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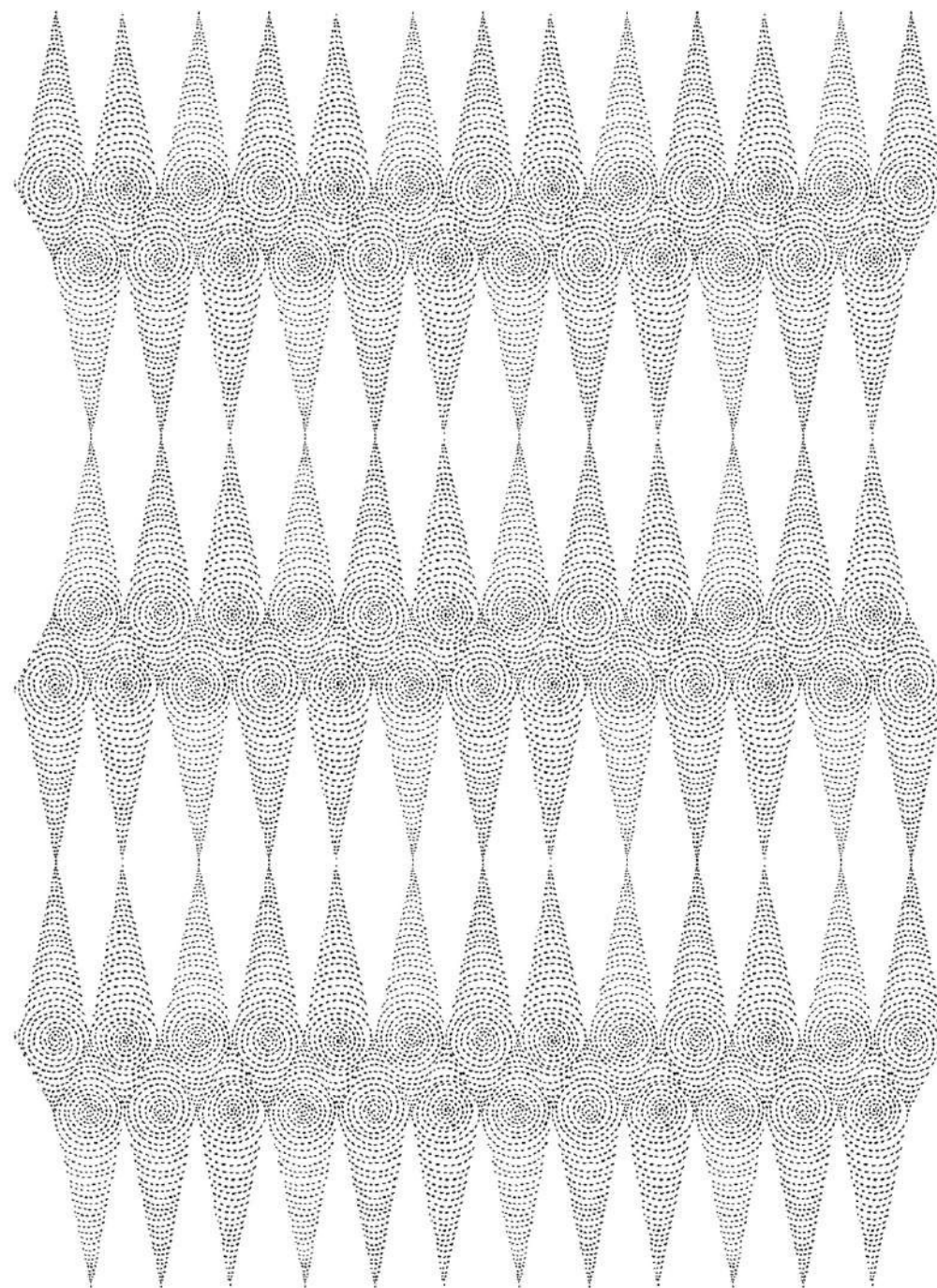
A Spatial Exploration of Soundscapes of Birds in the
City inspired by the Traditional Indian Art of
K A L A M K A R I

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An exegesis submitted to Auckland University
of Technology in partial fulfilment of the
requirements for the degree of Master of
Design

2020

School of Art & Design
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ABSTRACT

The disordered world around us manifests itself through noise. This research project entitled *Shor*, a Hindi word for noise, explores how patterns can be formed from listening to familiar and unfamiliar birdsong to establish a sense of emplacement in an unknown land. My research positions my journey of emplacement in Tāmaki Makaurau (Auckland) through the spatialisation of birdsongs using inspiration from the Indian heritage art of Kalamkari. Coming from the realms of rich Indian mythology, stories, and symbolism, I am reimagining the invisible sense of sound as patterns and motifs that have left an imprint on my state of being. I have proposed a walking methodology for the sonic cartography of places in the city where I discover known and unknown sounds. By recording and interpreting these acoustic cues through drawing and mark-making, I am developing a new visual language to delineate my attachments with this new place. While keeping inspiration from the traditional Kalamkari art, and using digital software to design, replicate and screen print the sound motifs on different textiles, I am exploring new ways to reinvent the heritage art. This project aims to share this newfound knowledge through surface design, where I manifest surfaces that tell my story of belonging.

ATTESTATION OF AUTHORSHIP

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the Acknowledgements), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

Signed:

Date: 04-12-2020

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ACKNOWLEDGEMENTS

I would like to acknowledge and offer my sincere thanks to all the extraordinary, talented and wonderful people who invested their precious time and contributions to this body of work.

Many Thanks To

-My parents, without their support, I wouldn't be able to pursue my dream of studying in New Zealand, and my brother, who keeps me humble.

-My Supervisor, Rachel Carley, who always challenged and pushed me to do better. I would also like to thank Carl Douglas and Susan Hedges for their guidance throughout my research journey.

-Helen Klisser During, for your immense support, appreciation, encouragement and networking, I will always be grateful.

-Phil Dadson, for giving me your precious time and sharing your knowledge and wisdom.

-Eleanor Da Fonseca, Max During, AD Narayan, Rukhsar Keshwani and Bhavin Vithalani, for always being there, and I am proud to call you my friends.

