

***moss.quarry.plaque*: a collaborative public artwork for the City of Hobart's digital twin**

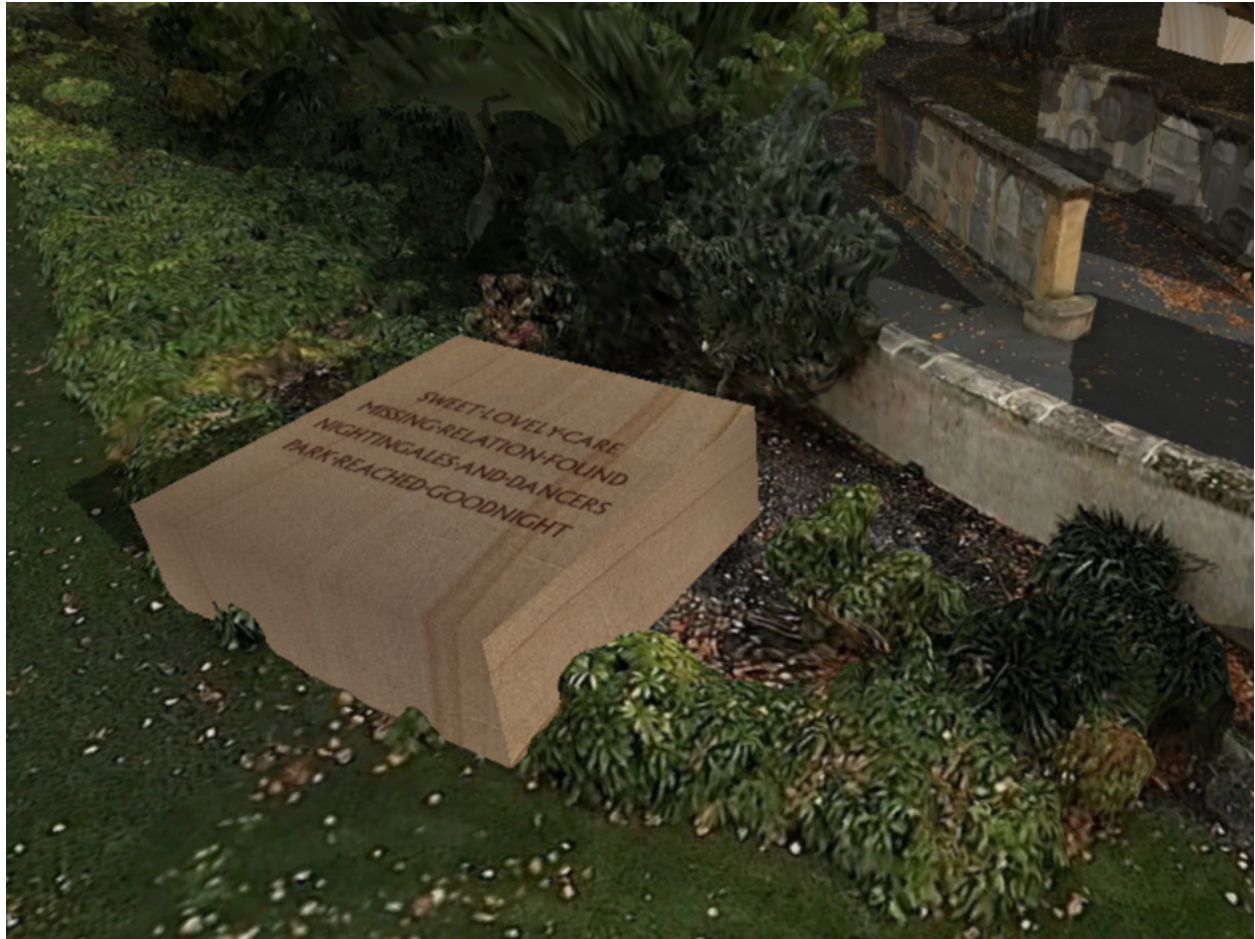
Margaret Woodward and Camilla Brueton

Abstract

In May 2022 we launched *moss.quarry.plaque*, a public art commission for the City of Hobart, installed within the City of Hobart's Digital Twin, a searchable, interactive, three dimensional "map" of Greater Hobart. The Digital Twin is a data-rich environment built from many different government and private data sets, used for planning the city's infrastructure, traffic, land use and more. As artists and writers we tangle our voices and words to intercept the mesh of geocodes and data sets, woven algorithmically in the city's digital twin. We are the first artists to work with the planning team to 'install' an artwork in this environment.

moss.quarry.plaque is the trace of our exchanges held during three synchronous walks in our respective cities, nipaluna/Hobart and in Caerdydd/Cardiff, Wales. Through a process of call and response, geo-locating us in our own terrain, we composed a poetic score now inscribed on digital plaques in the digital twin and to be read and heard along the route of our walks.

Figure 1: digital plaque in the City of Hobart digital twin, *moss.quarry.plaque*, by Margaret Woodward and Camilla Brueton (2022)



Introduction

This paper presents the research and collaborative processes underpinning the artwork *moss.quarry.plaque* (2022) by artists Margaret Woodward and Camilla Brueton. We first started working together remotely in 2021 when we participated in an international online residency *Place, People and Time: Wild Ways* led by Deirdre Heddon and Misha Meyers, whose ongoing creative project *The Walking Library* has generated a feminist walking movement combining reading, walking books and a concern for the environment. Our collaborative practice was first formed during this residency and is aligned with the work of Heddon and Meyers to encourage, celebrate and contribute to the field of women artists using walking as a part of their creative practice.

