-way Vision Nurses Stations and Entrances

Art-based Technologies support therapists by reducing resident stress and safely guiding engagement, making activities more effective and enjoyable.

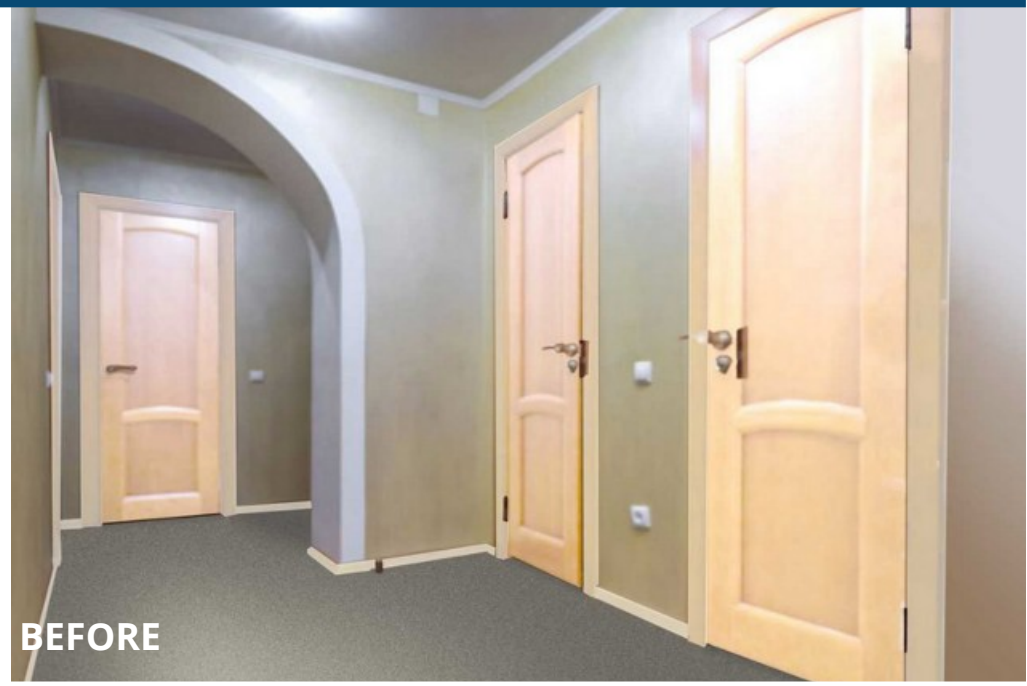
Reducing Falls with Intuitive Signage

- **Circles attract the eye** - contrast against architectural lines
- **Decorative frames** - reinforce shape and create a homely vibe
- **Textured cues** - 'Artful Signage' as icons with intuitive backgrounds or culturally styled art
- **Cultural variety** - creates differentiation and aids orientation
- **Light-hearted imagery** – enhances a residential, welcoming vibe
- **Clear wording** – simple font reinforces meaning but is optional for non-readers
- **Facility-wide system** - Art-based Technologies support navigation, reduce fatigue, and lower risk of falls



Resident Room-door Way-finding

- **Landmarks aid recognition** – residents use visual cues to locate door → identify their door by its design → their room by personal items
- **Reduce stress and frustration** – improving wayfinding minimises disorientation-induced anxiety
- **Minimises wrong-room entries** – fewer mistakes and incidence reporting
- **Door styles relevant to the facilities demographic** and building-style improves familiarity
- **Contrast -** cohesive doors designs are spaced in juxtaposition to one another for easier identification
- **Full floor-plan integration** – consistent placement and feature wall colour cues supports navigation



Simplifying room identification support therapists' work to enable more meaningful engagement

Art → Culture → Community → Humanity

- **Use art to communicate** — since cave-man times, art has been a universal way to convey meaning
- **Build spiritual connection** — people in their 80s increasingly seek this, and often experience spirituality through the rare emotion of Awe
- **Awe can build spiritual communities** — Awe imbues a sense of something greater than oneself → moves the 'small self' to a collective 'us'→promotes prosocial behaviours, generosity and collaboration → gratitude for care
- **Bring humanity back into aged care** — Awe-inspiring art creates meaningful engagement, connection, and emotional well-being

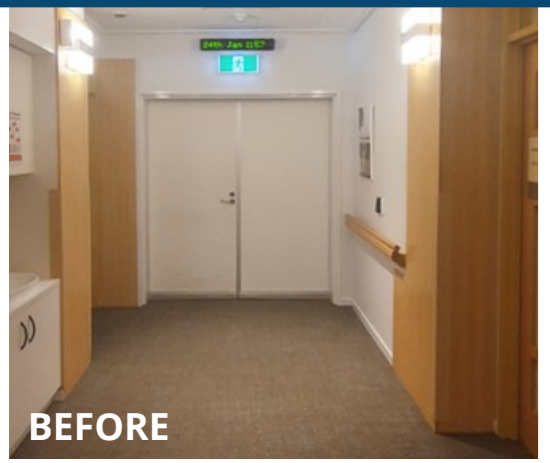
Facilitating 'awe' through art enhances residents' sense of belonging and purpose, enriching therapeutic interactions and outcomes.