-Daniel Voice, for your unconditional love and support during stressful times and your valuable teachings and contribution to the photography of my work.

-My fellow peers, Shivneel Prasad, En torng Sung, Mette Hay, Hannah Sames, Rosanna Raymond, Ahysa Tang, Katie Twisleton, Sharon Tugia, Adam Jenkinson and Julia Mapusua who listened, engaged, shared feedback and supported my creative endeavours.

-My advisors and technicians Struan Hamilton, Harold Barton, Angus Roberts, Matthew Davis, Glenn Maxwell, Peter Heslop, Galina Joukova, Fleur Williams, Suzie Gorodi, Greg Thomas, Eddie Clemens, Cameron Ab Loo-Matamua, Hans Tommy, for their creative inputs and suggestions. (Special thanks to Greg Thomas, Galina Joukova, Fleur Williams, Angus Roberts, Eddie Clements, and Matthew Davis, for your time, excellent skills and workmanship to help me bring together my final exhibition artefact).

शोर

*Come, let's go for a walk, don't forget to carry
your jacket, as it might be cold. Pay attention to
your desires, mind your footsteps, take a deep
breath, listen to the birdsongs, feel all the
textures, and immerse yourself into the heart of
the city.*

INTRODUCTION

Three years ago, while travelling, I visited a textile woodblock printing centre in Gujarat, India, which used natural dyes, and cotton to create pieces of everyday use fabric. I was fascinated to witness handmade textile printing in an era of digital printing, which intrigued me to look further into India's various hand-painted and woodblock printed textiles. This is where I stumbled upon Kalamkari textile art, whose patterns and motifs were more familiar to me in the form of kurtas¹, beddings, wall hangings, dress material and my mother's saree.²

Indian fashion designer Pooja Purohit explains that Kalamkari is a three-thousand-year-old textile craft originating from the state of Andhra Pradesh in Southern India, which uses natural dyes made from fruit and vegetables to either hand paint or woodblock print on a cotton cloth.³ She further explains that there are two main styles of Kalamkari depending on the motifs, patterns, and techniques of making.⁴ The original style is Srikalahasti, which uses a "Kalam" or a bamboo pen to hand paint stories from Hindu mythology.⁵ The primary purpose of Srikalahasti style was to propagate the word of god by wandering groups of singers, musicians, and painters called 'chitrakars'.⁶ The chitrakars travelled from village to village carrying a hand-painted cotton cloth with Hindu mythological stories on it.⁷ This hand-painted cloth was used as temple tapestry to narrate the mythical stories.⁸ Kalamkari was used to visualise and spatialise a mythological tale.



Figure 1 Archana Bhurke, My Mother , Sneha Bhurke, wearing a Kalamkari saree with the peacock motif, 2019, Mumbai.

¹ 1 Kurta is a loose collar less shirt worn by both men and women in South Asian countries. A kurta is traditionally made of cotton or silk.

² Saree is an garment typically worn by Hindu women in India. The word Sari or Saree originates from a Sanskrit word sati meaning "a strip of cloth". It consist of a long piece of cotton or silk which is typically wrapped around the waist, and one end draped over the shoulder, baring a portion of the midriff.

³ Pooja Purohit, "The Study of Traditional Handprinted Kalamkari to Design a Set of New Age Prints," (Dissertation Project, NIFT, Ministry of Textiles, Government of India, 2013), 11.

⁴ Ibid., 11.

⁵ Ibid., 11.

⁶ Chitrakar is a Sanskrit word meaning image maker.

⁷ Ibid., 12.

⁸ Ibid., 12.

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Figure 2. Temple Cloth, From Tamil Nadu made in late 18th to 19th century, Victoria and Albert museum, London, <http://collections.vam.ac.uk/item/O130708/temple-cloth-temple-cloth-unknown/>

The other style is called Machilipatnam, advocated by the Sultans of Golconda⁹ and Mughals¹⁰ with Islamic influence in the early 16th century.¹¹ Machilipatnam style uses a hand-carved woodblock printing technique, depicting motifs and patterns of exotic flora and fauna such as the deer, tiger and peacock showing the fondness of the Mughals for the wildlife in India.¹²

Kalamkari was coined by the Sultans of Golconda, which translates 'Kalam' meaning 'pen' and 'Kari' meaning 'art'.¹³ What piqued my interest in this traditional art form is the patterns, motifs and their symbolic meanings. Some of the recurring motifs on my mother's saree were the peacock and the parrot. Indian Researchers Veenu, Charu Katare and Renu Bala Sharma mention that the peacock is the 'vahana'¹⁴ or vehicle of Hindu goddess Sarasvati¹⁵ and its motif on fabric symbolises love, beauty, immortality, courtship, fertility, celestial regalia, divine forces and virtuous strength.¹⁶ Hence the peacock motif is mostly found on fabrics that are worn by women. The parrot is the vahana of Kamadeva¹⁷, the god of love and sex in Hindu mythology and its motif

symbolises passion and courtship.¹⁸ The parrot sometimes is also depicted as the narrator of the epic love story of Lord Krishna and Radha in Hindu mythology.¹⁹ The peacock and parrot show a strong connection and symbolism to my religion and culture. They were not just adornments on fabric but had narrative linked to them in the mythological realm as vehicles of gods or goddesses and symbols of fertility. These bird stories have been a part of my life as I grew up in Mumbai in the form of mythical tales and folktales as a way of learning the Indian culture.

⁹ The Qutb Shahi dynasty ruled the Golconda Sultanate in south India from 1518 AD to 1687 AD. The Qutb Shahis were descendants of Qara Yusuf from Qara Qoyunlu, a Turkoman Muslim tribe. The "Qutb Shahi" dynasty was established in 1518 AD by Quli Qutb Mulk who assumed the title of "Sultan". Sultan is an Arabic word meaning strength, rulership.

¹⁰ The Mughal empire was an early modern empire which controlled much of South Asia between 16th to 19th centuries.

¹¹ Ibid., 15.

¹² Ibid., 17.