Margaret lives in nipaluna/Hobart, Tasmania and Camilla lives in Caerdydd/Cardiff, Wales. In 2022 we were awarded a public art commission for the City of Hobart's CityPilots program. The artwork we made for this commission is called *moss.quarry.plaque*, a project which enabled us to extend the collaborative techniques we developed during our online residency into the virtual environment of nipaluna/Hobart's digital twin. A Digital Twin is a digital replica of the City of Hobart, a data-rich visualisation of the capital of lutruwita/Tasmania. Built from many different

government and private data sets and by combining drone footage, photo imagery, data from the LIST (Land Information System Tasmania), the digital twin uses an interactive game-like interface and geolocating tools to create an immersive digital 3D environment. In a first-time invitation to artists to work in this space, we collaborated with the City of Hobart's spatial analysis team to create moss.quarry.plaque, the first public artwork for the digital twin.

Both Woodward and Brueton are part of a growing network of artists whose practice incorporates the acts of walking with writing, reading and drawing, undertaken sometimes in settings of environmentally sensitive or threatened areas, and at other times in built and urban environments. Like many walking artists, participating in synchronous timed events enhances the sense of connectedness despite being geographically distant. Techniques and technologies can enable this sense of collaboration and companionship during walks and become crucial to processes of documentation, wayfinding, safety and communication during walks. Woodward lives just south of nipaluna/Hobart and Brueton in Caerdydd/Cardiff. Our strategies for walking while distant underpin this artwork, and discussed in this paper are some of the technical and conceptual challenges of working in this liminal space between the real and virtual cities of nipaluna/Hobart and Caerdydd/Cardiff, across time zones and locations.

Literature on Walking

There is a long tradition of artists and writers who walk, well known among them are the 19th century Romantic poets and painters and the 20th century land artists. Heddon and Turner (2010 Shifting) argue that the repeated citation of artists such as Daniel Defoe, Jean-Jacques Rousseau, Henry David Thoreau, André Breton, Guy Debord, Hamish Fulton, Richard Long and Iain Sinclair, has limited and skewed the characterisation of walking artists to be masculine, heroic, solitary, transgressive and epic. Contributors to the Routledge edited publications *Walking, Landscape and Environment* (Eds Borthwick et al 2020), challenge the persistent legacies of Romanticism by applying contemporary critical thought to more expanded and inclusive notions of walking as a generative process underpinning creative works as well as a technique of research. Increased attention has been given to walking as a form of protest and activism. Rebecca Solnit (2001, 2005). advocates for the pleasures of being released from reliance carbon based transport, walking in solidarity with others, slowing down, and even getting lost. Writer and art critic Olivia Lange in *To the River* (2011) documents her own journey of walking alone following the banks of the River Ouse, the river in which Virginia Woolf drowned, while also following her work and the footsteps of other walker-writers such as W.G. Sebald. Similarly writer Robert MacFarlane holds the experience of walking as central to his own writing, and in his seminal works on the relationships between walking, writing and the imagination such as *The Old Ways* (2012) and *Wild Places* (2008) he follows the footsteps of predominantly male writers, poets and artists. Annabel Abbs in *Swept Away; walking in the footsteps of remarkable women*, (2020), provides a welcome feminist exploration of women artists and writers. Abbs in her own walks follows the paths and lives of Gwen John, Georgia O'Keeffe, Frieda Lawrence, Clara Vyvyan, Simone de Beauvoir and Nan Shepherd and in the process reframes the experience of women walkers as both difficult (especially when solo) and liberating.

At this point it is worth returning to Heddon and Meyer's *The Walking Library*, which since 2012 has provided opportunities for women to combine reading and walking in collective solidarity.

The Walking Library functions as a convivial and collective space. The books, the women, the environment and the temporal location perform as a call-and response, in complex but attentive replies and continuations of the conversation. As a feminist walking movement, the WLFWW creates a relational and temporary architectural space for women to gather and move together, united and empowered beyond the solitude of the room of one's own or those masculinist norms of walking which Heddon and Turner identified (individualist, heroic, epic). (Heddon and Meyers 2019, 12)

Although The Walking Library is not exclusively for artists or writers, the experience of the walks and the walkers described above has inspired our approach. Our respective creative practices span writing, publishing, drawing and collage. By combining these modes with the act of walking, another element enters the collaboration. Walking no longer is a solitary experience, instead there is a sense of performance and connection with each other and later with an audience. While this survey of a selection of walking literature and its relationship with art and writing provides a context for our own practice and network of other contemporary collaborators, it should also be noted that this literature is dominated by Northern Hemisphere, and Western artists and writers. Our collaboration in *moss.quarry.plaque* links two discrete locations across hemispheres and continents, with one of its aims to highlight the potential to walk solo and at a distance, whilst still in synchronous companionship, afforded by the use of smart phones, digital technology and geolocating code.

