

The Sound of Place: Environmental Artworks at Bundanon

by Nigel Helyer and John Potts

This essay listens to the sound of place: of Bundanon, a three thousand acre property in the Shoalhaven river valley in rural NSW, Australia. Bundanon is today an artists' colony and education centre, following the gift to the Australian people in 1993 of the entire property—including homestead, artist studio and extensive collection of art works—by its previous owner, the Modernist painter Arthur Boyd. Every year, 300 artists take advantage of the artist residency program, living in rustic isolation at Bundanon while working on art projects in all forms and media. This essay considers four artworks made at Bundanon by the artist Nigel Helyer: *Milk and Honey*, *Biopod* versions 1 and 2, and *Heavy Metal*. Each of these installation works was first exhibited onsite at Bundanon, before their inclusion in an exhibition in 2017 entitled *Landscape/Portrait: An exploration of the Shoalhaven River Valley*.¹ Each work has an audio component; the essay focuses on the role of sound in evoking aspects of place in these artworks.

The four artworks were created as part of a three-year Australian Research Council (ARC) Linkage Grant project, *When Science Meets Art: an environmental portrait of the Shoalhaven River Valley*.² The overall aim of the project is to create a complete environmental portrait of the Bundanon region, using techniques of environmental science, artistic practice, information technology, media technology and cultural history. Science meets art in the fusion of data—collected by environmental scientists—with the communication of this information through artworks and media technology. Each of the artworks conveys part of the greater environmental portrait of Bundanon undertaken by the research project.

The research process involves the analysis of soil and river water quality by a team led by environmental scientist Mark Taylor. The paints used by Arthur Boyd in his former studio have also been subjected to mineral analysis; sonification of this data is incorporated into the work *Heavy Metal*. The data representing environmental quality is digitally transformed into sound and visual information in numerous artworks. The environmental portrait of Bundanon also incorporates the social and cultural history of the region, as it pertains to its environmental condition. Social history is included in the project as it embodies the environmental shaping of the region.

The Bundanon region is the site of our environmental portrait because of its distinctive natural and cultural character. The 3000 acres have been overseen by the Bundanon Trust since 1993. The vast property, including a winding section of the Shoalhaven River, incorporates eleven different vegetation communities, an abundance of flora as well as native wildlife. The landscape is central to the Trust's activities, which include replanting of native vegetation, and the removal of exotic weed species from the riverbanks.

The four artworks considered in this essay all probe the question: What is it to know a place, and how is it that we know? Do we slowly accumulate intimate details gathered during repeated visits to a familiar terrain, or are we perhaps transfixed and transformed in an encounter with a solitary natural phenomenon? Does our knowledge of the place's history condition our experience of that place in the present? Does imagination colour our perception of place? We have contributed to the Bundanon Trust's annual Siteworks festival



Nigel Helyer, *Silent Forest* (1996) National Gallery of Victoria.

as a means of manifesting our reflections upon and relationships to the landscape. We hope to act not as distant and impartial observers but embodied within the terrain, moving through it, working with it. The greater research project addresses the issue of how an environmental portrait might be conceived, and what constitutes a landscape. The approach is to think about landscape as an amalgam of lives, cultures, histories, sounds, biologies and economies; never the one thing, always a jostling of the many; the different and incommensurate; some obvious voices, some quiet and hidden. The sounds of nature, and of cultural history, are invoked within the multi-voiced environmental portrait of Bundanon.

An environmental history of Bundanon

One of the fascinating aspects of Bundanon is that the region's social and cultural history has left an imprint on the landscape. The Indigenous people whose traditional country encompassed the contemporary Bundanon Trust properties were part of the Yuin group, with close ties to the Wodi Wodi people to the north. An Indigenous Cultural Heritage Plan commissioned by Bundanon Trust in 2011 found only two sets of axe-grinding grooves and possible stone tools in the region. The scant traces of habitation suggest that the lower Shoalhaven was an area moved through rather than settled, with the river an important means of travel by canoe. Extended family groups moved through their country responding to seasonal availability of resources, managing country by fire. These groups came together with others for ceremonies or activities such as kangaroo drives or burning country.³