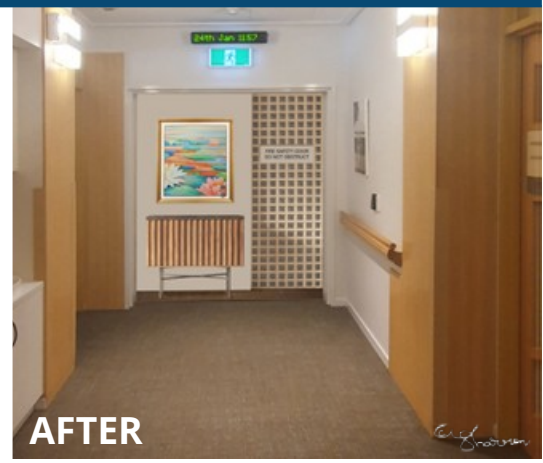
Government Guidelines in Aged Care

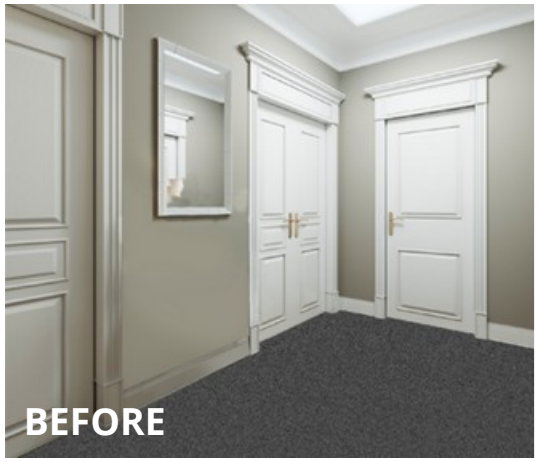
The Australian Aged Care Design Principles and Guidelines recommend meaningful art that:

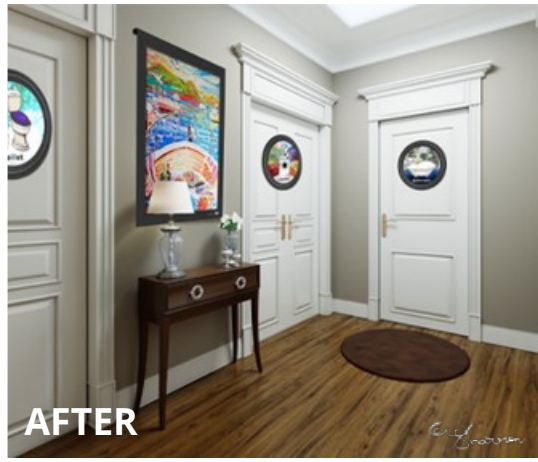
- **Promotes culture** (sections 1.1 & 1.6)
- **Reduces clutter and signage:** use objects and art rather than posters of bookcases, street scenes, etc. (1.2)
- **Use tonal contrast** to create a homely appearance (1.6)
- **Create distinctive features for:**
  - Navigation routes (1.7)
  - Bathroom and toilet doors (1.10)
  - Private entries (2.2)
- **Conceal fire exits, staff entries and operational areas** (2.3)

ABTs as science-based approaches can help you implement these guidelines in dementia-friendly, practical ways.









