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The making of the Archival Futures of Outer Space Film Quartet

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When the human realm seems doomed to heaviness, I feel the need to fly like Perseus into some other space. I am not talking about escaping into dreams or into the irrational. I mean that I feel the need to change my approach, to look at the world from a different angle, with different logic, different methods of knowing and proving.

Italo Calvino, *Six Memos for the Next Millennium* (2016 [1988])

Background

We are social and visual anthropologists by training. Separately, we had both become frustrated with the strictures and limits of ethnographic and conventional documentary filmmaking. Ceridwen had turned to writing fiction and creative non-fiction; Rowena had finished her doctorate while pursuing work as a filmmaker outside the academy. Together, over the past two years, we have stumbled upon the artistic possibilities of merging archival found footage and poetry and have co-developed an experimental filmmaking practice with its own distinctive method, process, and style.

Our joint filmmaking practice is dedicated to making archival experimental films about human relationships with nature and landscapes on Earth and in outer space. We believe that still and moving image archives held within museums, art, scientific and cultural institutions hold significant visual traces of ecological and cultural pasts and memories that can be recombined, reanimated and

placed into new conversations that imagine sustainable futures. Our films encourage different ways of feeling as much as seeing, creating eerie and emotional filmic atmospheres that yearn for the perfect strangeness of the past, while stumbling hopefully into the deeper strangeness of the future. It is in this spirit that we call ourselves the Archival Futures Collective and have named our suite of short films the *Archival Futures of Outer Space Film Quartet: Moonrise* (2021); *Musca* (2022); *Memorabilia* (2022); and *Requiem* (2022).

Underpinning our work is a conviction that archives can be respectfully deployed to tell stories from perspectives that often differ radically from the time in which the material was first produced; and an effort to illuminate evolving relationships between the human and the more-than-human, between living organisms and the environments that support and sustain them. We are most of all motivated by the desire to make video art that generates powerful, sometimes unnameable emotions, ranging from delight to discomfort.

Archival Films | Film-Poems | Film Fragments

We originally trained as social scientists in the same academic settings. As undergraduate at Harvard University, Ceridwen studied with anthropologist and filmmaker Lucien Castaing-Taylor and filmmakers like Robb Moss, Ross McElwee and Alfred Guzzetti; Rowena encountered the films of anthropologist Robert Gardner, Ákös Öster and Lina Fruzetti while a student of comparative religion, under the tutelage of Diana Eck. As post-graduate students at New York University, we studied with renowned media anthropologist Faye Ginsburg and documentary filmmakers Cheryl Furjanic and Marco Williams.

In these years of immersive study and practice (during which we took practical filmmaking courses as well as review courses on visual anthropology and the history and theory of ethnographic film), we were exposed to a wide range of historical and contemporary modes of non-fiction filmmaking. The films that we found ourselves most strongly drawn to were often the more experimental films that combined elements of both documentary and fiction.

Catherine Russell notes in her survey of experimental ethnographic film that it's a filmic mode that needs to be understood discursively, as sharing an affinity with allegory and memory-keeping (1999). Like Russell, we conceptualize 'ethnography' as an expansive category in which 'culture' is 'represented from many different, fragmented and mediated perspectives' (Russel, 1999, p. *xii*).

We embrace her understanding of experimentation and the avant-garde, which, guided by Walter Benjamin, calls 'for an awakening from the dream of history' and involves a 'dismantling [of] the universalist impulse of realist aesthetics into a clash of voices, cultures, bodies, and languages' (Russell 1999, p. *xvii*).

Chris Marker's films, in particular *Sans Soleil* and *La Jetée* seduced us by being so beautiful and also strange, like film-poems, and while they draw on footage from many different cultures, Marker puts those images together in unexpected and sometimes confronting or unsettling ways. Interestingly, Marker was a writer and poet as well as a filmmaker, which helps to explain the writerly lyricism of his films (Hogg, 2014).

Other filmmakers mining the same rich seam of experimental ethnography whose work has influenced us include Nick Kurzon, Chantal Akerman, George Kuchar, Jean Rouch, Tracey Moffatt, Agnès Varda, Alain Resnais, Luis Buñuel, Rithy Panh, assinajaq, Werner Herzog, Kidlat Tahimik, and Juan Salazar. Rachel Rose's video art – her short film, *Everything and More* (2015), which uses interviews with astronaut David Wolf as part of the soundtrack – inspired us for the way that she creates abstract imagery blended with footage she shot at an underwater space buoyancy training facility to convey the lived experience of being in space, and her visual interrogation of the boundaries between the living and non-living worlds.

From the start of making our quartet, we knew we wanted to use real archival footage as a kind of time capsule of the changing human relationships to and feelings about outer space, and layer this imagery with original poetry as narration or voiceover. We wanted viewers to not quite have their bearings within the films, and to use both imaginary and real elements to make the films experiments in hybridity, speculative but still grounded. The goal was to create a mood landscape that was undeniably off-kilter but also rich with emotion. We did not want viewers to feel they had to take a position, but to transport them into another realm of experience, into poetic or philosophical time outside of normal time (what else is outer space good for as creative inspiration if not that?).

We're still not quite sure how to describe our film quartet: speculative archival films? Experimental ethnography? Film-poems? Found footage or fragment films? The footage that we use is not orphaned *per se* – it is, in fact, often actively 'parented' by copyright holders, especially when the latter are national space agencies with much to gain from preserving, caring for, cataloguing and circulating various kinds of space imagery that are in their collections. Much of it has also been stored, carefully protected, and digitised by institutions like Australia's National Film and Sound Archive, the United States' Library of Congress, and the British Council's Film Archive.