European occupation brought a radical transformation of the landscape, through tree-felling and then clearing for agriculture. Cedar-cutters felled valuable red cedar trees (cedar was reportedly Australia's first export) from 1811; in 1812 there were nine ships transporting cedar back to Sydney. The clearing of the forest removed the site of traditional Indigenous life, and opened the land for agriculture. 600 acres of land were sold to R. H. Browne in 1832, on the condition that '55 acres were to be cleared and cultivated and fences erected.'⁴ This and other adjoining properties were bought by Dr. Kenneth McKenzie in 1838; the McKenzie family endured severe periodic flooding of the Shoalhaven River to establish their farm and

farm buildings. The destructive flood of 1860, which wiped away buildings along the river, prompted McKenzie's building in 1866 of the two-storey homestead, built of sandstone and local cedar, along Georgian lines and on high ground: this house today is open to the public as the former house of Arthur Boyd.

The McKenzie agricultural estate of Bundanon focused on dairy farming and maize crops; access to Nowra was by river ferry. Other farmers cleared and cultivated land in adjoining areas, among them the Biddulph brothers, who owned Earie Park. The Biddulph diaries are used as a source by Nigel Helyer in his work *Milk and Honey* (2013), originally installed in the Bundanon homestead; these diaries display a farmer's sensitivity to the weather, the productivity of the land, and a watchful eye on the river (there were disastrous floods in 1870, 1891 and 1898). By the early twentieth century, the Bundanon homestead was the central building of a working farm that included stables, a curing shed, orchard, vegetable garden, pigpens, dairy, beehives, as well as workers' huts.

The McKenzie family left Bundanon in 1926, following a tragic double drowning in the river. The property was leased to tenant farmers for half a century, running dairy and beef cattle. The next major transformation of the Bundanon landscape occurred in 1968, when the property was sold to art historian Sandra McGrath, her husband Tony, and art dealer Frank McDonald. Most of the working farm buildings were removed, trees planted, and an English-style cottage garden installed. A magazine article in the 1970s, entitled 'The Happy Valley,' commented that 'a Sydney art dealer has built a mid-nineteenth century landscape on a grand scale.'⁵ Bundanon was now less a working farm than an artists' community; it was this environment that Arthur Boyd visited in 1971. He was so captivated by the landscape that he bought the nearby property Riversdale in 1974, then Bundanon itself in 1979. Boyd built his studio at the rear of the homestead in 1981 (the studio was the initial site of *Heavy Metal* in 2016).

During his tenure at Bundanon, Arthur Boyd fought to preserve the environment from development and damaging activities such as sandmining. He was quoted many times in his belief that "you can't own a landscape". He realised his vision of protecting the natural and cultural heritage of Bundanon when the Commonwealth accepted Bundanon as a gift in 1993, establishing the Bundanon Trust. Boyd saw Bundanon as "a place for the community to enjoy the bush and the river, and a place to be used as a forum where those from every facet of the arts and science could get together". Collaboration and interaction were essential: "I like the idea of people talking to one another," he stated.⁶ These four artworks, with their collaboration between art and science, and focus on the landscape and environment of Bundanon, develop the spirit of creative inquiry advocated by Arthur Boyd.

Hearing Place

The distinction between place and space has been made in a number of disciplines since the 1970s. Place is understood as the subjective rendering of space, the personal appreciation of a section of space or territory. The architect and theorist Colin Ripley has remarked that place emerged in architectural thought in the late 1960s as an "antidote" to the modernist conception of space. The "homogeneous and abstract built world" constructed by modernist architecture began to appear disenchanted and "devoid of poetry" to many architects in the 1970s. A more sensitive architectural practice valued place over abstract space, enabling a "poetical dwelling" as well as greater harmony with the environment.⁷ Place was further emphasised in human geography in Yi-fu Tuan's book *Space and Place: The Perspective of Experience* (1977): Tuan focused on the significance of human experience in constructing and defining places.⁸