¹³ Ibid., 15.

¹⁴ Vahana is a Sanskrit word meaning that which carries or that which pulls. It is usually an animal or a mythical entity used by the Hindu deity as a vehicle. It's also called as the deity's mount. Deities are often depicted riding their vahana or by their side as a symbolic divine attribute. Positive aspects of the Vahana are an abstract representation of the deity it carries and the deity subjugates the negative aspects of

the vahana. For example positive aspects of the peacock are fertility and courtship while the negative aspect being vanity.

¹⁵ The goddess Sarasvati is often depicted as a beautiful woman dressed in pure white, often seated on a white lotus, which symbolizes light, knowledge and truth. She not only embodies knowledge but also the experience of the highest reality.

¹⁶ Veenu, Charu Katare, and Renu Bala Sharma. "Symbolic motifs in Traditional Indian Textiles and Embroideries." *International Journal of Research in Economics and Social Sciences* 6 (March 2016): 315.

¹⁷ Kamadeva is the Hindu god of human love, lust and desire.

¹⁸ Ibid., 315.

¹⁹ Ibid., 315. Lord Krishna is one of the major deity in Hinduism. He is worshiped as the eighth avatar or incarnation of god Vishnu on earth. His iconography shows the stages of his life as a toddler eating butter, or a young boy playing flute in the company of his lover Radha (Goddess of Love and compassion in Hinduism) or a friendly charioteer counselling Arjuna (protagonist of Indian epic Mahabharata).

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Figure 3 Fragment of kalamkari (hand drawn mordant- and resist-dyed cotton), white background with a lattice pattern of red and purple flowers, Machilipatnam, c.1855, Victoria and Albert Museum, London, <http://collections.vam.ac.uk/item/O1247038/kalamkari/>

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Figure 4 Textiles, Machilipatnam, Victoria and Albert Museum, London, <http://collections.vam.ac.uk/item/O455457/kalamkari-with-gold/>

I arrived in Tāmaki Makaurau (Auckland) one year ago. It is a tranquil, grey and formal city when compared to Mumbai, which is chaotic, vibrant, and densely populated. As a woman who has never lived alone and away from family, I found myself struggling to find a sense of belonging in a new place. The undulating terrain here with unfamiliar flora and fauna have further caused me to be misplaced. Coming from Mumbai, one of the noisiest cities in the world, I found Auckland comparatively silent, and so I yearned for sounds that were a part of my everyday life back home. The urban hum here is so faint that I was naturally drawn to discover sounds that were unique to this place. Some mornings, I would wake up to the Myna bird screeching outside my window, reminding me of my home. Moreover, some evenings, while strolling in Albert park, I was again unsettled by a range of strange sounds made by the indigenous Tui bird. Listening to these birds made me nostalgic about the “Tota (parrot)-Myna”²⁰ stories I heard as a child, and the bird motifs on my mother’s saree. Ever since I discovered these birds through their sounds while walking through the city, I wondered what their sounds would look like.

As a spatial designer, my research question seeks to explore how can I map and spatialise bird sounds in Tāmaki Makaurau using drawing, mark making, pattern and motif design inspired by the traditional Indian textile art of Kalamkari to narrate my story of belonging in a new place?

²⁰ Tota and Myna bird stories are prevalent in Indian literature and culture tracing back to a Sanskrit source called Saptashati.



Figure 5 Archana Bhurke, A view of city from my home, 2019, Mumbai.



Figure 6 Archana Bhurke, Auckland city, Lorne street, 2020.

Shor²¹ is a spatial exploration of the soundscapes of the two birds, Tui and Myna in Tāmaki Makaurau using the traditional Indian Textile art of Kalamkari. This research is made up of three parts. First is the underlying contextual framework that explores how birdsongs play a role in placemaking. I explore surface design through Kalamkari art as a cultural catalyst that helps me to narrate my journey of belonging in Tāmaki Makaurau through the motif and patterns of birdsongs.

The second part of this design research uses sensory-ethnographic, practice-based methodologies and psychogeography to comprehend my elusive entanglements with the places that I now occupy. It investigates how mapping, drawing, motif and pattern making methods can help me to understand the invisible yet evocative sense of sound.

The third part is an analysis of practice that identifies methods that drive my research project. Experimenting with diverse spatial interpretations of pattern and motifs using different materials, surfaces, scale, and layering has guided me to understand how to create an embodied spatial experience.

With these explorations and interpretations, I intend to tell my story of belonging; keeping the Indian heritage Kalamkari art as my thread of genealogy that still connects me to my roots, while thinking, and evolving as a spatial designer in a new place.

²¹ Shor is a Hindi word meaning “noise”. Shor is the ideal metaphor for the liminal state of my being in a new place and also a reminder of the place where I come from, Mumbai. (one of the noisiest city in the world.)

CONTEXTUAL FRAMEWORK

Understanding KALAMKARI

History and Evolution

Kalamkari reflected the evolution of Indian society and was more than just a textile craft.²² India was invaded by many rulers, who reshaped the traditional Indian arts and crafts to suit their religion, culture and trade. Kalamkari is one of the textile art forms that has been able to record the cultural changes in India.

Kalamkari is a three-thousand-year-old textile art, with pieces of evidence of dye painted cloth found in the remains of Indus valley civilisation at Mohenjo-Daro and Harappa.²³ Kalamkari became popular as Hindu temple tapestry under the Vijayanagar kingdom²⁴ from 13th to 17th century AD.²⁵ The temple tapestry was a storytelling medium depicting many scenes, gods and goddess from the epic mythologies of Ramayana and Mahabharata.²⁶ Under the Hindu rule, Kalamkari was religious and sacred cloth. Today, this style of Kalamkari exist as Srikalahasti Style, where all the designs are hand-drawn with a bamboo pen using natural dyes.

²² Ibid., 16.

²³ Ibid., 11.