Yet the dual archival and poetic impulse at the heart of our films is important to us. Archival film is a document of memory, and the past, and old film footage still contains within it the traces of what it once (intended) to mean, yet can mean something entirely different when re-combined. Indeed, our films are deeply motivated by a respect for the possibilities afforded by montage.

Our films are produced through a dialogic process in which Ceridwen's poetry and essays inform Rowena's archival image research and editing. This in turn generates a feedback loop in which we talk through what is emerging, continue the image research process, adjust based on what is available and appropriate, as well as multiple additions and subtractions of material as we allow the archival imagery and poetry of each film to find its own rhythm and equilibrium. This process is further nurtured by the capacity of montage to illuminate connections between ideas, images, objects and events which may have always been there, latent, but were not previously explicit.

Anthropologists and practising artists Hennessy and Smith have described this emergent and unpredictable potential as the 'anarchival materiality' of film archives, in tribute to the anarchic possibilities of video art that draws on archival footage (2022). They also coin the useful term 'research-creation artworks' to describe work (like our film quartet) that celebrates how the imposed human order and structures of 'film archives and other fugitive collections' is 'displaced by the lively anarchy of the materials themselves' (Hennessy & Smith, 2022). We experienced this anarchival materiality repeatedly while making our films. As Hennessy and Smith write:

Classification systems, spatial organization, and human responsibilities and actions are all fundamentally reshaped and determined by the uncooperative residents of archives, which vibrantly signal the transformative organic passing of time, unstable regimes of value and authority, and the collusion of natural processes in undermining the human desire for stability and persistence (2022).

We value the way that archival-inspired films can put disparate, unrelated material side by side and create new interpretations. *In Requiem*, which imagines the final astronauts onboard the International Space Station farewelling it before it is deorbited in 2030, we had a breakthrough when we began to put documentary photographer Roland Miller and astronaut Paolo Nespoli's modern photographs of the interiors of the International Space Station (from their book Interior Space [2020]) alongside some of the earliest existing underwater fiction film footage, including shots from (Point Nemo, the South Pacific location of the spacecraft cemetery, and the place where fragments of the ISS will eventually be laid to rest, was named after the character of Captain Nemo in Verne's story).

We see our collaboration and art-ethnography practice as being like that of Hennessy and Smith, who position their 'art-led practice as oriented towards an anthropology of the multimodal that is engaged with the materiality of ethnographic research, acknowledges the fugitivity of analogue and digital collections, and includes speculative research-creation practices to communicate anthropological knowledge and theory.' They also 'highlight collaboration and friendship as central to their work' (2022).

We feel our work is similarly aligned with a creative method Russell has described using the term 'archiveology' (2018), to signify:

...a mode of film practice that draws on archival material to produce knowledge about how history has been represented; and how representations are more than just false images but are actually historical in themselves and have anthropological value (Russell 2018, p. 11).

Often this involves processes of 'layering and remediation,' and the resulting work thus sits at the conjunction of 'experimental and documentary practice' (Russell 2018, p. 11)

We embraced the freedom that our method of blending the real and imagined, the visual and poetic, the archival and speculative, gave us as artists. This montage method of leaping from one repository of images to another is very

freeing, a visual methodology of sifting and gleaning, foraging and scavenging, before weaving together it all together into something new, strange and beautiful.

We enjoyed discovering film fragments, lost or found footage, or footage that had been intended for one use but now could be put to another, and recombining these scraps into something quite different from the sum of its original parts. As South African filmmaker Nobunye Levin has noted of film fragments, they encourage an open-endedness in the artwork in which they are reconstituted, because they are 'mobile, responsive, malleable and mutable' (Levin, 2021).

Montage-films reject the notion of a singular authorial voice or unified perspective, which is something we directly tried to embrace in *Moonrise* by having the twinned, dual-gender voices performing the poem (and channelling the 'voice' of the Moon). This reminded us of the writing of Paul Arthur on the aesthetics of found footage and how it can open up a plurality of meanings and interpretation:

The organizing 'voice' in collage films is decentered or split between an enunciative trace in the original footage – encompassing both stylistic features and material residues of production such as film stock, speed of shooting, and aspect ratio – and an agency of knowledge manifest in the overall text through editing, the application of sound, titles and so on. In its framework of enunciation, as well as its thematic focus, collage constitutes a corrective to verité's predominantly individualist (and performative) encounter with social reality (1997, para. 5).

There were very particular challenges we faced as we jointly developed this method. One was the abundance of visual material that is available: we collected massive amounts of archival material, far more than we were able to use in the final films. We were, of course, limited to finding public domain/copyright-free footage (due to budget constraints), but there was still an extensive amount of administrative work in securing the correct permissions to use that imagery, depending on who owned it, and in which museum or digital collection it was housed.

For *Moonrise* (2021), the first film in the quartet, some of the archival digitised and open content collections we drew on include the U.S. Library of Congress; New York Public Library Digital Collections; the Met Museum; British Museum; Getty Museum; Rijks Museum; Bryn Mawr University Special Collections; Prelinger Archives; and various NASA archives (which are labyrinthine and difficult to navigate because the material is dispersed across multiple websites maintained by different branches of the organisation).