Theorists of sound art and acoustic ecology have been particularly attuned to the function of sound in evoking place. Because sound fills space, it is strikingly effective in conjuring the experience of place or "soundscape", as sound artist R. Murray Schafer articulated in his highly influential 1977 book *The Tuning of the World*.⁹ Generations of artists working with sound have evoked place using recording technology; this evocation may take the form of a recreation of sounds within a specific space, or a creative response to the sonic profile of a particular environment. As the sound artist Ros Bandt has observed: "place is constructed, remembered, embodied, restored and re-created through certain aural signatures that enable us to interact with that place in new ways."¹⁰ The 2007 anthology *Hearing Places*, co-edited by Bandt, offered thirty-four perspectives on the general theme of localised sound: the way "hearing place" is understood and interpreted. This may refer to a specific location or "sonic habitat", or to an artistic response to an acoustic environment, using recording technology or invented sound work. The ethical dimension of experiencing place through sound is frequently emphasised in critical writing on acoustic ecology and sound art. Attentiveness to the sounds of the other or of the past is invoked as the basis of cultural and political dialogue.¹¹

Recent theorising of place has emphasised the complexity of the personal rendering of space, incorporating memory and history of place. Lucy Lippard's book *The Lure of the Local* defined a city as "a layered location replete with human histories and memories."¹² Rebecca Solnit's *Infinite City: A San Francisco Atlas* proposed an infinite number of subjective maps of a city, comprising the personal experiences of all those who traverse the city's space. For Solnit, "every place is if not infinite then practically inexhaustible."¹³ This complexity of time and space pertains to rural environments as well as urban spaces: every place has a history which shapes our appreciation of the place in the present.

There is a strong, but largely unacknowledged, relationship between sound, site and memory, both personal and cultural, that allows us to form complex associations and communal identities with particular loci. John Potts has described the sound of place evoked by two recent sound-art works, both exhibited at Documenta (13), 2012, in Kassel, Germany. *FOREST (for a thousand years)* by Janet Cardiff and George Bures Miller pursued the idea of emplacement through the medium of sound. This audio installation within a densely wooded park created a spherical sound field with 30 loudspeakers, which played voices and sound recordings evoking different periods of time. The audience had the sense of "experiencing the passing of a millennium from the perspective of this one patch of territory in the park...the artists in this work complicated the experience of place by invoking the passing of time."¹⁴ At the same Documenta, Susan Philipsz achieved a similar feat of inscribing a specific place in Kassel with layers of time evoked by sound. The timescale, 1941–1944, was much briefer; the site was Kassel's former Hauptbahnhof, still in marginal use. Seven loudspeakers above the train platform played *Study for Strings* (1943) by the Jewish composer Pavel Haas, who died in Auschwitz in 1944, after being deported by train from this very platform. The effect of this work was of "the past speaking to the present at this haunted place" as the music drifted in to the platform as if from the past. Listeners were affected by the melancholy weight of the past, their experience displaced "through the intersection of place with the plane of time."¹⁵

Recent sound works by Nigel Helyer have incorporated a historical dimension in creating an audio portrait of a specific place. John Potts has called these works, such as *Silent Forest* (1996) and *The Wireless House* (2009), "multi-faceted sounding-boards of history and culture."¹⁶ The original "wireless house" was built in 1934 in a park in inner-city Sydney, with the aim of providing radio broadcasts for the poor during the Depression. Helyer's work re-sounded



Nigel Helyer, *Milk and Honey* (2013). Bundanon homestead.

this long-forgotten site with contemporary audio technology: the re-constructed site detects visitors and plays audio sequences from its archive, as if quietly announcing its memories to visitors. Other recent works—*Ecolocated* (2011) and *VoxAura, The River Sings* (2011)—create a “sonic cartography” in evoking specific places, with an environmental emphasis. The audio of *Ecolocated* blended

location-sensitive sounds, sonification of water quality data, and oral history material into “a multi-layered composition that rendered densely intertwined sonic narratives of and by the place: Belfast.”¹⁷ *VoxAura* focused on maritime life and marine ecology at the port city of Turku, Finland. Two ships’ lifeboats were moored either side of a pedestrian bridge over the River Aura in the centre of town;

one lifeboat played audio including local narratives and music, while the other played sonification of local water quality data. The work asks the audience to reflect upon the river—and the Baltic Sea—in an environmental context, to appreciate its “vital role as a chemical interface that controls our climate and our atmosphere.”¹⁸

The four works discussed below use similar methods, incorporating environmental data, historical material, and environmental sound recordings, to evoke a specific place: Bundanon.

