Aotearoa New Zealand now recognises non-human natural entities as having personhood: Te Urewera, Whanganui Awa, Taranaki Maunga. As such, the significance of natural entities to Māori, such as rivers (awa), mountains (maunga), and regions (rohe), can and have been afforded legal identity by the New Zealand parliament. In turn, boards of governance have been established by those with ancestral association to protect the enduring interests and rights of such natural entities. Given the significance of this recognition, the motivation for this work is to understand the evolving relationships of humans to the living, breathing ground. To do this I have engaged drawing as a thinking tool, and myself as drawer/researcher, acknowledging my lens as a Pākehā (or non-Māori) author of the drawings. The ground explored in this project is referred to as Ground in recognition of its personhood. The drawn design research undertaken here charts a turbulence implicated in relationships between Ground and me, and points to a necessary shift in how architecture and Ground are considered.

Whakapapa connects Māori to their environment, with human, wildlife, flora, and natural entities in complex intra-relation. My connection to Aotearoa, and to Ground (or Whenua) is complicated in that I don’t whakapapa to the soil here. Despite being born and raised in this place, I don’t feel connected to Ground and have feelings of uncertainty, guilt, and even fear about engaging with my
My approach in this project has been to commence with these feelings and thereby to better understand my relation as a Pākehā to Ground in Aotearoa. Given this, the “Drawing Ground” project was envisaged as a collaboration, where designing was co-authored through a drawing process combining multiple gestures by both Ground and me. Through the imagined co-production of multiple drawing experiments, the aim was to shift settler colonial perspectives on how we interact with Ground and explore ways in which architecture might achieve reciprocity with Ground as co-drawer and delineator of space.

This work questions how people relate to non-human natural phenomena in Aotearoa. In response to this question, the drawing research employed the openness of the architectural sketch as an active medium for research, by working with turbulent conceptual currents and dynamic gestures of graphite on paper in pursuit of what Jeanette Pacher and Christine Phall have referred to as “thinking through [drawing] action.” Modelling was also used in the research as a way of embodying and spatialising the sketched marks, exploring imagined occupation, scale, light, and atmosphere within the drawings. These physical acts of drawing and modelling enabled the design experiments to be meditative, with the objective of overcoming my anxiety about making claims to Ground, and with revealing complex currents in my relation to Ground.

As a design-led research project, “Drawing Ground” began by exploring the relationship of my body to Ground through a series of speculative sketches that culminated in an installation. Secondly, the insights gathered from

Fig. 2 Ella Jones (2022). *Ground’s Thickness*. [Physical model, detail, experiential view]
these sketches led to the development of a small-scale pavilion above an existing walkway in Prince of Wales Park, Newtown, Wellington. Thirdly, the project culminated in a re-sketching of the historical Dominion Museum in Buckle Street, also in Wellington. In this final project, the museum’s mass and solidity was dissolved and its relation to Ground reimagined through intense, turbulent graphical interventions. These prompt a re-thinking of the presence and agency of Ground, calling into question how architecture is grounded and how this stabilising in fact subdues Ground. The museum re-design tests how architecture might collaborate with Ground, permitting and admitting its ongoing agency throughout a drawing/design process. In “Drawing Ground,” multiple drawing experiments allowed questions to be posed by the drawing processes themselves, engaging agencies of action closely allied to art practice; as Kayla Anderson suggests, “art initiatives … stimulate critical thinking rather than simulate action,” thereby allowing questions to emerge from the work. The work was not intended to fix and provide solutions to overarching societal concerns, but to use architecture as a way of thinking about the complexities within contemporary relations of Pākehā and Ground.

The following summarises the detailed engagements undertaken within the drawings.

**Experiment 1: Ground’s mapping**

The first investigation sought to understand the inherent bias in conventional representational techniques of drawing Ground. Maps and surveys are representations of the ground, depicting information biased towards human occupation and dominance over this natural resource. Subversive sketch mapping experiments were explored that sought to destabilise practices of mapping. These were intended to contest conventional hegemonic practices in representing Ground (Fig. 4).

The many exploratory mapping sketches were arrayed in an installation, enabling them to be read bodily, through participants engaging with them from
multiple perspectives. Due to the visual complexity of the layered maps and parallax of viewpoint, moving around the installation revealed different readings of Ground. My sketch mapping promoted a physical, bodily engagement with Ground and encouraged me to think about my situated perspective. The spatialisation of these sketched maps also allowed them to be read by others through both representational and embodied means.

**Experiment 2: Ground’s surface**

The second investigation considered the aesthetic potential of the surface of Ground, focusing on an old walkway in Prince of Wales Park, Newtown. Through a surface tracing method, drawings mapped intricacies of exposed soil atop the depth of Ground. Tracing paper was laid on the exposed soil and graphite struck across the sheet to record its texture. These surface trace sketches were manipulated digitally to emphasise the gritty texture captured by the graphite and tracing paper (Fig. 5).