²⁴ Vijayanagra kingdom was based in the deccan plateau of south India. It was established in 1336, and at its peak it ruled almost all of the southern part of India. It

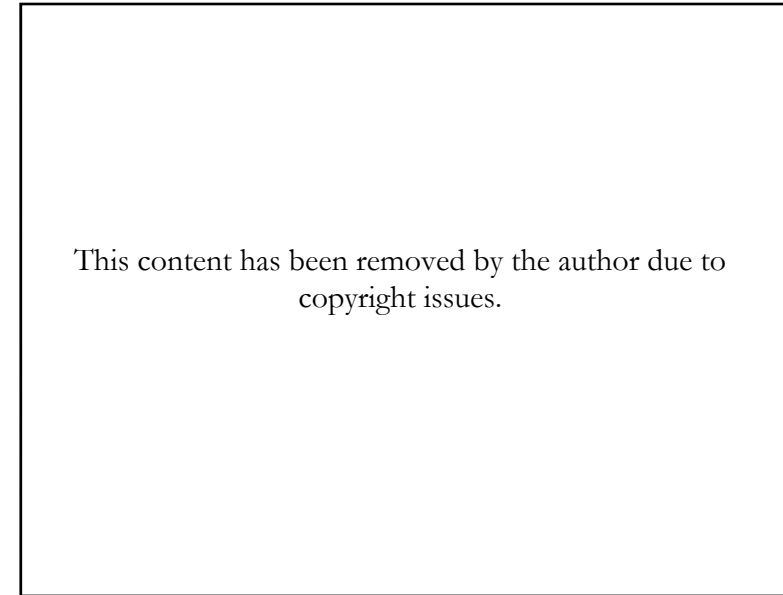


Figure 7. Kalamkari wall hanging, scene from Mahabharata with Lord Krishna and Arjuna, Kalahasti, early 20th century, Salar Jung Museum, Hyderabad, India.

lasted until 1646, although its major power was lost in the battle of Talikota against combined deccan sultante army in 1565.

²⁵ Ibid., 12.

²⁶ Ramayana and Mahabharata are the two famous mytholgical epics of the Hindu religion.

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Figure 8 Kalamkari fabric samples, Tools used in Srikalahasti Kalamkari style, 1985, Museum of applied arts and sciences, Australia, <https://ma.as/35375>

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Figure 9 Woodblock carving for Machilipatnam Kalamkari Style, International craft and artisan network, <http://www.ican-global.com>

The Vijayanagar kingdom was subjugated by Golconda sultanate in 1518 AD, which was annexed by the Mughal Empire in the late 16th century.²⁷ The Islamic rulers took an interest in the Kalamkari art form as an item for trade through the Machilipatnam port in Andhra Pradesh. The Kalamkari designs evolved to suit the needs of trade to Western and South-East Asia. Author Sharad Chandra explains that religious beliefs, traditional ethos, trade, and culture exchanges influenced the development of kalamkari patterns and motifs.²⁸ The designs changed from mythical Hindu deities to Persian influenced motifs and patterns like interlaced leaves, flowers, and birds like peacock and parrots, giving birth to the Machilipatnam style. This shift took place mainly because the Mughals adored gardens as symbolic representations of paradise and so flora and fauna were reflected in the designs.²⁹

Eventually, India was invaded by Europeans in the near end of the 15th century, and they too used Kalamkari fabrics as a trade item. Senior Curator for South Asia, Victoria and Albert Museum, London, Rosemary Crill, mentions that “Portuguese were the first Europeans to encounter this art. Portuguese named it Pintado (spotted), the Dutch called it Sit (painted), and the British called it Chintz; gradually, all patterned fabrics were recognised as chintzes.”³⁰ The foreigners renamed Kalamkari, and its designs were transformed to suit foreign cultures. This led to an exotic hybrid style combining British, Indian, and Chinese patterns, which seized the British market in the 18th

century.³¹ The chintzes were influenced by the crewelwork embroideries, which later took on more Chinese motifs of exotic birds, animals, and plants like bamboos, quails, and pheasants.³²

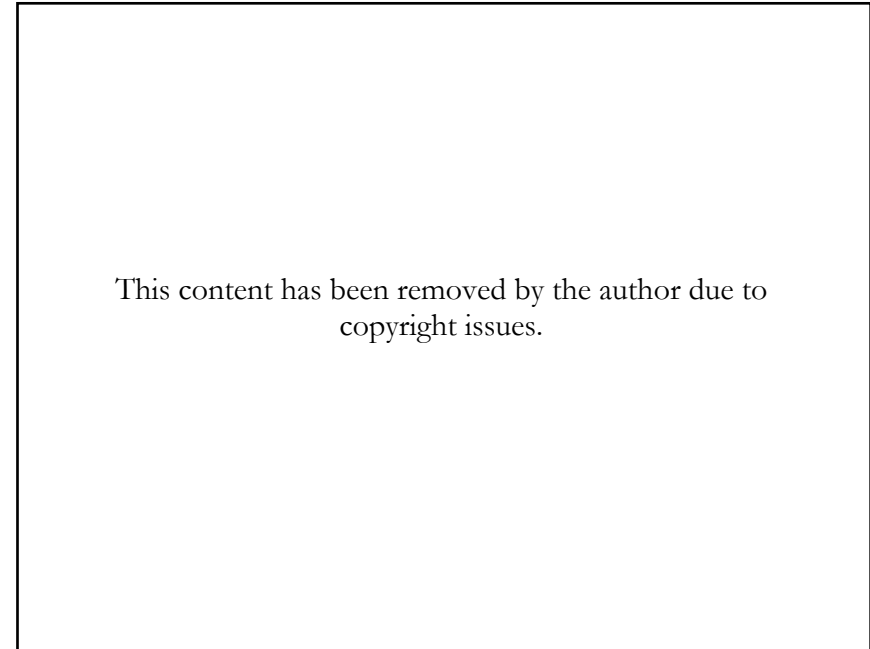


Figure 10 Piece of printed cotton with paisley print, south India, mid-19th century, Victoria and Albert Museum, London, <http://collections.vam.ac.uk/item/O77301/textile-unknown/>

²⁷ Ibid., 15.