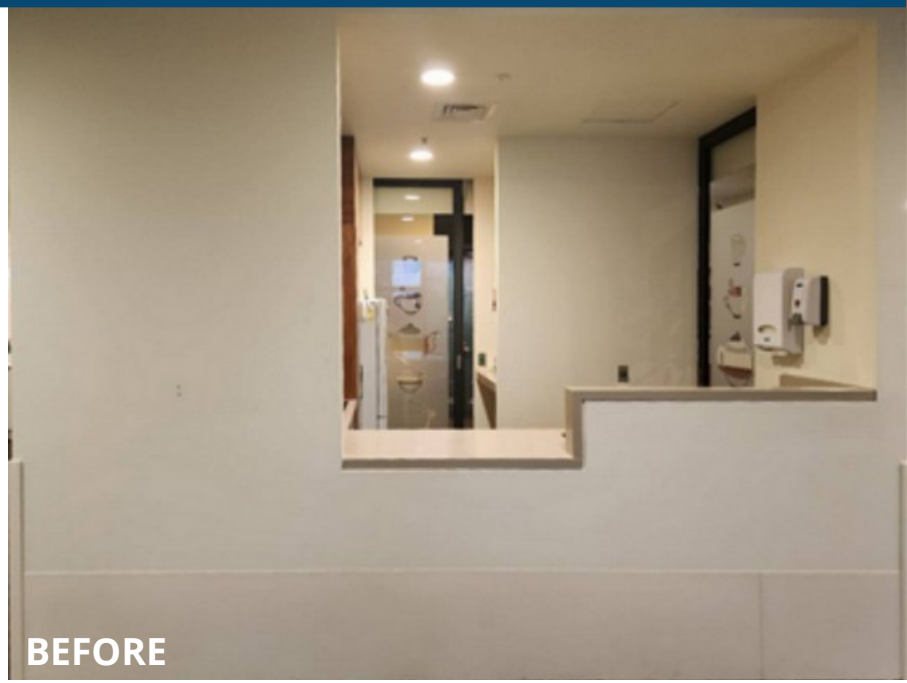
Conclusions

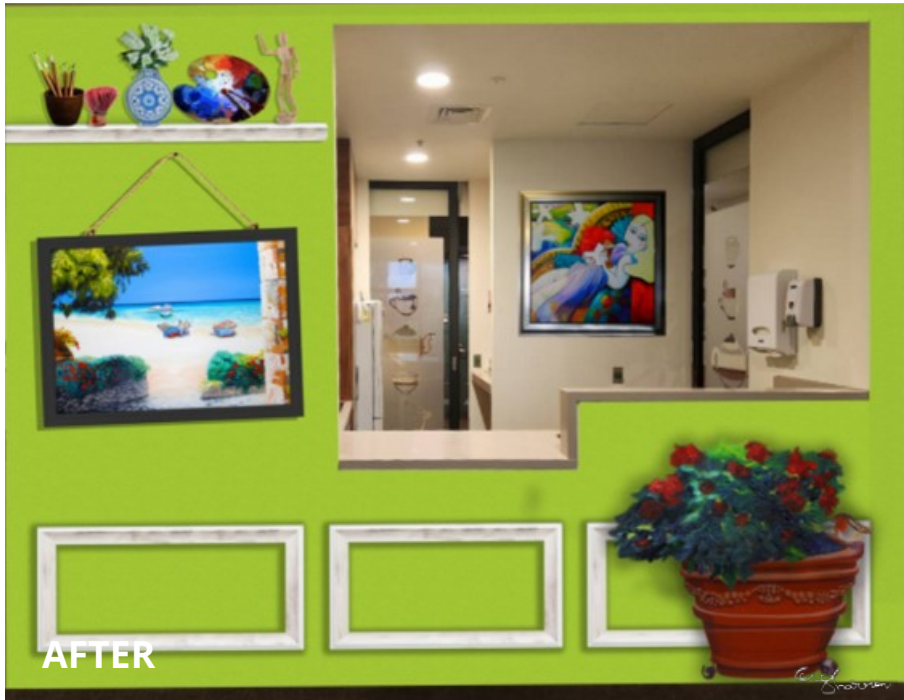
- **Art-based Technologies (ABTs) integrated as facility-wide wayfinding systems can holistically:**
  - Reduce triggers & reactive behaviours
  - Improve wayfinding & orientation
  - Boost emotional & cognitive well-being

- **Art-based Technologies can support Recreational Therapists to:**
  - Lead therapeutic conversations
  - Deliver strengths-based activities
  - Foster reminiscence & social connection
  - Enhance engagement & independence using immersive, themed spaces

- **Art-based Technologies are aligned with Government Policies:**
  - Royal Commission: de-institutionalise environments (2021)
  - Dementia Australia: endorse tech-enabled person-centred care (2022)
  - Aged Care Design Principles and Guidelines: landmarks, etc. (2023)
  - Aged Care Taskforce: person-centred care innovation (2024)
  - National Dementia Action Plan: supportive tech (2024–2034)

Evolutionary Biologist Edward O. Wilson writes in 'Consilience':
"***The greatest enterprise of the human mind has always been and will always be the attempted linkage of the sciences and humanities***".





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Thank You!

Sharron MIDA is an Australian industrial artist and pioneer of Art-based Technologies with over two decades of experience. Dyslexia enhances her unique ability to notice patterns from detail, visualise problems in three dimensions and create innovative solutions. Renowned for her global insights and meticulous research, she collaborates with governments, universities, and providers. Sharron connects neuroscience, neuroaesthetics, and health research, becoming a thought leader in creating dementia-friendly environments. Her work transforms healthcare and aged-care settings, demonstrating how evidence-based art can improve health outcomes.

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Gregor Poole BScPH BScHP is a seasoned health and aged care professional with over a decade of experience fostering inclusion and well-being. As a Community Development Manager with leading Australian aged care providers, he has spearheaded programs like volunteer initiatives, intergenerational projects, and respite services that empower residents. With a Bachelor of Public Health and Health Promotion and currently pursuing a Master of Social Work, Gregor is committed to advancing evidence-based, person-centered care in aged care communities.

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