Even if much of this footage was public domain, rights unrestricted, orphan material or ephemera, we often had to pay high fees to buy the uncompressed, higher resolution versions of that footage in order to make sure it was of a good enough quality to transfer to the big screen. Sometimes, this meant not being able to use imagery that was perfect for moments in the film due to the high cost of permissions/usage fees (for instance, some gorgeous imagery of the Moon for which the Japanese Space Agency, JAXA, held copyright).

In the case of *Requiem*, we applied to a program run by Australia's National Film and Sound Archive (NFSA) which supports non-commercial artistic film projects by providing 180 seconds worth of 100 percent NFSA owned archival footage from their collection for no licence fee. We were thrilled when our proposal was accepted: it made it possible for us to use stunning high quality underwater footage shot by pioneering Australian filmmakers in the 1930s. *Requiem* incorporates the dramatic cinematography of Frank Hurley from the feature film *Lovers and Luggers* (1937) directed by Ken G. Hall and produced by Cinesound Productions, about Australia's deep-sea pearl diving industry. Hurley travelled to Thursday Island in the Torres Strait to shoot on location for the film but filmed the amazing underwater sequences of divers (which we use throughout the film) in a specially constructed underwater tank as well as in North Sydney Council's Olympic Pool (McGregor, 2019, pp. 342). We also use the mesmerising underwater footage of filmmaker and marine biologist Noel Monkman (1896-1969), whose magnified shots (taken through a laboratory microscope) of marine creatures and their movement in water evoked stars in the night-sky and movement in zero-gravity environments.

We were always hyper-vigilant about the important distinctions between collage and appropriation. In thinking this through, we returned to the work of William C. Wees on recycled images in art. As Wees writes, '[c]ollage is critical; appropriation is accommodating. Collage probes, highlights, contrasts; appropriation accepts, levels, homogenises' (1993, pp. 46-47). This taxonomy helped to guide our creative choices throughout the making of the quartet.

Moonrise | Origins

The poem that became the narrative for *Moonrise* had a long gestation period. It emerged from several years of thinking and writing about the Moon as a wilderness landscape that deserves to be protected and conserved (Dovey, 2021b). In that non-fiction writing, Ceridwen was trying to develop a new kind of 'nature-writing' about outer space. She was interested in whether it was possible to do this remotely rather than in person, and what might happen when the nature writing was driven not by a nostalgic, elegiac sense of all that has been lost but by anticipating all that could be lost in the future.

Humans like to pretend to be all-powerful, but our vulnerability in space unsettles us, and reminds us that our dominance on Earth may not be reproduced in outer space. There is a mostly repressed fear that we will be thwarted by landscapes like the Moon or Mars because they do not play by the rules that favour us: being unliveable for humans, essentially (due to lack of oxygen, atmosphere, and differences in gravity, radiation). They are safe from us in a way that the most liveable Earth is not. There's a fear in humans that we will not destroy these space landscapes – instead, they will destroy us. They will be powerful adversaries that we have not encountered before.

The daunting reality of living in the Anthropocene means that our own power and dominion over Earth and all its species, landscapes and objects has been revealed to us, but we are not quite sure where to start to get back to a place of humility. Close listening is a good place to start exploring other subjectivities. As J. Drew Lanham writes of the many ways to worship nonhuman beings and

landscapes, 'Offerings will come in noticing. Watching. Listening' (Lanham 2021, p. 132). Conservation, Lanham writes, 'needs communion' and 'contemplation' (p. 132).

Therefore, the poem that became *Moonrise* took the form of a monologue spoken by the Moon, set to archival, scientific, artistic and historic lunar imagery. The goal of the film is to give the Moon a 'voice' in its own history and future, and nudge viewers to reconsider the Moon's agency in any space future – to take it into consideration as having the right to exist outside of any transactional use-benefit to humans, and existing on a timescale that is beyond our comprehension. We consciously chose not to have the Moon voiced only by a female or male voice, but by both simultaneously, which takes some getting used to at first. Rowena and Sepehr Jamshidi Fard worked tirelessly to rehearse and then record the twinned dual-gendered voice of the Moon for the film.

In writing that poem, Ceridwen also wanted to think through what making 'kin' with the Moon might feel like, inspired by her participation in the U.S. Centre for Humans and Nature's multi-part book series *Kinship: Belonging in a World of Relations* (Van Horn, Kimmerer & Hausdoerffer, 2021). Her essay on the Moon as our sister satellite was included in *Volume 1: Planet* (Dovey, 2021b).

This practice of kinning with animals, plants and landscapes is not just about critiquing the harm humans have done or are doing, but tries to get at something else: acknowledging the deep bonds and interdependent relationships and entanglements between humans and nature. As Manulani Alulu Meyer writes in the same volume, the point is not just to write about 'collapsing systems,' but to discuss 'relationships shaped by kinship, love, and reverence' (2021, p. 99).

Meyer goes on to speak of making kin with the Moon: 'Moons are key in our relationship with the natural world and with the inward exploration of our own selves' (p. 95). The Moon is 'speaking to us, and it has taken some time to hear and respond' (p. 96).

Ceridwen was inspired also by the approach of geologist Marcia Bjornerud in her essay in the same volume (2021). She writes about how many of her university students see nature as a 'passive backdrop' and 'not a central protagonist in the narrative (p. 14). Through her teaching, she tries to get them to unthink the fallacy that "minerals, rocks, and landscapes simply are and instead get to seeing them as records of becoming;" if they can do this, she says, they grasp that "the world is animate…and constantly communicating with us – if we could just learn how to listen" (p. 14).