²⁸ Sharad Chandra. "Kalamkari, the Art of Painting with Natural Dyes." *Chitrolekha International Magazine on Art and Design* 5, no. 2 (December 2015): 84. <http://search.ebscohost.com.ezproxy.aut.ac.nz/login.aspx?direct=true&db=aft&AN=112975641&site=eds-live>.

²⁹ Ibid., 84.

³⁰ Rosemary Crill, *Chintz: Indian Textiles for the West* / Rosemary Crill; Photography by Ian Thomas (London: V & A Pub., 2008): 9.

³¹ Ibid., 15.

³² Ibid., 21.

Kalamkari heritage art saw a decline in the 18th century.³³ One of the reasons for this was because the English weavers protested against imported goods from India.³⁴ To combat the protest, the British government passed a law forbidding the import of Indian dyed or printed fabrics into Britain except for re-export.³⁵

Another reason was the establishment of the European cotton industry.³⁶ Purohit argues that the main reason for Kalamkari's downfall is that this art was sacred, and the traditional techniques used to produce it were a guarded secret by traditional craftsmen who took them to the grave, without any written records available.³⁷ The bans on the Indian fabric trade and developments in textile printing technology in the 18th century put the Kalamkari workers into extreme poverty, and many master artisans died without an heir to their trade secrets.³⁸

After Independence in 1949, Kalamkari art was revived by local craftsmen and citizens who shared an appreciation for the art in 1952.³⁹ A training school and course were set up for aspiring Kalamkari workers by the All India Handicrafts Board in 1958.⁴⁰ Today Kalamkari fabrics are sold as dress material, sarees, curtains, beddings and many lifestyle products.

³³ Ibid., 25.

³⁴ Ibid., 25.

³⁵ Ibid., 25.

³⁶ Ibid., 24.

³⁷ Ibid., 24.

³⁸ Ibid., 24.

³⁹ Ibid., 25.

⁴⁰ Ibid., 25.

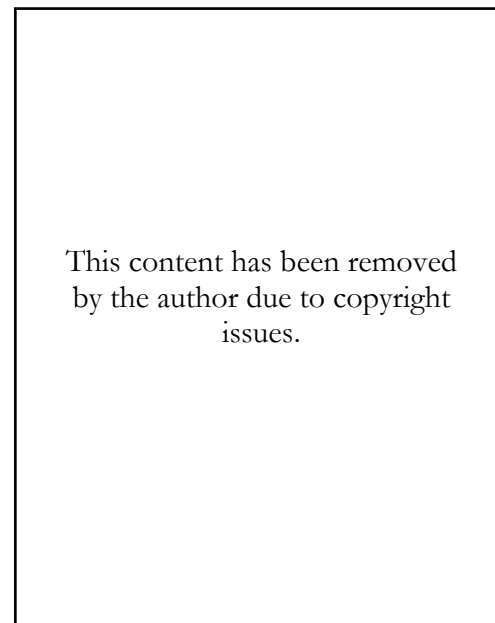


Figure 11 Rosemary Crill, Woman's petticoat, cotton, mordant-dyed and resist-dyed, Coromandel Coast, India, ca. 1750, Victoria and Albert Museum, London, <http://collections.vam.ac.uk/item/O481878/petticoat-unknown/>

Pattern and Motif

As a spatial designer, I feel it is our responsibility to recognise the importance and value of such heritage art that provides a medium for exploring cultural identity through patterns and decorative motif. Multidisciplinary artist and curator Cora-Allan Wickliffe of Māori and Niue descent has revived a traditional dormant art of Hiapo-the Niuean artform of barkcloth painting which is used for traditional ceremonial purposes.⁴¹ In her radio interview on RNZ, she mentions that she employs the traditional Hiapo making methods using ‘ata’ (mulberry) bark and harvested mangrove inks, to draw patterns and motifs that are a connection to her ancestors, land, and sea.⁴² She tells that the Niuean patterns and motifs are unique botanical drawings, referring to the indigenous flora and fauna of the Niue island, unlike the typical Tapa⁴³ cloth, which uses a lot of stencilling.⁴⁴ There were no records and artists in the Niue community who practised this art, Wickliffe had to research and travel to different islands like Fiji, Tonga and Samoa, to obtain this knowledge to make Hiapo from veteran mentors.⁴⁵

All her materials to make the Hiapo painting are harvested from the Niue island.⁴⁶ The process of making the barkcloth itself is tedious and requires several skills for harvesting the mulberry plants, using the machete to obtain the different layers of bark, and beating it to make the

cloth.⁴⁷ She mentions that her artwork has two different forms; one uses traditional motifs for ceremonial purposes, and the second contemporary form singles out a motif and then focuses and reflects on the details of it.⁴⁸

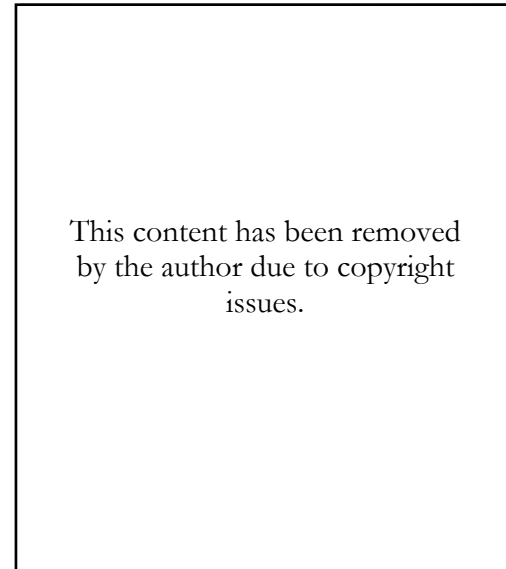


Figure 12 Cora Allan Wickliffe, *Memories, Hiapo and traditional ink* 2020, <http://www.cora-allan.co.nz/exhibitions.html>

⁴¹ RNZ. "Reviving the Lost Art of Niuean Hiapo," September 30, 2020, streaming audio, accessed November 26, 2020, <https://www.rnz.co.nz/national/programmes/ninetoon/audio/2018766235/reviving-the-lost-art-of-niuean-hiapo>.

⁴² Ibid.