Milk and Honey

Milk and Honey (2013), was an eight-channel sound-sculpture installed in the music room of the old Bundanon homestead. As if stranded by an ancient flood, two sonic punts “floated” in the Bundanon homestead, carrying cargoes of milk and honey, sounding out their riverine environment with fragmentary voices in a strange new world.

Milk and Honey invoked the voices and atmospheres, the actions and beliefs of generations of Bundanon settler inhabitants as they struggled to eke out a living in these strange surroundings. “A land flowing with milk and honey” is the biblical phrase that describes the agricultural plenty of the chosen land. Early colonial settlers to the Shoalhaven region forged their own path toward realising this metaphor in a life that melded European practices and stereotypes with an unknown, even unknowable, landscape.

The audio of this work comprises sounds of farm life, and a mingling of Old Testament voices with the prosaic and terse entries from the Biddulph farm diaries of the 1880s. Extracts from these diaries summon a life of constant physical action and interaction; a life in which the ebbs and flows of the river provide both a daily pulse and a lifeline to the outside world; a life where the constant routines of farming were interrupted and supplemented by the more ancient rhythm of hunting and foraging in the bush:

Shipped 22 bags of corn on punt
Picked preserving dish full of grapes to make jam
Got a small swarm of bees, mother practiced her hymns
Mother had a yarn with Hugh at Cowtails.¹⁹

In the *Milk and Honey* soundscape, oars and seats of the punts emit voicings of segments of the diaries. The piano plays farm sound-fragments including the buzzing of bees; the slapping of oars against the water as the punt transports people and things to and from the farm on the fast-flowing river; the squirt of fresh cow’s milk onto the side of galvanised buckets; and segments of a concert played on the Steinway piano by a family member, who stays at the homestead from time to time.

As in previous Helyer installations, the work has a “visceral” quality derived from the audio technology. The sound-sculpture does not employ normal speakers but a series of eight “audio actuators” that transform the sculptural objects (the punts, the bee hives and oars) into sounding objects that literally vibrate. The many audio sources in the work—historical, biblical, ambient environmental and those referencing Boyd—form a fragmentary, multi-vocal attempt to portray the complexity of the lived landscape. Having eight sound channels allows the sounds to literally move around and through the various components of the sculptural work—which has at once a familiar but also an alien presence in the homestead.

[Link to Audio File 1: Audio, *Milk and Honey*](#)

Milk and Honey crosses time, re-creating a sense of the arduous repetition of farm life back then; the isolation both blissful and demanding. Working the punt required attention to the river and its conditions, but also provided timeout and a chance for reverie on the

smooth-flowing system. In her catalogue essay, Cecelia Cmielewski describes the “quality of reverie that the composition of sound and objects in *Milk and Honey* evokes”. The work asks us to compare the pace and rhythm of life then and now; the close proximity and forms of mobility and markets then and the ease and environmental havoc of the transport and dispersal of produce now. *Milk and Honey* is also “a deeply political query into the rapid shift that has happened in the short time of farming at Bundanon.” It provides a space for contemplation that can “lead to an enquiry into the ways in which land management shapes the environment and those who live in it and benefit from it.”²⁰

BioPod_V01

BioPod_V01 (2014) was a site-specific, micro-architectural sculpture designed to facilitate active listening in the natural environment. Positioned on the lake, a sonically significant site at the Bundanon property, a single-person capsule allowed for an overnight acoustic vigil. *BioPod_V01* combined sculptural, architectural and acoustic experiences that could create an extended narrative of aural experience. Participants were invited to make digital recordings of their sonic surroundings as well as their own voice as contributions to the ongoing sound archive—a type of ship’s log. *BioPod_V01* functioned as an escape pod, a re-entry capsule, an ark, in which an overnight acoustic reverie could be recorded on the pod’s user-friendly audio system.



Nigel Helyer, *BioPod_V01*. Lake at Bundanon.