Methods, procedures and technologies

Digital twins

Principally used by city planners, nipaluna/Hobart's digital twin provides a 3D layered rendering of the city's traffic flows, land use, built infrastructure, roads and topography. The city's digital twin is enabled by UK based company Bentley Systems who provide clients with an interface through which local data is combined to render a customised 3D cityscape onto which a range of other mapping resources are added. The concept of a 'digital twin' is attributed to Michael Grieves in 2002 and his work with NASA who have been using twin technology since the 1960s for space programs to simulate conditions on board spacecraft (Miskinis 2019). Since then, there has been a rapidly increasing use of digital twins, moving more recently from digital twins of objects and buildings to digital twins of entire cityscapes. Jones et al (2020) in their paper on the characteristics of digital twins introduce key concepts and literature, outlining the fundamental distinction between the *physical* environment and the *virtual* environment. The conceptual and technical practice of crossing between the physical and the virtual was pivotal to *moss.quarry.plaque* where encounters in both the *physical* environment of city and the *virtual* environment of its twin, extended the imaginative space for the artwork to reside in and allowed both nipaluna/Hobart based visitors and remotely located viewers access to the artwork. Crossing between these virtual and physical cities bestows a kind of 'dual citizenship' within the artwork for those who are physically present in nipaluna/Hobart. For remote audiences who might never physically visit, nipaluna/Hobart, the virtual twin, affords a bridge between distant locales and the city, and created a digital 'sibling city' status with Caerdydd/Cardiff. This hybrid form of habitation within the city and its digital twin was achieved by creating some digital elements that were installed in the digital twin itself, as well other digital artefacts held on the City of Hobart

website including an audio score, texts and resources. An Instagram account @moss.quarry.plaque also augments the artwork. The on the ground physical experience is also available to local nipaluna/Hobart audiences who use smartphones to access the Digital Twin to physically locate the virtual elements, with the option to follow or make their own walks in the physical city. Readers may wish at this stage to familiarise themselves with the artwork *moss.quarry.plaque* and to take some time to explore the virtual City of Hobart.

To access the artwork and enter the city of Hobart's digital twin from anywhere in the world, use this url: <https://au.opencitiesplanner.bentley.com/cityofHobart/citypilots>. To access other digital artefacts that sit outside the digital twin visit the [City of Hobart's](#) website.

The setting – nipaluna/Hobart, Australia and Caerdydd/Cardiff , Wales

We belong to an international network of artists who walk and use walking in many disparate ways to facilitate writing, reading, making and performing. Walking as a process of research and a method for generating creative practice is central to our collaboration. In order for the work to find a foothold in the digital twin environment we expanded and adapted our previous walking as creative practice techniques, and also agreed on a set of conceptual themes to underpin the work. We recognised our methods of research were leading us to examine the 'crevices' that exist within the fabric of our respective cities. Finding these niches required a type of research attentiveness, aligned with processes of walking where one is sensorially attuned to the physical cities, and where a record of the walks could be made. Important also was to have a dynamic means of locating and communicating with each other in real time as we walked.

During the initial research phase and during our walks we searched for obvious connections between our cities. Both Caerdydd/Cardiff and nipaluna/Hobart as port cities share legacies of colonial expansion, with traces of convict history, trade and development still very much evident in the built fabric of each city. Both are capital cities, each with a centrally located landmark, St David's Cathedral. Deeper research revealed several direct links between Caerdydd/Cardiff and nipaluna/Hobart. Welsh political prisoners from The Rebecca Riots, who were convicted for protesting the toll charge for using rural roads were tried in Caerdydd/Cardiff in 1843 and transported to then, Van Diemens Land. In 1911 Douglas Mawson's ship the Aurora, sailed from Caerdydd/Cardiff to Hobart en route to Antarctica. These connections are publicly acknowledged, with their significance celebrated and memorialised in city landmarks, plaques and books. However, less visible or celebrated are the lives of First Nations people, convicts, political prisoners and women, and their absences in the city's narrative obscures evidence of their presence. Looking for these traces inevitably leads to the colonial archive and its confronting documentation of violence and dispossession and ongoing impacts in the contemporary cities of nipaluna/Hobart and Caerdydd/Cardiff .

To share our research, we set up a Google document around 125 pages long to archive regular exchanges and recommended readings to each other, bearing in mind that we were learning about each other's cities remotely, neither of us having ever visited the other. Several key texts guided our research, and a full list is published on the project's website. In *Conversations Across Place, Volume 1, Reckoning with an entangled world* editors Nicola Brandt and Frances Whorrall-Campbell propose new embodied ways of inhabiting and moving through the world, both virtually and in real life. The editors present artistic works where "resistance opens up

pockets or folds within catastrophic time-space, and through forced isolation and separateness, voices call out as a sustained conversation across geography and distance.” (2021). In a similar vein, our collaboration and research revealed such crevices, pockets and folds born of colonial rupture, which harbour complex and confronting histories. Themes presented by contributors to *Conversations Across Place* both inspired and resonated with our ambitions for this collaboration, including the focus on the “potential of queer and decolonial ecologies [to] grow in the cracks pushing up through the ruins to thrive despite its lowly and precarious position” (p15). This conceptual metaphor also focussed our attention very literally to the geological foundations of our cities, the crevices and the botanical communities that thrive within.