⁴³ Tapa cloth is bark cloth made in Pacific islands like Tonga, Samoa and Fiji, but as far as Niue, Cook Islands, Futuna, Solomon Islands, Java, New Zealand, Vanuatu, Papua New Guinea and Hawaii (where it is called kapa). The patterns of Tongan,

Samoa, and Fijian tapa usually form a grid of squares, each of which contains geometric patterns with repeated motifs such as fish and plants, for example four stylised leaves forming a diagonal cross.

⁴⁴ Ibid.

⁴⁵ Ibid.

⁴⁶ Ibid.

⁴⁷ Ibid.

⁴⁸ Ibid.

Being in an unknown place has made me appreciate my connections to traditional Kalamkari art, which had been a part of my everyday life in Mumbai. Kalamkari is my storytelling medium that narrates my story of belonging in Tāmaki Makaurau through patterns and motifs. Listening to the birdsongs of the Tui and Myna is helping me in my process of belonging. Kalamkari art has been employing decorative motifs of the indigenous plants, birds and animals of places it has been through trade, such as bamboos, peonies, pheasants, and exotic quails.⁴⁹ This reinforces my practice of recording the Tui, the indigenous bird of New Zealand. My design practice drives me to reimagine how the birds can be reinvented and abstracted through their sounds, as that is how I discovered their existence in an unfamiliar city.

Kalamkari is made of motifs and patterns that have evolved through time and place over centuries. Katare explains that motif means a symbol, derived from a Greek word called “symbolon” meaning representation or identification of something other than its actual meaning.⁵⁰ I am symbolising the birds through their birdsong, where sound is an attribute of the bird that evokes nostalgia as well as feelings of being misplaced. I am designing sound motifs, where line weights and line character (dotted lines, and curvy lines) are defined by the tone and pitch of the bird calls.

⁴⁹ Ibid., 21.

⁵⁰ Ibid., 312.

Purohit, in her design work, tried to reinvent the Kalamkari bird motif of the peacock and the parrot in a contemporary context, highlighting their coexistence with humans in an urban environment.⁵¹ She juxtaposed the birds with various human-made structures including frames, cages, windows, electric wires, bird feeders, and barbed wires. The use of these human-made structures shows how the birds have learned to live alongside humans in the cities. Although not much innovation was done to depict the bird motif itself, it was very similar to a traditional Kalamkari bird motif. Through my design practice, I am reinventing the bird motif through its calls, the sound through which you recognise the bird. I am imagining and visualising what the sound looks like and interpreting it in terms of lines, dots, and dashes. Drawing sound is helping me understand this invisible form of energy that is involved in my process of transformation as well as using it as a metaphoric way of telling my story of belonging.

⁵¹ Ibid., 44.

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Figure 13 Pooja Purohit, Birds drinking from water bowls design applied on a long skirt, 2013.

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Figure 14 Pooja Purohit, Design of birds on electric wires applied on a jumpsuit, 2013.

SURFACES and STORIES

As a child, I fondly remember my mother reciting a story of the birds as foes turned friends – Tota (parrot) and Myna. The parrot was named 'Mithu' and the myna 'Meenu.' They lived on the same tree and would argue and debate all day long about who was the better singer. One day the other birds who lived there drove Mittu and Meenu out due to their loud verbal duel. Both the birds missed each other's company as they spent the night alone. The next day they decided they would not argue but sing a beautiful song together. Their sweet song delighted the other birds, who accepted them back in the group. The moral of the story was learning how to live together, despite the differences.

My situation of being in Tāmaki Makaurau resonates with the 'agitated verbal duel of the birds' as an internal battle of me negotiating with a new place. The reason for choosing the Tui as the unfamiliar bird sound is due to its comparison to the parrot for being able to mimic human speech and having a range of calls.

The native birds in Aotearoa, New Zealand, also have a vital role in customs and beliefs in traditional Māori⁵² life as they provided food and feathers for adornment and cloaks.⁵³ The Tui, too, is associated with Māori myths and legends.⁵⁴ One tale tells how the Tui got its white tuff feathers on its neck. The story begins with the Māori god of the forests, Tāne Mahuta's concern for the dying trees due to an insect infestation on the forest ground. To solve the problem, he calls upon all the birds—the Kiwi, Tui, Pūkeko and Pipīwharau and asks them to

dwell on the forest floor and sacrifice their wings. All the birds except the Kiwi gave an excuse and refused to offer help. The Tui said that it was scared of the dark forest floor as compared to the sunlit tree canopies. The Pūkeko said that it was afraid of the damp, wet forest ground. And the Pipīwharau said that it was busy building a nest for its family. Only the Kiwi agreed to dwell on the forest floor, and that's how it lost its wings. Refusing to help in a situation of crisis, Tāne Mahuta punished the other birds. The Tui received two white feathers on its neck as a symbol of cowardice. The Pūkeko forever dwells in a swamp, and the Pipīwharau never builds a nest and lay eggs in other birds nest. As a reward, the Kiwi becomes the most loved bird for accepting to help.⁵⁵

⁵² Māori is the name of the indigenous population of New Zealand.

⁵³ Kelly Keane-Tuala, 'Ngā manu – birds', Te Ara - the Encyclopedia of New Zealand, <http://www.TeAra.govt.nz/en/nga-manu-birds/print> (accessed 26 November 2020).

⁵⁴ Ibid.

⁵⁵ "New Zealand Maori Legend - How the Kiwi Lost His Wings." Accessed November 26, 2020. <https://hoopermuseum.carleton.ca/flightless/losewing.htm>.

My design practice involves a metaphoric depiction of my story of 'becoming' using the symbolic motif of the birdcalls of the Tui and Myna in conversation to create patterns on surfaces. As a spatial designer, I have always been interested in surface design as a medium to add character to space, and as a medium to tell a story. Visual and environmental studies professor Giuliana Bruno defines surface as an architecture of relations, a plane of connections, relatedness, and exchange.⁵⁶ For me, the surface is a medium, where a medium is a condition of 'betweenness and has a 'quality of becoming.'⁵⁷ It is a symbolic way of manifesting my liminal state in Tāmaki Makaurau. Bruno emphasises the haptic nature of the surface over the optic.⁵⁸ The haptic nature of the surface triggers an emotional connection; when we touch something, it 'touches' us in return.⁵⁹ When I listen to the bird calls, the vibrations of these sounds come in contact with my body, which is also a surface. This touch of sound creates an emotional response in me, affecting my state of being. My research explores the idea of making these sound vibrations tangible, being able to 'touch' sound manifested as patterns and motifs on surfaces (textiles and paper) to create an emotional experience. I am making the invisible energies tangible that 'touched' me.