The outcome was a series of three mixed-media drawings capturing intricacies in the surface of Ground. These remain open to interpretation; they were sketched abstractions of Ground’s surface dynamics. The strong tonal contrast within each composition allowed surface traces to be intensified and thus attention drawn towards subtle intricacies in the surface of Ground. This method of drawing gave insight into how the texture of Ground can inform drawing.
Experiment 3: Ground’s thickness

The third investigation considered architectural possibilities when Ground, as a thickness or deep material, is given agency in acts of design. The work leveraged sketch methods developed in the previous investigations, and aimed to draw tensions present in Ground as a thickness, rather than solely a surface.

The experiment used abstracted sketches of the thickness of Ground to create elements hovering above it; sketches became material elements floating above Ground, creating a canopy or pavilion floating above the existing park walkway (Fig. 6). The canopy was designed as a three-dimensional section drawing, but rather than representing Ground as one solid line, the section cut is fragmented and constructed by a cloud of 800x210x270 mm panels, each formed from sketches of the topography. An array of small steel rods pinned into the soil support this cloud of physical sketch elements. The work challenged the linearity of a single ground line as a means of representing a natural entity. The canopy extended my personal enquiry into human–Ground entanglement by engaging architecture as a three-dimensional proposition, though without imposing built form on Ground itself. The ambiguous nature of the architectural outcome aimed to draw attention to complex entanglements between Ground and me; the aim was to coalesce an architectural poetic from this delicate tension.
Experiment 4: Ground’s architecture

The fourth investigation took an existing building and programme, the Dominion Museum building in Buckle Street, Wellington, and its use as a creative arts centre, and employed it as a vehicle to discuss Ground’s remediation through architecture. Ground’s agency, concealed and kept quiet below the concrete bulk of the building, was engaged with to redraw the building, and to render it as a co-authored architecture.

Drawing, modelling, photography, and digital collage were used interchangeably in a process of imagining Ground’s (co-authored) architectural agency. Unlike the previous experiments, the investigation at Buckle Street responded to an existing architecture. Completed in 1936, the Dominion Museum Building by Gummer and Ford Architects was designed to consolidate nationalism beyond colonial beginnings. It was commemorative of a partial shift from Empire, following the First World War. I choose to re-sketch and destabilise this nationally historic building as a way of dismantling my own settler colonial preconceptions and understandings. In redesigning/redrawing the building, I engaged the practice of drawing architecture to further an exploration of my and architecture’s relation to Ground.

Sectional cuts allow the drawings to engage with the thickness of Ground, and this method was employed to think through how Ground beneath the existing building could be reactivated. A series of sectional drawings of the museum were sketched, progressively increasing in scale and architectural complexity. These were understood as sites of thinking, providing critical space for construction and questioning, and for allowing the depth of Ground to have agency. At stake was a questioning of the “thick complexity of the cultural processes which have shaped it.” The sectional sketches drew Ground beneath the building and caused the existing museum to be erased and redrawn, influenced as it was by the form and material dynamics beneath it (Figs 7, 8).

Concept models were made that attempted to spatialise the sectional sketches. These were designed as gossamer light
structures hovering above Ground’s surface, and implied a lightness of human intervention in comparison to the depth and thickness of Ground (Fig. 9). Light fabric-like materials displaying intricate surface textures developed from sketches of the ground and encased the architectural forms, which were elevated above Ground on thick white plinths.

The final design for the redrawn museum was a series of sketched sectional drawings scaled from 1:100 to 1:10. These drawings present a reinterpretation and reimagining of the original building, as if it were to emerge from Ground itself. The resultant architecture proposes to physically reveal the material ground, while the tectonics, spatial composition, and atmosphere seek to embody the characteristics of drawn Ground (Fig. 10). The proposed design rests in a tentative state of construction, using impermanent, movable fixings, and tent-like draped fabrics to construct spaces and walls. The redrawn, remediated museum, its architecture influenced by Ground, puts the future of human intervention on Ground in question (Fig. 11).

**Conclusion**

By giving Ground agency through an imagined co-authorship between me and Ground, the relation I have with Ground was highlighted. I discovered this relation was turbulent, figured by enormous complexity and difficulty, yet has vast possibilities for architecture. The work highlighted a necessary ontological shift, not only for me but for all Pākehā, in thinking about our relation to Ground in Aotearoa. The drawing process was a critical space for constructing and questioning these complex relationships through an architectural lens. By allowing architectural sketch drawing to become a thinking tool, ideas were allowed to remain open-ended and contingent in concert with the subject matter of the research; sketching allowed me to position my relationship as active and in open dialogue.

A number of insights have emerged from this research inquiry. Most significantly, drawing allowed me to understand my relation to Ground from the perspective of a Pākehā. This highlighted a turbulence in the relationships of living on and with Ground, but also in understanding how architecture can be designed with and within it. “Drawing Ground” points to how architecture might go beyond mastering Ground, instead becoming a complex shared authorship.
NOTES


3. For Māori, whakapapa describes genealogy or a line of descent connecting the present to ancestors and in turn to whenua or land, and hence to ground in a living sense. Being non-indigenous, my whakapapa runs through Aotearoa to the birthplace of my earliest ancestors in The Netherlands.