Another influential text we shared was *Gathering Moss* (2021), by Robin Wall Kimmerer an American Potawatomi Nation botanist known for her scholarship on traditional ecological knowledge and moss ecology. In a chapter dedicated to moss found in cities, she argues that moss found on stone facades and footpaths and in cracks and crevices, is seeking a foothold for survival and will grow regardless of whether it’s on quarried stone in the city or rock faces in more natural places. This realisation motivated us to shift our gaze downwards detecting the geologic foundations of our cities – tracing stone that was quarried locally to build early infrastructure, now providing the growing surface for moss. This stone continues to host living colonies of moss and lichens, crevice communities formed from human and non-human traces, who although less visible, their liveliness is present in the material fabric of our cities. We recognised that stone and moss are ubiquitous, common elements in our respective cities, transcending our borders, as are plaques and quarries. Focussing our attention downwards, what lies beneath the city’s fabric is still geological, mossy and alive entangled with histories, that carry memories and forces that continue to enliven this place, always mindful that in lutruwita/Tasmania the land is stolen by the British from its Indigenous owners, the palawa people.

Our ‘conversation across place’ led us to convict records, finding sites of old quarries, cemeteries, wharves and mossy enclaves, and locating homes and workplaces of our ancestors. Our own personal histories in place started to surface. Margaret located records of British convicts, servants, labourers, prospectors and bakers who worked in local businesses, the waterfront, farms and establishments mobilised by 19th century colonial trade and social displacement. Camilla visited sites within Caerdydd/Cardiff from her family’s past, some now redeveloped beyond recognition. Newtown, which is long gone, is where the family of her paternal Irish grandmother settled in early 20th century, and Caerdydd/Cardiff Bay – the site of the docks and Butetown, where her maternal Estonian grandfather arrived during World War II and met her Welsh grandmother. Our walking practice became a way to both attune to and solidify research undertaken in public and personal archives. We took walking tours in our own cities following plaques commemorating women’s histories and in nipaluna/Hobart Margaret walked with Tasmanian Aboriginal woman Nunami Sculthorpe-Green, the city’s first Indigenous tour.

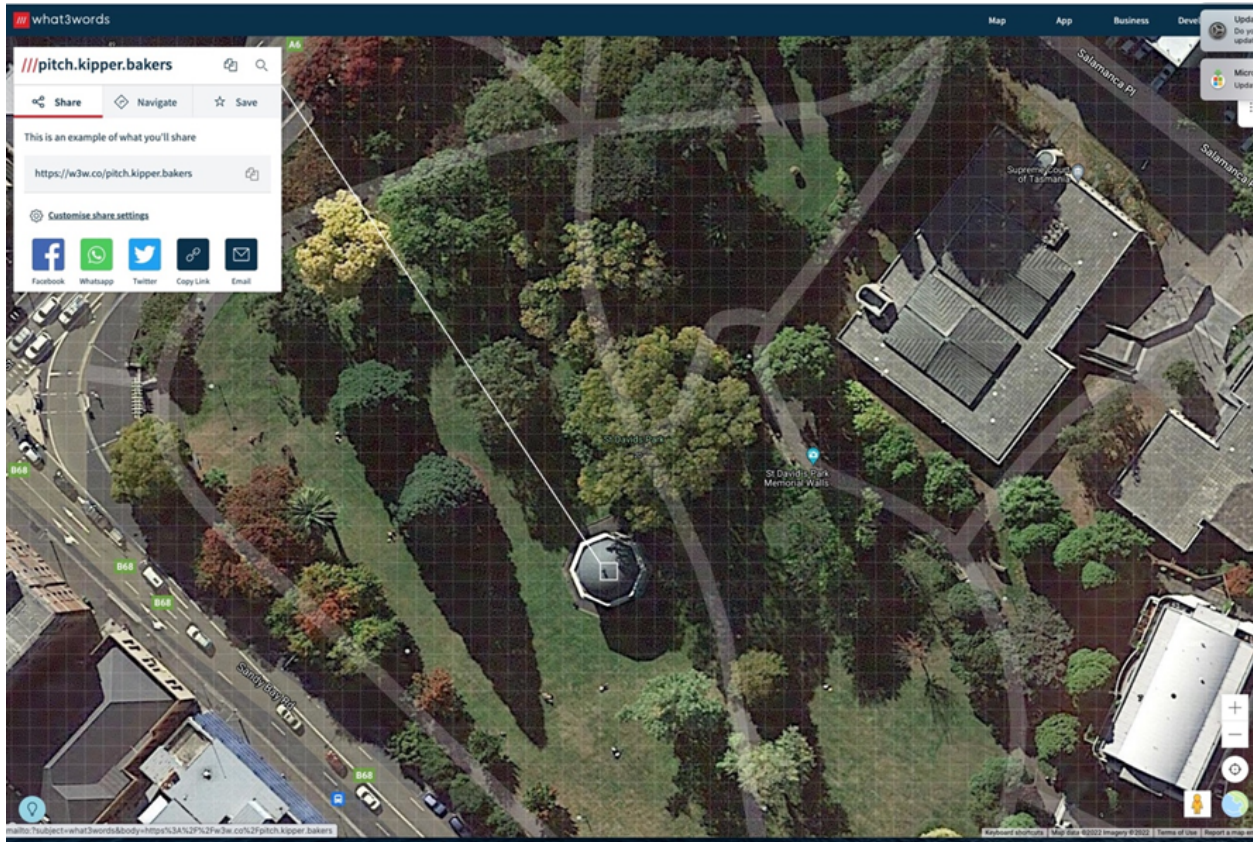
In February and March 2022, we made three synchronous walks, each walking at the same time in Caerdydd/Cardiff and nipaluna/Hobart but in different time zones. During our previous collaboration for the online residency [*Place, People and Time: Wild Ways*](#) we developed a technique of walking, communication and writing that we used again for this new work. We