⁵⁶ Giuliana Bruno, *Surface: Matters of Aesthetics, Materiality, and Media*. (Chicago, United States: University of Chicago Press, 2014), 8, <http://ebookcentral.proquest.com/lib/aut/detail.action?docID=3038578>.

⁵⁷ Ibid., 5.

⁵⁸ Ibid., 19.

⁵⁹ Ibid., 19.

My design practice is grounded in the inspiration from the Indian heritage art of Kalamkari to convey my journey of belonging in Tāmaki Makaurau. Visual artist Rozzana Lee depicts her state of liminality between places and cultures through her project called ‘To begin again’.⁶⁰ She has used a series of handmade batik fabrics coupled with the sound of Muslim prayer at a local beach in her native town of Aceh, Indonesia, projected on a tsunami soiled fabric rescued by her late father. The batik fabric is one of the traditional textile arts of Indonesia, commonly used as sunshades. The back-projection technique of the beach on the screen acknowledges the Indonesian Wayang, the art of storytelling through shows behind a screen. She uses diverse cultural patterns on the batik fabric that tell her story of navigation across and between cultures. Her work uses sound and hand-drawn batik fabrics as separate elements that remind her of her native town.

In contrast, my practice involves combining sound and textile, through motif and pattern design of sound, screen printed on fabric. I am shifting from the traditional motifs of the birds, and reimagining them through sound, to explore how to navigate my way in a different culture and place. Lee uses sound as a way of remembering her home. The use of sound in my design practice is abstract, depicting my associations to a new place.

With the explorations of Tui and Myna birdsong motifs and patterns on different surfaces, my research shares my process of becoming in Tāmaki Makaurau. It highlights how I have navigated between cultures

and places using heritage Kalamkari art as a means of connection, relatedness, and exchange.

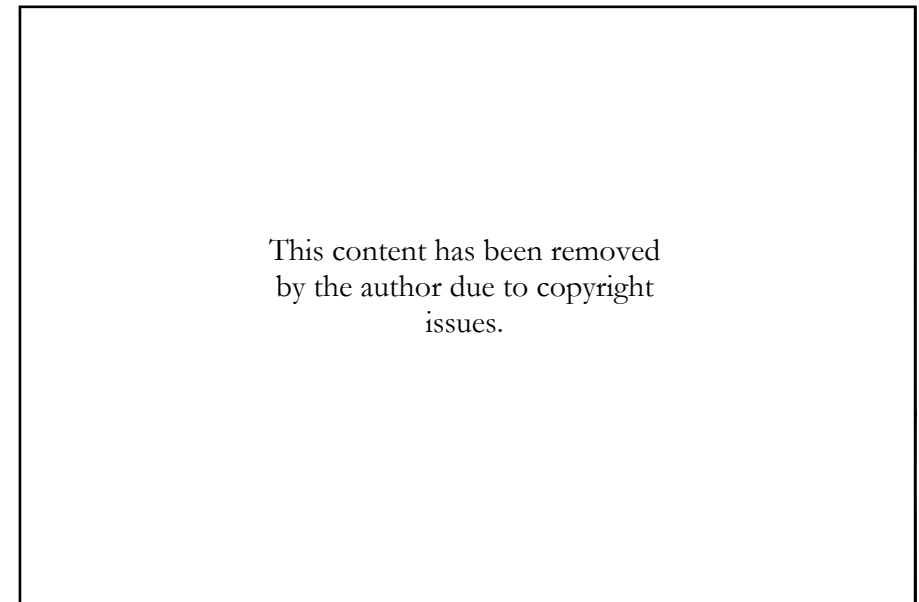


Figure 15 Rozzana Lee, “To begin again,” 2018, <https://elamartists.ac.nz/projects/to-begin-again>

⁶⁰ “To Begin Again.” Elam Artist, November 26, 2020. <https://elamartists.ac.nz/projects/to-begin-again>.

PLACE and SOUND

Since I have employed sound as a means to connect to a place and being in the world, understanding the relationships between sound, place, and soundscape is essential.

Researchers Eckehard Pistrick and Cyril Isnart tell us that “space is a historical palimpsest with different layers of time, charged with multiple meanings, symbols, and myths.”⁶¹ Space becomes a place through human experience, memory, and imagination.⁶² Place, for me, is a space that is layered with time, culture, and the sense of sound in particular. When I first arrived in Tāmaki Makaurau, it was utterly alien to me; I couldn’t relate to it. Slowly, as time passed, I discovered sounds that reminded me of home and sounds that were unique to this new place. The act of placemaking goes two ways; we make the place, and in turn, the place makes us.⁶³ My research explores my process of transformation in a new place. Being in Tāmaki Makaurau has made me permeable to the atmosphere here, allowing it to pass through and change how I perceive the world.



Figure 16 Archana Bhurke, Fabric layering and moiré, 2020.

⁶¹ Eckehard Pistrick, and Cyril Isnart. “Landscapes, Soundscapes, Mindscapes: Introduction.” *Etnográfica. Revista Do Centro Em Rede de Investigação Em Antropologia*, no. vol. 17 (3) (October 30, 2013): 505, <https://doi.org/10.4000/etnografica.3213>.

⁶² Ibid., 505.

⁶³ Ibid., 505.

The dictionary definition of sound tells us that it is vibrations that propagate in the form of waves through the air, or other medium and can be heard when they reach a human or animal ear.⁶⁴ Whereas a soundscape is an acoustic environment in which we live in, as defined by Michael Southworth.⁶⁵ Soundscape unites the sound with the place. The two are inseparable, as a place is a sensory experience. Anthropologist Tim Ingold argues that the world cannot be sliced into parts depending on sound, smell, or texture; all of them together makes the environment.⁶⁶ Sound is the essential characteristic of the environment, which impacts how we perceive it sensually (bodily and mentally).

