WHAWHAU X TO BIND

SARC 312/412 Furniture Design

2021

Stantiall, Ian. *"The Living Pa."* Victoria University of Wellington, 2020, www.wgtn.ac.nz/victorious/issues/victorious-2020/the- living-pa.

Victoria University of Wellington Te Herunga Waka

Natasha Perkins

SARC 312 / 412

2021

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Rhonda Thomson & Lincoln North of The Living Pa Project team.

Nat Perkins - Course Coordinator

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Dr Rebbeca Kiddle

Caitlyn Lee

Bobby Luke

Phil Nelson

Hamish Morgan

Maibritt Pedersen Zari

Local Manufactures + Suppliers

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* These are independent projects

Whawhau means to bind together. As an elective course of third and fourth-year furniture design students we bring together the inter-generational knowledge that informs Te Ao Māori, the Living Pā project at Victoria University of Wellington Te Herenga Waka, and the true history of Aotearoa New Zealand. We do this with the aim of designing a piece of furniture for the Living Pā that encompasses Te Ao Māori and circular design. We thank Rhonda Thomson and Lincoln North for providing us with a brief; David Hakaraia for teaching us the importance of design narratives; Bobby Luke for educating us on whakapapa in design; Maibritt Pedersen-Zari for encouraging the use of biophilic design; Rebecca Kiddle for providing us with a correct history of colonisation in New Zealand and the continued impact this has on Māori today; Steven Almond for his understanding of circularity in design; and Natasha Perkins for her guidance, leadership and tautoko.

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As a predominantly non-Māori class we are at the start of our journey in engaging with a Māori world view and understanding our requirement as students to honour Te Tiriti o Waitangi. The patience given to us in this process is appreciated.

Ways in which students have interpreted the brief range from pragmatic to conceptual and so collectively, we present to you Whawhau/To Bind Together. This is an exhibition of our conceptual mahi as emerging furniture designers for The Living Pā project – a Living Building Challenge collaboration with Tennent Brown and Te Herenga Waka.

A PIECE OF NATURE

Tom Baxter - 3rd Year Architecture

Designer Tom Baxter engages with concepts of biophilic design, the living building challenge, and Māori lashing techniques in his plant stand A Piece of Nature. Recycled rimu is used for its frame complemented by handmade objects and natural materials. The need for fasteners is removed through dado joints and sisal rope lashings which connect the legs to reclaimed rimu tongue and groove floorboard platforms.

āori lashing techniques used for housing and shelter. This construction binds notched ridge boards and pole framing using harakeke flax fibre ropes, utilising the strength of a locally abundant material.

A recycled bluestone core from Timaru establishes connections to Baxter's whakapāpā, whilst defining a dialogue with the timber and the ponga fern. In this piece the rimu stand acts as the pith of the ponga, that roots into the ground connecting to the bluestone. Finished with a light coat of natural oil, the rimu's grain is restored creating a natural contrast between itself, the sisal rope and the ponga fern that sits on top.

MOVEMENTS

George Gibson-Harris - 3rd Year Architecture

In Wellington, the wind plays a significant role in how we experience space. The Movements wind sculpture seeks to heighten the perceived sensory experience of wind to celebrate its beauty. Layers of sheer drapery move and flow with minimal air movement, animating something we tend to ignore. This is a reminder to connect with the fundamental elements of our natural environment, something which many of us are disconnected from in our modern lives.

From two components, a spinal core of stainless steel, and layers of fabric drapery, a sculpture suitable for interior and exterior display is made. This allows it to be used in multiple different sPāces throughout its lifecycle ensuring reuse in a circular economy. Locally produced fabrics provide options that reflect its place. For this prototype sheer silk was used, however with a greater budget it would have been possible to use a woven fabric from a local craftsperson.

ADJUST - TABLE

Kasey Hillary - 3rd Year Industrial Design

The Adjust–Table is derived from the low tables used by Māori for craft and eating, which required the user to be seated on the floor. Through using this historical precedent, the Adjust–Table seeks to reinstate a connection to Māori practices which is student centred providing healthy spaces to study, socialise, and eat.

Health professionals have found anecdotal and clinical evidence that sitting on the floor is better for the human body as it “maintains the natural curvature of the spine”. The act of sitting on the ground connects people with the earth, exploiting a phenomenon referred to as ‘grounding’ or ‘earthing’. With potential benefits of decreased fatigue, chronic Pāin, anxiety, depression, and blood pressure.