Moonrise was the first film in our quartet to be completed. It has been selected for many film festivals and screenings in Australia and internationally.

Figure 1: Still from *Moonrise*. Excerpted from Sky: A Film Lesson in Nature Studies, De Vry School Films, 1928. Courtesy of Prelinger Archives.

Musca | Origins & Creation

Musca and *Memorabilia* were both made while we were Research Fellows at the Powerhouse Museum in Sydney, Australia, between February and August 2022. The Sydney Observatory and the Powerhouse form part of the network of museums under the umbrella of MAAS (the Museum of Applied Arts and Sciences). Both house an extensive collection of space objects and research materials (including old star charts and astronomy manuscripts/publications).

As Research Fellows, we had extraordinary access to the space memorabilia in the museum collections and were assisted by the space curators, object registration and conservation teams, and collections officers in gaining access to these objects and manuscripts for research and filming purposes.

The idea for *Musca* was sparked by anthropologist and musician Michael Sollis, director of the Griffyn Ensemble in Canberra. Sollis had put out a call for artists to collaborate with him on creating artworks in response to the Estonian composer Urmas Sisask's composition *Southern Skies*, which Sisask wrote in response to seeing the constellations of the southern skies during a trip to Australia in the early 2000s (Sollis, 2021). The Griffyn Ensemble had already recorded and performed *Southern Skies* in various venues, and Sollis was keen for artists from different artforms to make films, performance art, visual art or sculpture inspired by Sisask's composition.

We applied to make a short archival film and were thrilled that Sollis selected us to respond to *Musca*, a five-minute composition within Sisask's *Southern Skies* suite that is about the Musca constellation, a small and relatively unknown constellation just south of the Southern Cross.

Once we'd started as Research Fellows at the Powerhouse, we began to scour the astronomy manuscripts and star-charts from the Observatory's Research Library for visual material we could use in the film. We were intrigued by the history of how constellations were named – in the Western scientific tradition, at least – by white men who often seemed to misunderstand what they were seeing.

Indigenous Australians are known to have the world's oldest astronomy tradition, but this was ignored by the northern hemisphere explorers and scientists who had the power to plot the constellations on a map – and to name them for posterity. The southern constellations were often befuddling to those men – recorded the wrong way, or upside down, and generally just not nearly as well-documented or observed as those in the northern hemisphere. The Sydney Observatory is the place from which many of those original observations were made.

The short poem that emerged as the script for *Musca* is intended to be a playful but pointed critique of the idea that one way of seeing is ever the only way of seeing, and the power-politics of observing and naming the stars. *Musca* means fly – the constellation was drawn to resemble a fly by one of those original Western scientist viewers (though it was misunderstood by another to be a bee) – but really, it's just an arbitrary and idiosyncratic joining of dots of light in the sky.

In Sisask's composition (which forms the musical background to the film), we could hear certain musical elements that seemed to try to mimic the sound of the skittish buzzing of flies, so we also searched for archival/found footage of flies (and bees), as well as moving and still images from the past of people looking through telescopes. The footage we drew on included short films made at the turn of the century by pioneering Spanish filmmaker Segundo de Chomón, and early instructional films and science films from the Prelinger Archives. These we interspersed with imagery sourced from the Powerhouse Museum collection (which we photographed ourselves); and from the digital collections of the Getty Museum, the Rijks Museum, the National Museum of Poland, the Library of Congress, the University of Cambridge, and the State Library of NSW.

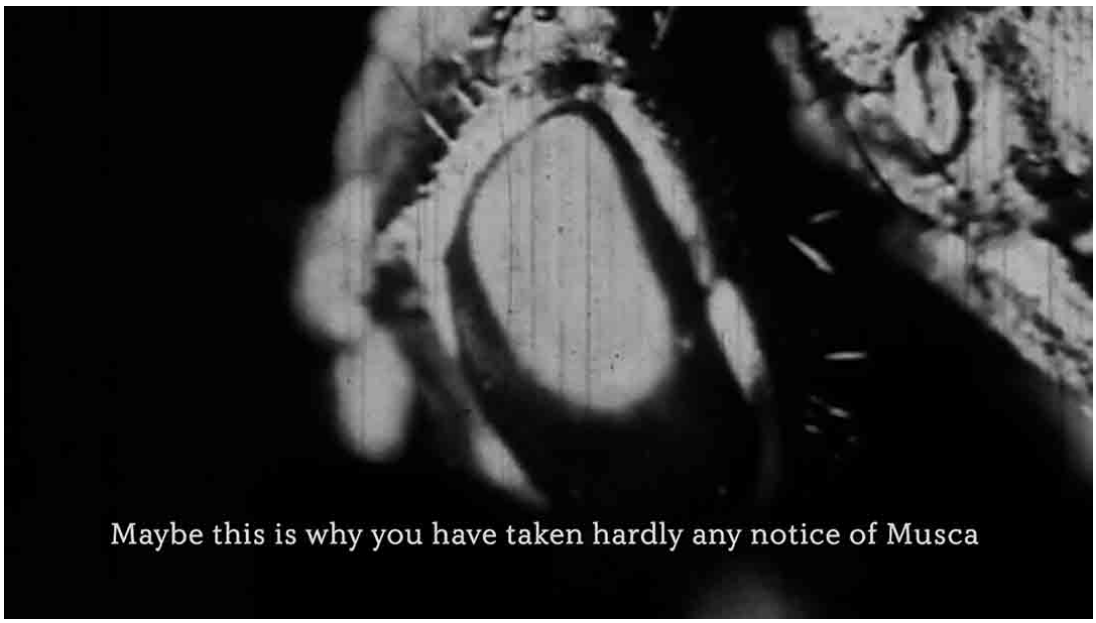

Figure 2: Still from Musca. Excerpted from Disease Carriers: A Film Lesson in 'Health' and 'Hygiene', De Vry School Films, 1928. Courtesy of Prelinger Archives.