For many, the combined sensations of camping alone in the (extremely vocal) Australian bush and floating in the middle of a lake in total darkness proved a severe challenge, but the temporary withdrawal from the *quotidien* permitted an acuity in listening, experience and thought: a brief period of transformation and identification with the environment.

The *BioPod_V01 Survival Guide* offered this advice for users:

Our species makes a lot of noise—we have created a world in which silence is a rare commodity. The *BioPod* invites you to spend an overnight acoustic vigil where you can maintain your silence and listen to the voices of other species.

During your overnight stay you are invited to make a series of short audio recordings of the soundscape and to also record a personal audio-log reflecting on your experience.²¹

BioPod_V01 was an immersive experience for the intrepid soloist. Cecelia Cmielewski, who experienced a night in the pod, describes the aftermath: a “deeper consideration of the biology of the lake” and the opening of a sonic world that “feels like prehistory.” The



Nigel Helyer, *BioPod_V02* (2015). Bundanon.

recordings she made of this acoustic environment included: kangaroos which “thump loudly as they come to and from the lake to drink; frogs are abundantly loud and varied; egrets and kookaburras swoop close by, wings touching the water; the smallest of insects are out and about. It is not peaceful; it is a rowdy, hectic cacophony and one not heard during the day, but only at night in places where people don’t often go.” The experience in the biopod slowly revealed “a complex world that cannot be seen, only heard.” It was the sound of Bundanon, at night, on the lake. The result was “a disarmingly humbling experience in which the human is completely disregarded and not required. For a moment, it is as if the Anthropocene had not begun.”²²

BioPod_V01 was a sound-work designed to “make itself”. Instead of controlling the audio content, Helyer’s aim was to establish a situation in which participants engaged with a natural soundscape (in a way that they would not normally experience). This allowed them to produce their own content/response, creating in the process a generative work.

[Link to Audio File 2: Audio, *BioPod_V01*](#)

BioPod_V02

BioPods_V02: the Nebuchadnezzar suite (2015) responded to the 2015 Siteworks thematic at Bundanon, *The Feral Amongst Us*. The suite of three biomorphic sculptures could be considered as ‘biology turned feral as sculpture’ or, conversely, ‘sculpture turned feral as biology’. Each structure contained a narrative of a feral or rewilded being. Each of the works was designed to be inhabited in a single mode—standing, sitting and lying down—and each form was equipped with a solar-powered audio resonator system that played

the narratives of the outcast King Nebuchadnezzar II. Moreover, visitors were required to crawl on all fours to enter the works, emulating the posture of the savage king.

The orientation and motivation of the work was drawn from a large series of Arthur Boyd paintings depicting Nebuchadnezzar, a Babylonian king of overarching military ambition, who, for a period of seven years, was outcast into the wilderness to live as an animal (or rewilded) as a form of rehabilitation and redemption. The Book of Daniel recounts how King Nebuchadnezzar was punished for his overbrimming, warlike ambitions by being exiled into the wilderness to live as a feral creature:

and he was driven from men, and did eat grass as oxen,
and his body was wet with the dew of heaven,
till his hairs were grown like eagles feathers,
and his nails like birds claws.²³

Possibly in homage to the iconic image by William Blake, Boyd painted Nebuchadnezzar in an almost obsessive manner over several years. He produced some seventy allegorical works featuring an outcast, tortured figure in a blazing Australian landscape: the human reduced to the subhuman, beyond society, alone.

The following are narrative extracts from the three sound sculptures—Helyer’s responses to Boyd’s images; a repertoire for exile:

The King stands in a burning desert weeping.
The King stands for his portrait.
The King stands and stares at the horizon.
The King stands and bows his head in sorrow.
The King stands but does not brush the flies from his face...

The King sits and birds peck at his head.
 The King sits under a tree with melancholic thoughts.
 The King sits in judgment of emptiness.
 The King sits on a throne of dried grass.
 The King sits in his own excrement and is foul ...

The King lays staring at his claws.
 The King lays engulfed by his own stench.
 The King lays with aching bones.
 The King lays dreaming of a huge tree.
 The King lays dreaming of four monsters ...