Reduced stresses on the body also improves posture, strength, flexibility and prevents lower back pain. Therefore, the Adjust–Table is beneficial to students, encouraging them to sit on the ground, rather than in a chair. Adjustable from a two person to four-person table, agency is given to students which encourages personalisation, congregation and improved wellbeing.

HUIHUI

Harrison Mills - 3rd Year Architecture

Huihui means to put or add together, come together, meet, gather, assemble, or congregate. This concept of Huihui has informed the design of the chair. Through prioritising durability and quality, the chair will last much longer. For this reason, a strong steel frame and replaceable seating material have been selected, allowing restoration if needed in years to come. A unified curve is a line made up of many smaller curves which I believe reflects this principle of unity. This principle is a big part of the Te Herenga Waka Marae as they encourage community through bringing people together. Another form of inspiration used was the structure of DNA and the double helix shape which symbolizes the identity of every individual. Overall, this chair achieves all my aims for this project. Huihui provides a functional and aesthetically considered option for people to come together, meet, gather, assemble, congregate.

SCRUNCH

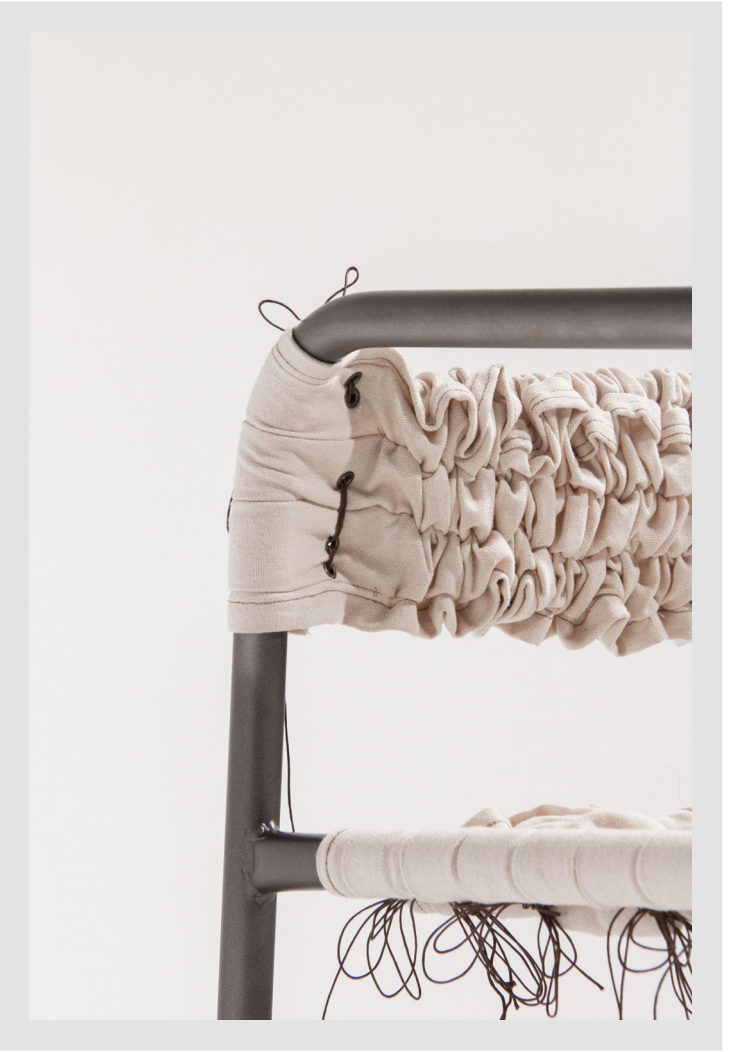
Jack Monk - 3rd Year Architecture

Scrunch is chair designed for the Living Pā by Jack Monk. It engages with sustainable material selection and reuse driven by the standard of environmental awareness set by Victoria University of Wellington's Living Pā project. Scrunch's angular design allows users to sit alone and read comfortably in a corner while short enough to slide partially under a desk. It's recline also allows it to be also used as a comfortable lounge chair.

Scrunch reduces material usage through an alternative approach to upholstery which retains comfort and style. Its upholstery consists of five components; steel eyelets, 25mm elastic, recycled heavy-duty cotton fabric, and sisal twine to tie the ends together. Fabric pieces are sourced at three times the size of the final product, then folded and sewn to the correct sizing to provide volume and cushioning. This may be counter intuitive from a sustainability standpoint; however, it limits material type reducing shipping and production emissions.