Memorabilia | Origins & Creation

As soon as we'd started as Research Fellows at the Powerhouse Museum, we began to put together a wish list of space objects in their collections that we would like to see. The process of selecting these objects started with looking at images of the objects in the online museum catalogue (which is updated all the time thanks to the large-scale digitisation project the museum has been undertaking).

It was interesting to us that the space objects in the museum's collections were divided into two categories. In the first were the big, high-prestige objects like replica (and real) rockets, capsules, satellite models and other shiny silver things, many of which are on display in the permanent space exhibition hall downstairs in the Powerhouse.

The second was a mix of really quite random, sometimes bordering on kitsch, objects that could be classified as space memorabilia: objects that had become special and important to humans because they had either gone to space and back (the 'flown' objects), or had some other kind of link (sometimes fairly tenuous) to space programs or space-faring, such as the huge numismatics collection with space themes, including stamps and 'first day' envelopes created to commemorate various space achievements, such as the first human on the Moon or the launching of a particular space station.

During this time, we became attuned to space objects and the strong emotional pull they could have on humans. This power became ever more evident as we began to encounter these space memorabilia in person (thanks to the curators and collections officers who kindly took us around the Powerhouse basement and the Museums Discovery Centre in Castle Hill, where the Powerhouse stores many of its objects).

We watched as the curator or collections officer carefully handled in blue gloves a very old packet of sugar biscuits that had once flown to space and back on a Soviet mission, or a boot that had once been part of an astronaut survival kit, or a fragment of a tile from a Space Shuttle. We were filled with curiosity about these ordinary objects that had become extraordinary – and worthy of collection and careful keeping in a museum – through their association with the glamour of outer space.

This fascination deepened as we began to go through the object acquisition and accession paperwork in what the museum calls the Blue Books. These will one day be digitised, but for now are charmingly analogue folders stuffed with all kinds of documents. We were drawn to the many statements of authenticity – some of them written in Russian for the Soviet space objects – that revealed an underlying and pervasive anxiety about the provenance of these objects. If the only thing that makes an old packet of pea soup worthy of being kept for posterity is the fact that it once flew to space and back – and was left uneaten by some astronaut or another – then that provenance paperwork becomes *extremely* important.

Yet the actual proof that an object has 'flown' to space is very hard to come by. Many of the objects had most likely been souvenired at some stage or another by NASA employees or associates, whether legally or illegally it is usually impossible to tell; NASA has changed its rules regarding this kind of souveniring of space memorabilia many times in the past decades (Pearlman, 2012). But how could anybody really know or prove that a particular packet of pea soup *had actually gone to space*?

In the paperwork, it was clear that the museum only ever obtained space memorabilia or objects through the correct and appropriate channels. But lurking in the background of the more respectable transfers or purchases of space memorabilia were hints of slightly dodgy-seeming space memorabilia collectors – many of them from Florida – looking to make a bundle of cash by convincing everyone that the knife and fork they were trying to sell were *the very first eating utensils ever used in space*, or that they had a glove that had *once been worn on the Moon*, or a bolt from the *Eagle* Moon lander.

This may make it seem that space memorabilia collecting, and trading is a niche activity, but in fact there is a booming trade in space memorabilia at many of the major auction houses in New York, London and elsewhere. Sotheby's in New York holds a regular space auction with some items selling for millions of dollars. In July 2022, Buzz Aldrin's jacket from his historic 1969 Apollo 11 Moon mission sold at a Sotheby's auction for US$2,772,500, the highest price ever paid for an American space-flown object at auction (Reuters 2022).

The 'flown' space food collection in the Powerhouse – both American and Soviet – was particularly fascinating. Seeing these discoloured packets of food that the astronauts had not eaten, or little silver tins with funny translations from Russian ('tiny sausages'), made us want to laugh and also cry. There is something so poignant about the food that astronauts used to eat in space: the banality of

their lunch meal – like the Gemini lunch packet in the collection, which includes a salmon salad, compressed peanut cubes, and even a wet napkin – is a reminder of the fact that even in space, humans are bound to their bodies.

There is nothing grand about pureed pea soup, or a bacterial tablet to sterilise food residue so it doesn't start to smell aboard your spaceship. The space food – to us – makes humans seem both pathetic and lovable, heroic and mortal. The fact that it has been preserved in a museum collection is also an interesting way to think through how one person's trash is another's treasure and the slippage between hallowed objects and mundane objects.

A recent essay in the *Atlantic Magazine* about the Apollo 14 Moon tree seeds – a packet of seeds that flew to the Moon and back on the Apollo 14 mission, and then were distributed randomly across the U.S. to grow into trees – calls these trees a "living legacy," and quotes an interviewee saying, 'I'm just in awe that this seed, the seed it grew from, went to the Moon' (Koren, 2022). The essay's author writes of the transformation these objects make simply by going to space:

All the trinkets and tchotchkes that the Apollo astronauts took with them in their personal canvas bags are cool for this reason, bestowed with a magical sheen the second they were returned to Earth – space souvenirs (Koren, 2022).