These narratives, spoken by the artist, described the physical and emotional toll of Nebuchadnezzar after his fall from grace due to acts of tyranny and arrogance. The three audio sculptures, situated on a hill at Riversdale (part of the Bundanon Trust property), were feral in the most appealing way: they became playful objects for all ages. Children crawled, climbed and jumped from them; teenagers and younger adults enjoyed being safely enclosed in the vessels while drifting off or listening attentively. Older adults were absorbed by the meaning of the text and stood alongside, closely listening to the sound work. Many listeners had the experience of being isolated from the external world and immersed in the Nebuchadnezzar reveries. One surprising effect of the feral sound sculptures was that many people felt protected and/or invisible once ensconced in these quite visually transparent structures; it was as if the soundscape had enveloped them in an impenetrable mist.

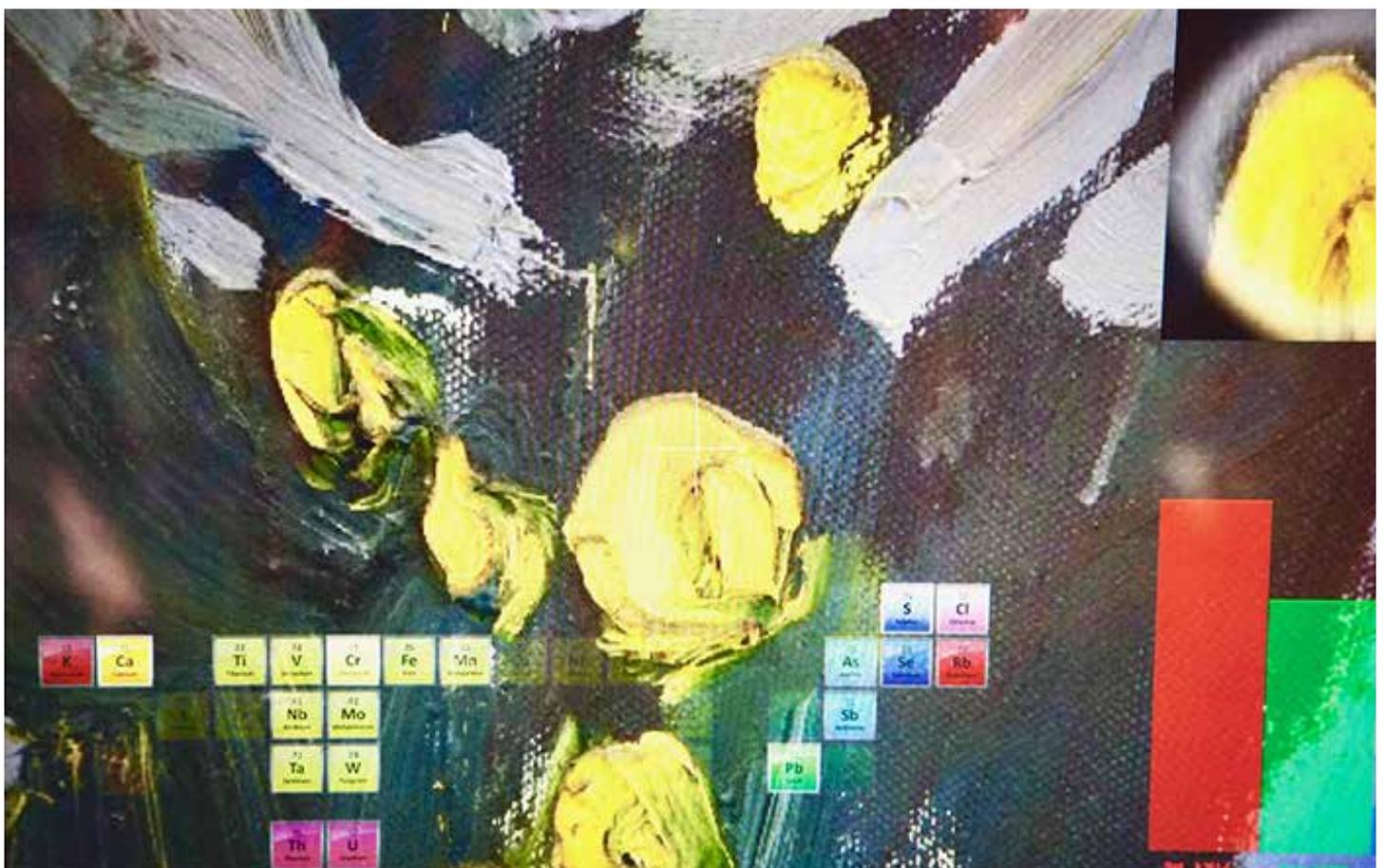
Heavy Metal

Heavy Metal (2016) provides the sound of a painting. Specifically, it was initially the sound of Arthur Boyd's *Return of the Prodigal Son* (c1997), left unfinished in his studio at Bundanon (Boyd died in 1999). To generate the data programmed into *Heavy Metal*, a handheld X-ray fluorescence spectrometer operated by environmental scientist Mark Taylor was directed at paints used in the painting. The starting premise of the work is that Arthur Boyd painted this (mineralised) landscape with colours that were themselves formulated from earthy compounds and exotic metals, milled to a fine paste in linseed oil and turpentine. *Heavy Metal* invites us to interact with one of Boyd's paintings to discover a hidden world of elements and minerals in an experience that is simultaneously chemical, visual and musical.

Helyer and Taylor analysed the mineral composition of the entire colour range used by Boyd, developing a huge database of minerals that corresponded to his palette. The spectrometer analysis of the paints used on the unfinished Boyd painting revealed that the paints contained up to 35% cadmium and 60% lead. Because Boyd frequently painted with his fingers, preferring to feel the metal-rich paints with his hands rather than use a brush, he may have inadvertently contaminated himself in the process of painting.

The second stage in the creation of *Heavy Metal* was to sample the Steinway piano at the Bundanon homestead, note by note. Regular keystrokes were recorded, along with the reverberance of the sounding board resulting in one to two minute sound files per note. Working with another colleague, Jon Drummond, an expert in data sonification, Helyer created a computer-driven audio-visual system able to read the video stream from a camera facing Boyd's painting.