Material reuse occurs with a frame of 25mm steel tubing constructed from engineering offcuts (the longest at 1300mm and smallest at 500mm). In this design the diameter of the steel can be changed so long as it is not too thick to be bent and greater than 18mm in diameter to ensure stability.

The scrunched form within the fabric reinterprets the textiles technique of smocking. The difference between the technique used and smocking is the proportion of material needed, smocking uses interwoven threat whilst the upholstery uses looped fabric and elastic. This creates an entirely unpredictable and unique form that moulds to the user.



DUAL SEAT

Julia Sasse - 3rd Year Industrial Design

Dual Seat provides two different seating positions, one for independent study and one which is outward looking prioritising social connections. Dual Seat responds to the level two bridge connection in the Living Pā, which as space beside circulation could provide opportunity for convertible street space. To facilitate convertibility the Dual Seat has a curved desk top edge which provides a backrest when the user sits reversed. To further define the space multiple units of the Dual Seat can be aligned to create a long bench.

Form and material selection address principles of the living building challenge. This prototype uses 19mm steel tube, which has been CNC bent and TIG welded. The seat and desk covers are laminated from multiple layers of flexible plywood. While steel has high embodied energy, it is also extremely long lasting. This means that ideally a steel chair will have a long-life span reducing excessive replacements that could occur. Steel is also easily recycled without material degradation. Using plywood for the seat and desk creates comfortable points of contact for the user of the seat, whilst also integrating a renewable material. Designing the parts of the seat so that they are easy to disassembled will mean that it will be possible to repair and replace parts of the furniture piece.

SHAPED BY THE SEA

Caleb Skene - 3rd Year Architecture

Designer Caleb Skene originates from Ōtautahi, Aotearoa. His Whakapāpā and taha wairua can be linked to the South Pacific Ocean, where he enjoys surfing and swimming. This piece explores his relationship with the environment and acknowledges the Māori belief that water is a living energy possessing a myriad of characteristics, shapes, and moods. Skene focused on creating a functional artwork which gives equal importance to function, project theory, and art. The ottoman is designed to reflect rolling waves and embodies the many characteristics and forms of Tangaroa/sea in an abstract representation. The steel frame utilises recycled 665 steel reinforcing mesh, which has been ground, sanded, welded, and then powder coated for improved structural longevity. The cushion is proposed with Camira's Oceanic Bay fabric, which is comprised of 100% post-consumer recycled polyester, including 50% Seaqual yarn. Seaqual yarn is made from marine litter collected by the Seaqual initiative, who focus on creating cleaner oceans and fighting plastic pollution. The internal Pādding is a combination of recycled foam chip and a 100% biodegradable coconut coir base. This combination of recycled and biodegradable materials follows the circular design methodology by enabling multiple uses of a material, as well as reducing wastage through increased product longevity. Independently, each vertical steel rod takes shape a different characteristic of Tangaroa, collectively forming one large rolling wave which peaks at the top platform. The orthogonal platform, which acts as the main supporting structure, represents the smooth stillness of the ocean after a storm and pays homage to the material's gridded origin.

RECYCLED ASSEMBLAGE

Dilan Savage - 3rd Year Architecture

The kaupāpā of The Living Pā is to create a place for everyone and everything - to unite as one and create a place where every person inhabiting a spāce feels welcome. Recycled assemblage reflects this notion as it is an assemblage of unwanted offcuts and pieces coming together and uniting to form one cohesive piece of furniture.

To align with sustainability goals and the living building challenge, the coffee table uses recycled timber and material found around the university campus, home and various workshops. The table itself is constructed with recycled rimu, a recycled MDF table top and various offcuts, which join together with dowel joints and screws. It is then stained to reflect and express the beautiful grain of the rimu timber.

As the coffee table is an assemblage of offcuts and recycled pieces, it would be easy to produce inherently unique tables that all reflect the same narrative and overall concept. These tables could then be placed around The Living Pā to create one cohesive furniture installation.

ELEVATE

Aaron Tang - 3rd Year Architecture

Elevate, the height adjustable laptop and coffee table caters to the variable sizes of occupants and seat heights available. As occupants of universities vary there are health benefits to tables which can accommodate rather than exclude or control. An adjustable table reduces the need for excessive product consumption chairs are adjustable, why not tables?