In the script for *Memorabilia*, we wanted to capture this range of emotions that the flown space memorabilia evoked and dig a little deeper into the question of why things that have been in space become a bit holy on their return. Why do we feel so much for these things that are still – at the end of the day – nothing but things? The way into this mode of feeling in the script was to create an intimate bond between daughter and father – and to have the daughter-speaker go from scepticism to something approaching revelation as she encounters the space objects that she'd always seen as her enemy, taking away her father's time and attention.

During the two film shoots where we were given permission to film within the museum's permanent space exhibition and its collections, we tried to keep a dream-like feel to the footage – and not make the film too bound to the 'literal' – by only giving viewers occasional glimpses of the hands of the curator or the blurred form of the daughter.

In the film's final scene, we hear and see a close-up of the daughter eating one of her late father's treasured Russian space biscuits: a playful, anarchic act that is one both of revenge *and* love. The daughter is doing the unthinkable (eating the biscuit) both as payback for her father's neglect but also in the slightly sad but hopeful aspiration that by ingesting a magical space object she, too, might become a more magical human, worthy of attention and love. (We are grateful to the actor Matilda Ridgway for performing the daughter's narration for our film; she managed to capture the graininess and range of these motivations and emotions using her voice alone.)

Figure 3. Still from Memorabilia. Soviet space food package of biscuit. Photograph courtesy of the Powerhouse Museum and object donor Pamela Brand.

Requiem for the Space Station | Origins & Creation

The sonnet cycle that forms the film script for this film comes from the last scene in what will be the longest short story in *Only the Astronauts* (forthcoming 2024), Requiem. Ceridwen was working on this story in the thick of the second long lockdown in Sydney during the Covid-19 pandemic in 2021. She had been focusing intensively on channelling the 'voice' or perspective of the International Space Station, as it observed decades of human life within its module walls, drawing both on real stories of interactions on the ISS and ones that she invented.

There were a few announcements around this time that NASA had decided that it would deorbit the ISS in 2030 or 2031 (though these were only formalised several months later) (NASA 2022). She found herself suddenly wanting some of the last (imagined) future humans onboard the ISS before it is deorbited to farewell it properly.

Sonnets are wonderful forms to write within, because the rules and structure (such as the 14 lines, and particular rhyming scheme) hem you in as a writer. Ceridwen found that this helped her keep back from the brink of saying too much or getting too sentimental about what the ISS might mean to these characters. She was also aware as she wrote the sonnets in English that she wanted to have them translated for the book into many different languages, to reflect the diversity of the astronauts' cultural and language backgrounds. When Rowena first read the sonnets, she also felt that they should be translated for the film as a means of conveying the unique international collaboration that is at the heart of the ISS.

Beyond the core members of our creative team, there was another whole network of people who helped to make *Requiem* possible. It thrills us that a film about the International Space Station – which has kept the spirit of international collaboration alive for so long – brought together so many people from so many national and cultural backgrounds to create a dirge or requiem to farewell this special home for humans.

Roland Miller, the American space landscape photographer, generously agreed to let us use some of the photographs from *Interior Space: A Visual Exploration of the International Space Station*, his extraordinary collaboration with Italian astronaut Paolo Nespoli (Nespoli & Miller, 2020). With Miller guiding him from the ground, Nespoli took these large-format photographs of the interiors of the ISS. We love these photographs because – unlike many images of the ISS in the archival record – Miller and Nespoli made the conscious choice not to include any humans in the images. The stark interiors of the space station in their photographs hold traces and suggestions of human presence and long-term habitation, but by keeping the humans out of view – almost ghost-like – the photographs have an elegiac, eerie quality.

Astronauts from around the world donated their time to record via Zoom sessions the sonnets in the script for Requiem, including Cady Coleman (USA), Sandra Magnus (USA), Paolo Nespoli (European Space Agency – Italy), Dorin Prunariu (Romanian astronaut within the Russian space program), Soyeon Yi (South Korea), and Claudie Haigneré (France). Alice Gorman and international space lawyer Steven Freeland were instrumental in helping us gain access to many of these astronauts to pitch them the project.

Alice Gorman, Roland Miller, and Juan Salazar also donated their time to record sonnets for the installation version of Requiem, as did Sakura Kennedy and Sepehr Jamshidi Fard (who was also the male voice of the Moon in Moonrise). Friends from around the world translated the sonnets for Requiem into Japanese, Korean, Farsi, Italian, Spanish and French. Dorin kindly did his own translation of the sonnet (into Russian and Romanian).

Our idea to mix old black-and-white underwater footage into the film – and to play with the idea of astronauts and aquanauts co-existing in these liminal places – originated from our fascination with Point Nemo, in the South Pacific. It seemed strange and magical that a spacecraft that has been in Earth's orbit for so long can end its life in pieces beneath the ocean.

Where do spacecraft go to die? The smaller ones, like satellites, are propelled into the graveyard orbit in space – an orbit that is not useful to humans – where they can remain for thousands of years. But the larger ones are de-orbited, brought back to Earth, and buried underwater in the middle of the South Pacific Gyre, in a place so remote that it's a designated 'oceanic pole of inaccessibility.' This is Point Nemo, also known as the spacecraft cemetery.