planned our three synchronous walks based partly on the directions our initial research led us in and partly on our existing entanglements of topography and our history in each place. Our routes followed canals, rivulets and ports, took us through gentrified neighbourhoods and city centres, and found remnants of quarries and graveyards in parks and reserves. We were out in all weathers; Caerdydd/Cardiff's early winter mornings (once during the tail end of cyclone Eunice) were simultaneously mirrored with Tasmania's long summer evenings filled with birdsong and dusk light. In the City of Hobart each walk was designed to finish in St. David's Park. St David is also the patron Saint of Wales, and the namesake of the 'twin' cathedrals in the heart of nipaluna/Hobart and Caerdydd/Cardiff. St. David's Park is located on Aboriginal land that was never ceded and was the colony's first burial ground. With gravestones still present and monuments to confronting and entangled histories, it is also a site alive with moss and lichen and European plantings, dynamic forces with a direct line to colonising Britain. These companionable walks were a way to be grounded in place at walking pace. Our walks focussed on the ground, we sought open surfaces of stone and places that harbour moss, on buildings, plaques, pavements and gravestones, seeking surfaces that are not always visible or celebrated by traditional monuments, and often overlooked layers of liveliness in the city's geological and botanical fabric. We also realised that the things we noticed and recorded will only ever be partial and that these somewhat tangled traces produce a mesh of artefacts and routes that are subjective, lively and responsive.

Communication techniques – Call and response

In order to communicate and pinpoint our individual locations we devised a call and response technique for communication and geolocation bringing us into a type of remote 'conversation' as we guided each other through our cities. To communicate our precise position, we used the geo-locating system [What3Words](#), which is publically available on a website and also as an app on our smartphones. What3Words maps the entire planet (including the sea) using a 3 square metre grid, which when scaled up creates 57 trillion 3x3 metre squares in a mesh across earth's surface. To each 3-metre square What3words allocates a string of three random words as a code to accurately communicate location at a very small scale. The words used are all found in the dictionary and are available in 14 different languages. What3Words uses satellite imagery and an interface similar to Google maps. Figure 2 shows the W3W webpage view of St David's Park in nipaluna/Hobart with a 3-metre square that sits on the top of the rotunda in the park. The What3Words 'address' for this 3 square metres is `///pitch.kipper.bakers`. In effect What3Words overlays the earth with a precise mathematical grid superimposed with a corresponding mesh of random words. This word-grid-mesh creates a potent code from which to think about relationships between language and place. Using W3W also highlights the seeming disconnect between the words and the terrain or cultures that lie beneath.

Figure 2: What3Words 'address' ///pitch.kipper.bakers, St David's park rotunda, nipaluna/Hobart'



To use the What3Words web tool go to [here](#) and take some time to explore the connections between locations and the three-word addresses.

The What3Words app can also be downloaded onto a smartphone, making it a portable tool connected to the phone's camera. On our walks we used W3W in combination with the messaging app WhatsApp to communicate our location and a photograph from that location. Crucially we also customised this technique as a writing tool. For each random word string generated by W3W we responded with our own grounded response of three words. Our responses were determined by what we could see, hear, feel or sense. Each communication 'packet' we sent was comprised of a photograph imprinted with the unique What3Word place locator and our own three words. Sometimes we also sent sound files to each other, audio tracks of spoken word and sounds from the walks.

For example, to the What3Words prompt:

///stack.guarded.barman

the response was:

brewery.guardian.crow

Figure 3 shows a screenshot of the message package sent from the beginning of Walk #2, in nipaluna/Hobart. To see the exact 3 metre square location, you can enter the string `stack.guarded.barman` into your What3Words website or app.

Figure 3: Smartphone screenshot from walk#2 February 25, 2022. What3Words address `///stack.guarded.barman`, and response `brewery.guardian.crow`



Using this technique of sending messages over the course of our walks, we generated hundreds of 6-word texts, each forming a kind of poetic word association haiku.

For example:

///smoker.sleeps.grace
here.secrets.sleep

///cups.spurned.hardens
battery.spurns.invasion

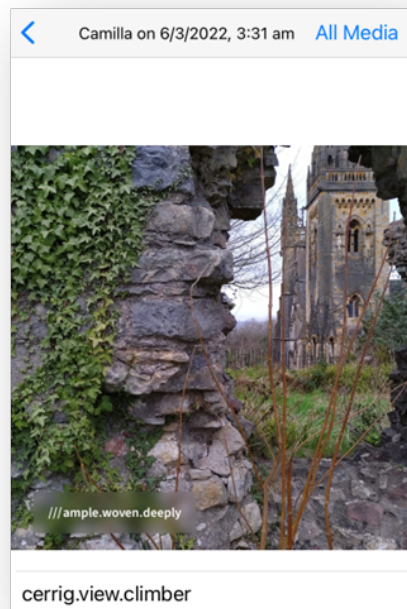
///cold.statue.actors
died.of.wounds

Sometimes Camilla's responses included Welsh words.