Elevate is made of plywood utilizing a binding agent called green glue. It is a bio-based renewable glue created to be more environmentally sustainable with a reduced carbon footprint over traditionally plywood. Traditional plywood uses of formaldehyde resin toxic and detrimental to our health.

Formally, the elevate table is modelled after the plentiful mangrove trees of my home country. The table legs are like the roots of the tree, which converge into the tree's base. Moving up the trunk the form would sway to a side then fork out again like branches. On top the tabletop is akin to the foliage of a mangrove tree. I settled upon using a linear ratchet system to provide height adjustability.

LENS TO SPACE

James Evans - 4th Year Architecture

Lens to Space aims to intrigue users with internal mechanisms, that reveal the inside of the table. It opens to the sky and stars reconnecting users to the vistas polluted by buildings and emissions. From the Living Pā brief, it had to fit a circular economy model and relate to the ideas of the site and culture.

The 800mm high table has a layered top plate with a hole cut out of the centre. Holding it up is a stainless steel ‘telescope’, inverted so that the largest band is at the top. Down below is the thick base holding up the furniture. On the inside of the banding is the secret layered transparent acrylic etching of Matariki, acknowledging māori inhabitation of the site. The materiality of the prototype is not the material specified for production. Ideally the acrylic would be replaced with recycled glass panels to reduce the environmental impact of production. The metal banding would likely use recycled ventilation ducts.

CONSTANTLY UNDER REVIEW

Lucia Graham - 4th Year Interior Architecture

In this independent research project, designer Lucia Graham in collaboration with the Athfield family, has designed a brass and Oamaru stone bench for the Sir Ian Athfield memorial which sits halfway up to their Amritsar street property. This bench is inspired by the Japānese philosophy of wabi sabi, celebrating the imperfect, impermanent and incomplete.

Constantly Under Review will mark a place to reflect and remember Sir Ian Athfield. Embracing the iterative and exploratory nature of the Athfield's house while acknowledging his consistent use of white finishes, Oamaru Stone mimics this materiality while offering a different tactile experience. Its raw quarried stone is juxtaposed by brass disks offering a place to perch. These disks will be commissioned pieces by Paul Dibble a well-known New Zealand brass craftsman.

THE FORBIDDEN SYMPHONY

Henry Mabin - 4th Year Architecture

In this independent research project, this piece investigates how architecture can be represented as furniture through scalar exploration. It is an experimentation driven by maritime and parametric aesthetic, producing a unique design that fuses the realms of architecture and furnishing. Details were derived, in combination, from ‘the machine, precedent tension systems and speculative architecture.

Studies on Dutch painter Constant Nieuwenhuys rendition of New Babylon were conducted, analysing how a singular mast, or multiple mast, interact with secondary supports to create asymmetry. These speculative paintings provided the foundations for interpretation. A constant dialogue between architecture and furniture, with joint details being the chosen medium of exploration.

This furniture narrative continues with its function as a vinyl holder.
The introduction of music allowed for poetic connotations to emerge through parametrics, a style consistent with previous furniture
pieces.

THE ‘RECONSTRUCTED’ CHAIR

Ayla Murphy - 4th Year Architecture

The Reconstructed Chair is not the most perfect or the most polished piece of furniture, in total it cost $8 for the recycled materials and was manufactured at home in three days.

The chair was not designed as a high-end production product but a one-off piece of furniture which seeks to embody the themes of circular economy and highlight the problem of construction waste in both its appearance and design.

The chair also features the minimum number of materials possible ensuring that it continues to contribute to circular economy through recyclability at the end of its life. The steel reinforcement bar used for the frame was left over from a construction project while the underfloor insulation used for upholstery foam was rescued from a local demolition site off Taranaki Street. The upholstery fabric was found at the Wellington landfill and served a previous life as a duvet cover while the buttons recycled from it secure the cushions to the chair frame while allowing them to be removed for repair or replacement.

Patterning on the cushion’s surfaces comes from a rust dying process making use of the rust from the rebar used in the frame as part of the cleaning process. The result is a unique design that maximises the potential of the materials and the concept of recycling clearly expressed in the visual appearance of the furniture.