It's here that larger spacecraft are intentionally crashed at the end of their useful lives in space. An estimated 263 spacecraft, from a range of spacefaring nations, have already ended up there. Since 1971, the Russians alone are believed to have crashed around 80 spacecraft, and 5 space stations (including Mir, in 2001) at Point Nemo. One of the most recent controlled

crashes was of the European Space Agency's Automated Transfer Vehicle – named Jules Vernes – in 2008, after it delivered supplies to the International Space Station. When the ISS itself is de-orbited in the next ten years it, too, will join its once shiny, Space Age compatriots beneath the ocean (Hunt, 2022).

The debris from these de-orbits covers a large area, so it's not as if the spacecraft end up sitting intact on the seabed, like some kind of underwater alien archaeological site. Yet it's still a remarkable thing to contemplate that these artefacts that have spent extended time up in space, sometimes even housing humans, all end up returning (in bits and pieces) to a watery resting place on earth.

There have been persistent rumours that Point Nemo is haunted, in part due to the horror writer H.P. Lovecraft setting some of his fiction in that exact same point (in 1928, long before it was identified as a good place to bury spacecraft). It was close to the current-day location of Point Nemo that Lovecraft sited R'lyeh, which he described as a 'nightmare corpse city', with 'vast, loathsome shapes that seeped down from the dark stars', where the monster Cthulhu lurks (Lovecraft, 2009 [1928]).

More recently, in 1997, strange underwater sounds were heard coming from Point Nemo by oceanographers, who were puzzled enough to nickname the sound 'the Bloop'. The Bloop was detected by the U.S. National Oceanic and Atmospheric Administration (NOAA)'s hydrophone array – which monitors marine mammals as well as undersea quakes and ice noise. Nobody ever satisfactorily solved the mystery of the sounds, though the consensus view has come to be that the source of the sound was probably calving icebergs in Antarctica (NOAA 2021).

Figure 4. Still from *Requiem*. Excerpted from *Typhoon Treasure* (1938), directed by Noel Monkman. Archive courtesy of National Film and Sound Archive, and copyright holder Joy Jobbins.

Making Art in the Anthropocene

Beneath everything any artist creates in the present moment, of course, rumbles the Anthropocene's terrible realities. The stakes can feel quite low by comparison when thinking about objects, ethics, and emotions in outer space. Does any of it really matter?

We can't say for sure. Perhaps we will have wiped ourselves out on this planet long before we manage to mine the Moon or terraform Mars. As we look back now at this quartet we've made, all we can claim to have done is try to look at human beings from a truly otherworldly perspective, hoping all the while that we will not only appear as we so often are – flawed, greedy, foolish – but that the qualities that make us loveable will occasionally also hove into view – our capacity for tenderness, wonder, being vulnerable.

We hope that the films have stayed open to both the light and dark sides to being human, with the stories and films adding up to a body of work that balances pathos and bathos; tragedy and comedy; love and disgust; horror and hope.

If the nature writer Robert Macfarlane is right, and our 'modern species-history is one of remorselessly accelerated extraction, accompanied by compensatory small acts of preservation and elegiac songs,' (2019, p. 312) then maybe that's what our films about emotion and ethics in outer space can be: small acts of preservation, and elegiac songs, in the face of the increasingly exploitative and extractivist human activities in outer space.

Each time after Rowena and our sound designer, Annie Breslin, finished a Zoom recording with one of the astronauts or someone in the space community who was doing a remote performance of their sonnet for *Requiem*, Rowena would send Ceridwen a little message. We'd decided it would be better not to have too many people on the Zoom – it's intimidating enough trying to 'perform' a sonnet when you aren't a professional actor – so Ceridwen hadn't participated in the virtual recordings. We'd like to finish here with these messages, which – like our films – are little scraps from daily life but filled with big emotions.

Email from Rowena after recording Roland Miller's sonnet on Zoom (February 2022):

And at the end, Roland added this, which I thought was amazing: *I spent so much time looking at photos and video of the ISS (I even built a model) that I started dreaming about moving through the station. I can still visually move through every inch of the station to the point where it seems like I was up there!*

Text message from Rowena after recording Cady Coleman sonnet (March 2022):

She said reading your poem made her want to cry because of how much she loves the ISS.

Text message from Rowena after recording Soyeon Yi's sonnet in Korean (April 2022):

She said that she felt like this poem was inside her, and the stanza we picked for her was perfect. She changed the M&Ms to jelly bellies because she had the exact experience that you described of opening a bag and having them float away.

Email from Rowena after recording Claudie Haigneré sonnet in French (April 2022):

Just while it's fresh in my mind, I wanted to tell you how Claudie said your poem made her think of when she/others were farewelling the Mir space station. She said it was like a requiem for Mir as well as the ISS. And Claudie is unique in that she is one of the (few, I think) astronauts who spent time on Mir *and* on the ISS.

Even though her specific stanza is imagined, it still resonated with her. Claudie mentioned how she knew someone whose father was on Mir, and the son was on the ISS. And she began to choke up (and quickly ended the conversation at the end) when talking about the situation with Russia/Ukraine. She said it was hard for her, since she had spent 10 years living in Star City.

She also sent me some photographs of the underwater training she did in preparation for launching in the Soyuz capsule. It's so strange thinking of this taking place underwater, and then thinking of the debris ending up underwater too, in the end….

Unlike these astronauts, we have never set foot on the International Space Station, and never will. And yet we still mourn along with them for the future loss of a place that exists for us only in our imaginations. Why is that? We have made these films to try to find out.