[Link to Audio File 3: Audio, BioPod_V02](#)



Nigel Helyer, *Heavy Metal* (2016). Artist studio, Bundanon.

The screen interface displays a highly magnified colour “target” area from the painting along with the RGB values and the predominant minerals present, which are shown as elements of the periodic table. The system then translates the stream of mineral data into sound, which is layered in two components: a generalised harmonic chord structure that corresponds to the colour, overlaid by individual note highlights that illustrate the distribution of the most prominent minerals. The computer monitor gives feedback on the area of interest, colour ratios and a graphical display of the minerals detected.

Heavy Metal is interactive at a complex and conceptual level. The composition of chord-like sounds is created by a real-time analysis of the minerals in the colours of the painting. As a video camera is trained onto a section of the canvas, the screen displays the mineral content of the selected colours, in the form of the periodic table. The image and corresponding sound change each time someone selects a new section of the canvas on which to train the camera. *Heavy Metal* also brings together two kinds of science: environmental and computational. The installation provides participants with different ways to animate a ‘static’ painting. The sound is dynamic, based on the elements used in a particular area of Boyd’s oil painting.

[Link to Audio File 4: Audio, *Heavy Metal*](#)

In designing the soundscape, Helyer and Drummond decided that as the installation would operate constantly, the audio should constitute a subtle, harmonic composition. While correctly representing the database, the audio would automatically re-write sequences of the selected notes, thus avoiding the ‘looping effect’ common in generative digital works. The soundscape operates like the ‘strange attractor’ phenomenon in Chaos Theory, in which iterations are similar but never identical.

Deborah Ely, Chief Executive Officer of Bundanon Trust, has remarked that in these four artworks, Nigel Helyer “has developed a language that engages visually and aurally with the physicality of the place”. This engagement is with both the “literal material” of Bundanon, and with the “ideas held within its histories and the artist’s imagination.”²⁴ The sounds of Bundanon are reinterpreted for us through these artworks, as is the presence of Arthur Boyd, and the wide landscape of his mind. The acoustic environment of Bundanon, recorded in *BioPod_V01*, mingles with Boyd’s imagination and with the history of the place, creating a portrait in sound of Bundanon.