///test.fails.noise
pride.heart.cymuned (pride heart.community)

///upper.funds.sector
mwsogl.coeden.green (moss.tree.green)

Figure 4: Smartphone screenshots from walk #3 March 3, 2022.



On each of our three walks we exchanged around one hundred messages, giving us a substantial stock of digital assets and material to work from. We set up a massive spreadsheet to store the words, photographs, geo-data and sound files gathered and exchanged on our walks. This master spreadsheet later became an essential platform for communicating with each other in the design phase and sharing data with the geospatial team. The steps in our call and response technique are published so members of the public and other walking-artists are able to use this same technique on their own walks: The 'recipe' for the technique can be found [here](#).

The call and response technique generated an echo, a conversation between the global north and south, despite the distance of 17,599 km between us. Using the technique also highlighted the colonising nature of language, how it names and claims places. Here the ‘call’ of the What3Words text, whose meaning is generated independently of the actual place, can be interpreted as a colonising act. The ‘response’ words generated by us can be understood as a sort of ground truthing, a term that originates from remote sensing. In remote sensing, "ground truth" refers to information collected on the ground rather than from the satellite's view. Ground truthing and satellite imagery are then combined in the interpretation and analysis of what is sensed remotely by satellite imagery. Another way to understand our process of combining satellite data with the ground we are treading is to turn to Robert MacFarlane, who distinguishes between two types of map, the grid-map and the story-map. In his book *The Wild Places* (2008) he writes;

Broadly speaking, we might say there are two types of map: the grid-map and the story-map. A grid-map places an abstract geometric meshwork upon a space, a meshwork within which any item or individual can be co-ordinated. The invention of the grid-map, which occurred more or less coevally with the rise of modern science in the sixteenth century, introduced a whole new power to cartography. The power of such maps is that they make it possible for any individual or object to be located within an abstract totality of space. Their danger is that they so reduce the world to data that they record space independent of being. Everything can be located, fixed, plotted and tracked. Everything can be grid-locked.

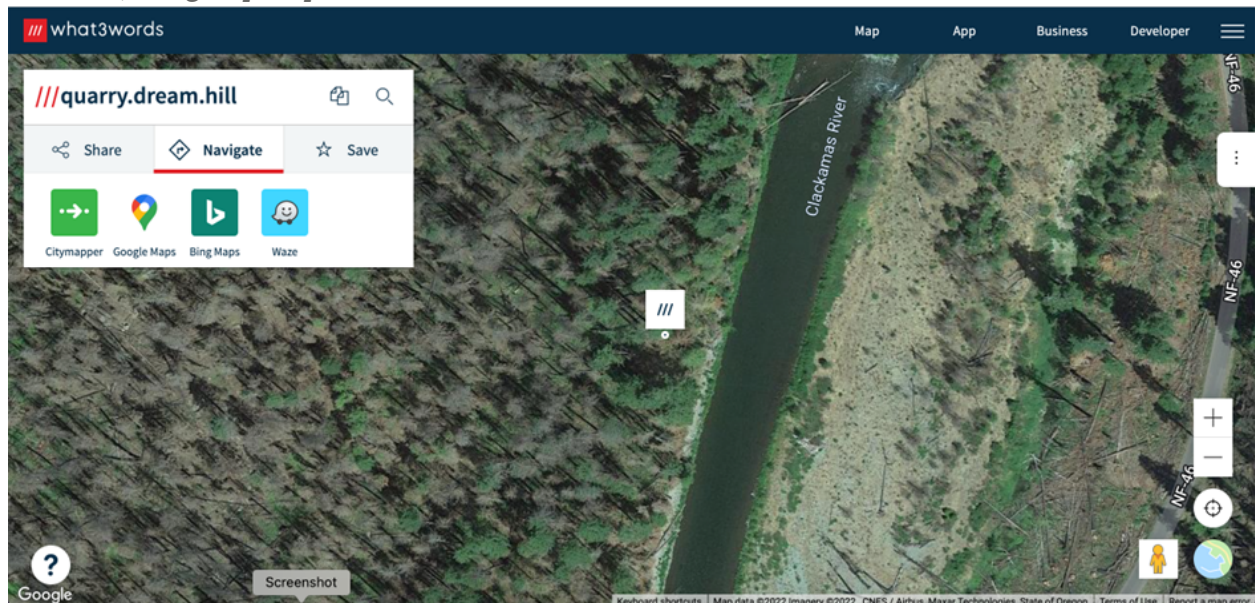
Story-maps, by contrast, represent a place as it is perceived by an individual or by a culture moving through it. They are records of specific journeys, rather than describing a space within which innumerable journeys might take place. They are organized around the passage of the traveller, and their perimeters are the perimeters of the sight or experience of that traveller. Event and location are not fully distinguished, for they are often of the same substance. (Macfarlane, 2008, p141)