KAPU

ZJ RUAN - 4th Year Architecture

The concept of Kapu was inspired by the disorganised locker arrangement in the university studio. The initial goal was to create a shelf that provides an authentic taste of the space, while also allowing for the flexibility to arrange the space. Throughout the research, sustainability was a key driver consideration of the material and current market, that significantly impacted the design development to meet its purpose. Man-made timber has been recycled into the glued board, such as MDF, chipboard, and plywood, which cannot be recycled and therefore should be reused. As a result, Kapu's design direction has shifted from using new materials to developing a system by reusing waste boards such as furniture and joinery panels. As an outcome, a strong timber joint system must be able to accommodate most types of wasted timber board, and provide users with a simple functional system rather than self-assemble. As a result, Kapu will be in a ready-made cube in a variety of sizes. To add more delight to the design, the idea of using wasted window glass as sliding panels to a partition has appeared, which can be enhanced with other materials. In addition, the door panel can function as privacy screen. The goal of Kapu is to remind people that 'used material' can be beautiful again, become functional, and inspire the public to create a sustainable environment.

OPEN LAMP

Alfonso Salud - 4th Year Architecture

Designer Alfonso Salud invites occupants to open and reach out. The Open Lamp is a piece of furniture not meant to be used as a traditional lamp, instead one which connects the user with the natural. The lamp invites the user to touch, spin, and feel the timber material.

Considering its environmental impact, reclaimed native timbers such as rimu, kauri, and matai are utilised. Furthermore, the process of creating the design is reliant on creating the smallest possible carbon footprint thus requiring the least amount of processing. To account for this the project will be made by hand and will limit the amount of non-biodegradable resources it uses. Because of this the project will not be as accurate as if it were done through machine guided measurements, however this will emphasize whakapāpā in the materials used, which in post-colonial times, were processed by hand without the use of fixings. The imperfections bring the project towards the natural, rather than the artificial.

WAI MANU

Ben Waddington - 4th Year Architecture

The Wai Manu wash basin seeks to provide a locally crafted and environmentally low impact alternative for the Living Pā project. It responds to critiques of poor ergonomics, difficulties with maintenance, and the typical standardization of furnishings in public bathrooms. Early concepts considered amplifying user engagement with water through formal or sensory experiences, later transitioning to considerations of functionality in development. Clay was used as a malleable tool for iterative development leading to a range of successful concepts that carried through into prototyping. A slotted drain aligned to the faucet, a sculpted angular interior which accentuates length, and a Parallel alignment of the tap to the user to improve access, stem from this design processes. Prototyping involved research into ceramic and copper materials alongside processes of slip casting, CNC milling, glazing, hand building, pipe bending, and polishing.

New Zealand halloysite clay from Matauri Bay, and reclaimed copper plumbing pipe from the demolition of the existing villas on the site of the Living Pā are used with the intent of minimizing environmental harm and recognizing embodied energies in the process of making. Beyond appropriate material selection, the circular economy model is embraced through proportions that consider reusability within alternative bathroom configurations. Further developments should explore and address identity through local craft, perhaps implementing varying finishes used by potters within the region.

APO

Liv Ward - 4th Year Interior Architecture

Apo was born from the need to decolonise and consider the environmental impact of the spaces we inhabit and objects we use in everyday life. The Living Pā project and the implementation of the living building challenge sets standards which the contemporary designer must rise to.

Liv is a Pākehā designer and wants to acknowledge the use of mātauranga Māori to inform the concept of her project. This is done with the utmost respect, integrity, and humility. She understands that as a wāhine Pākehā, it may not seem appropriate to use tatai arorangi as a basis for her design. However, Liv believes Pākehā need to play an active role in learning about mātauranga Māori to decolonise and remove the divide in our post-colonial nation, letting Māori lead in this process.

Circularity is integral in what we create as designers moving forward, ensuring the liveability of the whenua. **Apo** is sewn out of recycled muslin sourced from the Wellington region. I acknowledge the tapu associated with recycled materials but want to work within the brief to be as environmentally friendly as possible. As an interior architecture student, through **Apo** Liv fosters a space for people to gather and korero. The physical object is important but the antics that occur under the sculpture matter more. As designers we are optimistic of how our spaces and objects that will be used, it is my hope that **Apo** will be the genesis of a safe space for all people. **Apo** as a project remains unfinished but serves as a symbol of my values as a designer: decolonisation, social equity and care for the natural environment.