Endnotes

1. *Milk and Honey* (2012) was an eight-channel sound-sculpture installed inside the homestead at Bundanon. *Biopod_V01* (2014) was a single-person capsule floating on the lake at Bundanon. *Biopod_V02* (2015) was a suite of three sculptures exhibited at Bundanon for the annual Siteworks festival. *Heavy Metal* (2016) was an interactive installation situated in the artist studio at Bundanon, opening at the 2016 Siteworks festival. *Heavy Metal* and *Biopod_V01*, along with documentation of *Milk and Honey* and *Biopod_V02*, were included in the exhibition *Nigel Helyer: Landscape/Portrait: An exploration of the Shoalhaven River Valley*, curated by Nigel Helyer and John Potts, Macquarie University Art Gallery, 1 March—13 April 2017.

2. This research project, based at Macquarie University, has as its personnel the researchers Professor John Potts, Adjunct Professor Nigel Helyer, Professor Mark Taylor (Macquarie University) and Professor Mark Evans (UTS). Industry partners for the ARC Linkage Grant project are Bundanon Trust and the Australia Council of the Arts.
3. Sue Feary and Heather Moorcroft, *An Indigenous Cultural Heritage Plan for the Bundanon Trust Properties*. (Bundanon: Bundanon Trust, 2011), 34–35.
4. *Bundanon Conservation Heritage Plan, Vol 2*. (Bundanon: Bundanon Trust, 1997), 3–4.
5. *ibid*, p 20.
6. *Siteworks: Field Guide to Bundanon*. (Bundanon: Bundanon Trust, 2014), 236.
7. Colin Ripley, “Hearing Places: Sound in Architectural Thought and Practice”, in Bandt, Duffy and MacKinnon (eds), *Hearing Places: Sound, Place, Time and Culture*. (Newcastle, UK: Cambridge Scholars Publishing, 2007), 87. Ripley cites Christian Norberg-Schultz’s *Intentions in Architecture* (1968) as an early and influential study of architecture and place.
8. Yi-Fu Tuan, *Space and Place: The Perspective of Experience*. (Minneapolis: Minnesota Press, 1977).
9. R. Murray Schafer, *The Tuning of the World*. (New York: Alfred A. Knopf, 1977).
10. Ros Bandt, Michelle Duffy and Dolly MacKinnon, “Introduction” in Bandt et. Al. (eds) *Hearing Places*, 1.
11. “Listening and not listening have moral and ethical implications, not only for the voices that speak and are heard, but also for the ways in which voices constitute particular forms of power...”. *Ibid.*, 1.
12. Lucy Lippard, *The Lure of the Local: Senses of Place in a Multicentred Society*. (New York: New York Press, 1977).
13. Rebecca Solnit, *Infinite City: A San Francisco Atlas*. (Berkeley: University of California Press, 2010), 2.
14. John Potts, *The New Time and Space*. (Basingstoke: Palgrave Macmillan, 2015), 91.
15. *Ibid.*, 92.
16. Nigel Helyer and John Potts, “Ecolocated: Art, Science, Environment,” *Studies in Material Thinking* Vol. 8 2012 at <http://www.materialthinking.org/papers/94>. 6.
17. *Ibid.*, 4.
18. *Ibid.*, 5.
19. Thomas Tregenna Biddulph, diary extract, 1880s, archival material, Bundanon Trust.
20. Cecelia Cmielewski, “Edges, Proximity and the Creative Leap”, in *Nigel Helyer: Landscape/Portrait: An exploration of the Shoalhaven River Valley* catalogue (Macquarie University Art Gallery, 2017). 30.
21. Nigel Helyer, *BioPod_V01 Survival Manual*, 2014.
22. Cecelia Cmielewski, “Edges, Proximity and the Creative Leap”, 31.
23. Daniel 4:33.
24. Deborah Ely, “One World” in *Nigel Helyer: Landscape/Portrait: An exploration of the Shoalhaven River Valley* catalogue (Macquarie University Art Gallery, 2017). 37.