In developing this technique, we were mindful of the impact-fullness of language in the process of colonisation and how What3Words continues to impose the imprint of the language of colonisers, be that in English, Welsh, or other colonising languages. In the world of What3Words the extent of language colonisation reaches even to the most remote locations – places that evade naming on colonial maps. A fascinating by-product of our call and response technique led us to such remote ‘un-named’ places. When we entered some of our invented responses into What3Words as word strings, we were led to unexpected 3 square metre destinations in other continents and seas. Take for example quarry.dream.hill the response composed by Author 1 at the beginning Walk#3 from a disused quarry on Knocklofty. When the address quarry.dream.hill is entered into What3Words, we find its location is a 3-metre square in a forest, on the edge of the Clackamas River near Estacada, Oregon [USA].

Figure 5: Call and response screenshot from Walk #3 Knocklofty, nipaluna/Hobart

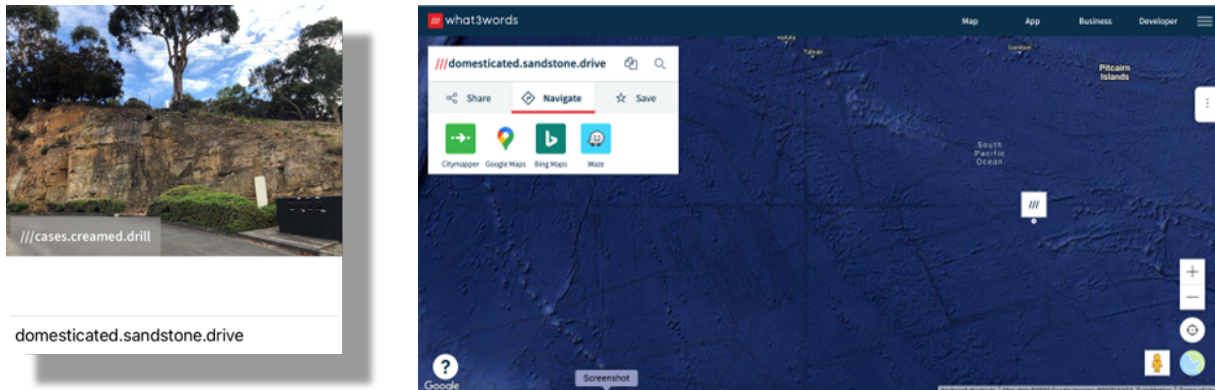


Figure 6: What3Words address ///quarry.dream.hill in the vicinity of Clackamas River near Estacada, Oregon [USA].



The address '///domesticated.sandstone.drive', is a 3 square meter area of sea in the South Pacific Ocean, many kilometres south of Pitcairn Islands and far from any human settlement.

Figure 7: Paired screenshots domesticated.sandstone.drive



This process of re-entering our response words into What3Words, and making screen shots of the destinations also provided another stock of random images to use. These unexpected destinations generated by our word play created yet another iterative step in this looping language–travel process, which when repeated again and again mimicked the seemingly infinite gridded mesh of What3Words. Our use of the What3Words technology is a way to engage with this language which at times seems playful and serendipitous, but also represents an uneasy layer forcing random meanings and associations. Our response to the W3W code is an attempt to draw language closer to place, to sensation, experience and memory in a poetic and resonant way.

Outcome – *moss.quarry.plaque*

The public artwork *moss.quarry.plaque* was generated by the creative practice process we developed from our collaboration. The walks, the exchanges, the interaction with What3Words and the writing that flowed from all of this underpins the artwork which is comprised of a number of elements. We consider the artwork to reside in a number of places; on the ground in Caerdydd/Cardiff and nipaluna/Hobart, in the digital twin and also in an imaginative space where ongoing creative work might flourish. Since its installation in May 2022 our Instagram account @moss.quarry.plaque has also been another avenue for audiences to encounter the work.

Within the digital twin, St David's Park provides a bounded space to draw together the threads of our walks, research and writing and an open space within the city to view elements of the artwork. What3Words was not only used to communicate our position during the walks, it also inspired us to fabricate 'digital plaques' inscribed with our images and text as alternative virtual markers installed in St David's Park in the Digital Twin. The digital plaques, varying in height but with a 3-metre square footprint are scattered around St David's Park pushing up from the ground, as if belonging to a mycelial network. Some hold poetic texts composed on our walks, others covered in found textures and surfaces of stone and moss, and another set Author 2 created by collaging material from What3 Words locations and our photographic messages.

The digital plaques were created using SketchupPro, architectural drawing software which allows the 3D surfaces to be clad with photographic textures, and imported 2D typographic files created in Photoshop. The Bentley Systems Digital Twin software reads What3Words as a geolocation code, so the digital plaques could be installed by the City of Hobart digital twin team, using a What3Words address for their final location in St David's Park. From within the

digital twin our plaques intertwine with the existing physical monuments in St. David's Park, many celebrating white, colonial, masculine 'settlers', governors, explorers and clergy. Our intention is not to erase or forget these markers, rather, in the virtual city our digital plaques sit alongside these monuments prompting conversations and questions and an alternative narrative of the city's foundations.