References

Arthur, P. (1997). On the Virtues and Limitations of Collage. *DocBox* #11*: Transformations in Film as Reality (Part 6)*, Yamagata International Documentary Film Festival, https://www.yidff.jp/docbox/11/box11-1-e.html

Bjornerud, M. (2021). Becoming Earthlings. In Gavin Van Horn, Robin Wall Kimmerer & John Hausdoerffer (Eds).*Kinship: Belonging in a World of Relations*, *Vol. 1: Planet*, Center for Humans and Nature Press.

Calvino, I. 2016 [1988]. *Six Memos for the Next Millennium*. [Translated by G. Brock]. UK: Random House UK.

Dovey, C. (2021b). Our Sister Satellite. In Gavin Van Horn, Robin Wall Kimmerer & John Hausdoer (Eds). *Kinship: Belonging in a World of Relations,* Vol. 1: Planet, Centre for Humans and Nature Press.

Hall, K.G. (1937). *Lovers and Luggers* [Film]. Australia. 99 minutes.

Hennessy, K. & Smith, T.L. (2022). Anarchival Materiality in Film Archives. Description of online presentation hosted by the *Royal Anthropological Institute (RAI)* included in *RAI* email of events, April 27, 2022.

Hogg, J. (2014, April 16). 'Thrilling and prophetic': Why filmmaker Chris Marker's radical images influenced so many artists. *The Guardian*. https://www.theguardian.com/film/2014/apr/15/thrilling-prophetic-chris-marker-experimental-films.

Hunt, K. (2022, February 6). This is the space graveyard where the International Space Station will be buried. *CNN.com*. https://edition.cnn.com/2022/02/06/world/point-nemo-international-space-station-scn/index.html.

Koren, M. (2022, January 31). We Almost Forgot About the Moon Trees. The Atlantic, https://www.theatlantic.com/science/archive/2022/01/nasa-moon-trees-apollo/621395/.

Lanham, J. D. (2021). A Prayer for Wildness. In Gavin Van Horn, Robin Wall Kimmerer & John Hausdoerffer (Eds). *Kinship: Belonging in a World of Relations*, *Vol. 1: Planet*, Center for Humans and Nature Press.

Levin, N. (2021, November 3). UK Premiere: SpilLover (2021), a film by Nobunye Levin. Description of *ScreenWorlds* event & screening, London, UK. https://screenworlds.org/announcements/uk-premiere-spillover-2021-a-film-by-nobunye-levin/.

Lovecraft, H.P. 2009 [1928]. The Call of Cthulhu. *Weird Tales*, February 1928. Full text available online at https://www.hplovecraft.com/writings/texts/fiction/cc.aspx

Macfarlane, R. (2019). *Underland: A Deep Time Journey*. Hamish Hamilton.

Marker, C. 1983. *Sans Soleil* [Film]. France. [100 minutes].

Marker, C. 1962. *La Jetée* [Film]. France. [28 minutes].

McGregor, A. (2019). *Frank Hurley: A Photographer's Life*. National Library of Australia Publishing.

Meyer, M.A. (2021). Ku'u 'Aina Aloha, My Beloved Land: Interspecies Kinship in Hawai'i." In Gavin Van Horn, Robin Wall Kimmerer & John Hausdoerffer (eds).*Kinship: Belonging in a World of Relations*, *Vol. 1: Planet*. Center for Humans and Nature Press.

Nespoli, P. & Miller, R. (2020). *Interior Space: A Visual Exploration of the International Space Station*. Damiani Editore.

NOAA (National Oceanic and Atmospheric Administration). (2021, February 26). What is the bloop? https://oceanservice.noaa.gov/facts/bloop.html

Paton, S. (1916). *20,000 Leagues Under the Sea* [Film]. USA. [105 minutes].

Pearlman, R. Z. (2012, September 28). Astronauts can keep (or sell) their space artifacts, new law says. *space.com*, https://www.space.com/17787-nasa-astronauts-space-artifacts-souvenirs-law.html.

Reuters. (2022, July 27). Buzz Aldrin's jacket from the Apollo 11 Moon mission sells for record-breaking price at auction. *Abc.net.au*, https://www.abc.net.au/news/2022-07-27/buzz-aldrin-s-jacket-sells-for-record-price/101272484).

Rose, R. (2015). *Everything and More* [Film]. USA. [HD Video. 11 minutes 39 seconds].

Russell, C. (2018). Archiveology: Walter Benjamin and Archival Film Practices. In *Research in Film and History. The Long Path to Audio-visual History*, No. 1, S 1-22, DOI: https://doi.org/10.25969/mediarep/14788

Russell, C. (1999). *Experimental Ethnography: The Work of Film in the Age of Video*. Duke University Press.

Sollis, M. (2021, September 30). It's a small galaxy after all http://www.michaelsollis.com/small-galaxy/

Van Horn, G., Kimmerer, R.W. & Hausdoerffer, J. (Eds.). (2012). *Kinship: Belonging in a world of relations*. Center for Humans and Nature Press.

Wees, W. C. (1993). *Recycled Images: The Art and Politics of Found Footage Films*. Anthology Film Archives.

About the authors

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Rowena is a co-founder (with Ceridwen Dovey) of The Archival Futures Collective, a creative collaboration dedicated to making archival experimental films about human relationships with nature and landscapes on Earth and in outer space. She holds a PhD in Cultural Anthropology from New York University, and a graduate diploma in documentary from the Australian Film Television and Radio School (AFTRS). She earned her bachelor's degree in Comparative Religion from Harvard University.

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