Figure 8: Sketchup digital plaque and installed in St. David's Park in the Digital Twin.



Figure 9: Distant view of moss.quarry.plaque walks in nipaluna/Hobart's Digital Twin.



The routes of the three walks are also recorded in the digital twin. During each walk we exchanged around 100 messages and recordings. Spatial data officers from the City of Hobart designed pop-up data windows for each point where we stopped and exchanged messages, showing the information exchanged, W3W locations, responses, images and recordings. The geocode of the walks are recorded in these pop-up windows, making it possible for others to follow our walks. Upon first encountering *moss.quarry.plaque* the opening Digital Twin screen shows a distant view, where a trail of words hovers over the route of each walk, draping the city and its foothills with text. Already this becomes a very literal visualisation of the power and domination of English language over this land that was, at other times, alive with Aboriginal languages. To accompany *moss.quarry.plaque* in digital twin we have composed and recorded an audio score for our two voices (and accents). Here our ‘conversation across place’ attempts poetically to situate the artwork work in the complex mesh in which it is entangled. We recommend you also listen to this as part of the experience. The audio file can be listened to [here](#) and the script can be downloaded [here](#).

Conclusion

In undertaking the public art commission *moss.quarry.plaque* we sought to inscribe nipaluna/Hobart’s digital twin with markers that memorialise alternative ‘readings’ of the city and those whose footfall we followed. The final installation of *moss.quarry.plaque* was released in May 2022 as a layer in the City of Hobart’s digital twin as part of the [CityPilots](#) program. The longevity of the artwork is dependent on the digital twin being publically accessible, so while this remains open at the time of writing, it may not always be so. Another caveat with the work is to set aside time for a number of visits, needed not only to explore the virtual city, and learn the interface, but also required as the website is data heavy and can take time to draw and re-draw itself. The digital performance of *moss.quarry.plaque* is also contingent on the device it is being viewed on. A mobile phone, although an ideal device to accompany one on the real walks, is less successful due to screen size and speed.

Crossing between the physical and the virtual city exposes many types of crevices, including those found in the geology and masonry of the city, where botanical communities of moss and lichens flourish. The colonial notion of Tasmania as an outpost, with its origins as an island prison, a crevice in the British Empire are also evident in the city in the connections we uncovered between nipaluna/Hobart and Caerdydd/Cardiff. And finally, the digital twin can be thought of as a crevice community where the past and future can collide in this imaginary space.

Acknowledgements

moss.quarry.plaque is a collaboration by Margaret Woodward and Camilla Brueton, partly made in /nipaluna/Hobart and partly in in Caerdydd/Caerdydd/Cardiff, Wales. While we walked we remembered those whose footfall we followed: ancestors, invaders, descendants, immigrants and neighbours – ever mindful of stone, soil and moss underfoot and the memories and threads that entangle our cities’ lives. While walking on palawa country, we acknowledge and pay respect to the traditional and original owners of this land, the muwinina people, and pay respect to those that have passed before us. We pay our respects to the Tasmanian Aboriginal community who are the custodians of this land and whose land was never ceded.

In the research, production and installation of *moss.quarry.plaque* we wish to thank and acknowledge support from Bek Verrier, Nunami Sculthorpe-Green, Euan McAleece, and Wendy Rimon. In particular we want to thank City of Hobart staff Jude Abell, Emily Brown, Craig Garth and Robert Stevenson for your collaboration and welcoming us into the world of the digital twin. We also thank Wild Ways Walking residency presented by The Museum of Loss and Renewal and the Walking Library, for facilitating our first ‘pilot’ for walking together.

References

- Abbs, A. (2020) *Swept Away; walking in the footsteps of remarkable women*, Hodder & Stoughton.
- Brandt, N. and Whorrall-Campbell, F. (Eds). (2021). *Conversations Across Place: Reckoning with an Entangled World* (Vol.1). The Green Box.
- Gibson, R. (2019) *Basalt X Jack's Reloaded: Material as Memory Symposium*, Melbourne.23 March. 2019 (private recording made by author).
- Heddon, D. and Myers, M. (2019) The walking library for women walking. In: Borthwick, D., Marland, P. and Stenning, A. (eds.) *Walking, Landscape and Environment*. Series: Routledge Research in Landscape and Environmental Design. Routledge.
<https://eprints.gla.ac.uk/183861/1/183861.pdf>
- Jones, D., Snider, C., Nassehi, A., Yon, J., Hicks, B. (2020) Characterising the Digital Twin: A systematic literature review. *CIRP Journal of Manufacturing Science and Technology* 29 (2020) 36–52
- Laing, O. (2011) *To the River*, Cannongate.
- MacFarlane, R. (2008). *The Wild Places*, Penguin.
- MacFarlane, R. (2012) *The Old Ways: A Journey on Foot*: Penguin
- Miskinis, C. (2019) The history and creation of the digital twin concept
<https://www.challenge.org/insights/digital-twin-history/>
- Solnit, R. (2001) *Wanderlust: A History of Walking*. New York: Penguin.
- Solnit, R. (2005) *A Field Guide to Getting Lost*. New York: Viking.
- Wall Kimmerer, R. (2021). *Gathering Moss; A Natural and Cultural History of Mosses*. Penguin.