Dr Michelle Duffy and Gordon Waitt mention that “sound renders a place differently from vision.”⁶⁷ Each individual responds to sounds differently depending on their past.⁶⁸ Sound begins where vision stops; sound touches me in a profound way that triggers the mind, heart, and soul. Listening to the invisible birdsongs evokes reminiscences about my home while also establishing new connections to Tāmaki Makaurau. Sound plays a crucial role in placemaking by charging a place with meaning and stimulating emotional attachment generating feelings of belonging and nostalgia.⁶⁹ When I listen to the Myna, I am drawn back to Mumbai’s past life, a land of chaos, myths, and stories.

⁶⁴ “Sound_1 Noun - Definition, Pictures, Pronunciation and Usage Notes | Oxford Advanced American Dictionary at OxfordLearnersDictionaries.Com.” Accessed November 26, 2020.

https://www.oxfordlearnersdictionaries.com/definition/american_english/sound_1.

⁶⁵ The term soundscape is coined by Michael Southworth, who is a master degree holder in city planning from MIT (specialised in city design, visual arts and environmental psychology) And he is the author of the book “The Sonic Environment of the Cities.”

⁶⁶ Tim Ingold, “Against Soundscape,” *Autumn leaves: sound and the environment in artistic practice*, (2007): 10-13, <http://lajunkielovegun.com/AcousticEcology-11/AgainstSoundscape-AutumnLeaves.pdf>

⁶⁷ Michelle Duffy, and Gordon Waitt. “Sound Diaries: A Method of Listening to Place.” *Faculty of Social Sciences - Papers (Archive)*, (January 1, 2011): 121. <https://ro.uow.edu.au/sspapers/2324>.

⁶⁸ Ibid., 122.

⁶⁹ Ibid., 506.

Anthropologist Andrew Whitehouse argues that humans find their entanglements with places and symbolic associations of being in the world by listening to the birds.⁷⁰ The act of making sound by the birds is an act of place-making; birds territorialising a space, creating relationships with other birds and surroundings with their sounds.⁷¹ Whitehouse further draws this analogy of placemaking by humans with birds by suggesting that the symbolic associations and interpretations of listening to the birds are grounded in an experience of being in the world.⁷² In this sense, my act of listening to the birds (Tui and Myna), is a way of resonating with the acoustic environment of Tāmaki Makaurau to establish a sense of belonging.

Musicologist Makis Solomos defines sound as a ‘network of relationships’ between the source, other sounds, ambient space, and the listener.⁷³ A sound is an energy form that affects the environment and the listener holistically.⁷⁴ In my research, I am considering sound as vibrations that are not only heard but also permeate through the body, creating an immersive experience. In spatial terms, I am devising ways to imagine these invisible vibrations in the form drawing notation system comprised of lines, dots, and dashes and their interactions with materials with different opacities, to explore how light and shadows animate and agitate patterned surfaces both individually and collectively. Taking inspiration from the traditional Kalamkari art, I am designing birdsong sound motifs which are printed on textiles, a tactile material, which can articulate a space manifesting an embodied experience.

⁷⁰ Andrew Whitehouse, “Listening to Birds in the Anthropocene: The Anxious Semiotics of Sound in a Human-Dominated World.” *Environmental Humanities* 6, no. 1 (2015): 62. <https://doi.org/10.1215/22011919-3615898>

⁷¹ Ibid., 58.

⁷² Ibid., 64.

⁷³ Makis Solomos. From Sound to Sound Space, Sound Environment, Soundscape, Sound Milieu or Ambiance. Paragraph, Edinburgh University Press, 2018, 41 (1), 95. 10.3366/para.2018.0253 . hal-01537609v2

⁷⁴ Ibid., 97.

RESEARCH METHODS

METHODOLOGICAL STATEMENT

When I was in Mumbai, walking down a street was an experience of engulfing myself in a realm of noise. The sound of honks from the stalled traffic, constant yelling of the vegetable vendors on the footpath, accompanied by the softer sounds of the sparrows and Mynas chirping in a distant tree. The city where I now reside, Tāmaki Makaurau, doesn't make much noise. It is almost silent but sometimes perturbed by odd distinct sounds. My research investigation involves a walking methodology accompanied by sensory ethnography, emphasising the aural sense and practice-based methodology.

Walking Methodology

Ethnographer Sarah Pink and researchers Phil Hubbard, Maggie O'Neil, and Alan Radley define walking methodology as an effective form of engagement integral to our perception of the environment.⁷⁵ Walking is an ideal way to gain knowledge as an ethnographer giving prominence to notions of movement, knowing, flow, and place.⁷⁶ Walking is an embodied experience and essential for my wayfinding process. It allows me to create a sense of place through bodily movement, observation, listening, and contemplation. Stephanie Springgay argues that "a place is

⁷⁵ Sarah Pink, Phil Hubbard, Maggie O'Neil, and Alan Radley. "Walking across Disciplines: From Ethnography to Arts Practice." *Visual Studies* 25, no. 1 (March 23, 2010): 3. <https://doi.org/10.1080/14725861003606670>.

⁷⁶ Ibid., 3.

⁷⁷ Stephanie Springgay and Sarah E. Truman. "A Transmaterial Approach to Walking Methodologies: Embodiment, Affect, and a Sonic Art Performance." *Body & Society* 23, no. 4 (December 1, 2017): 31. <https://doi.org/10.1177/1357034X17732626>.

shaped through an embodied way the feet, gravel, pavement, and grass mark out a particular rhythm underfoot."⁷⁷ A place becomes constructed through the responsiveness of the body to the landscape.⁷⁸ Walking creates a rhythmic understanding of a place. Every surface that I walk on creates different sensations through the body, building my muscle memory and rhythm. Pink mentions that we develop a sense of place as we engage and move through material and sensory environments.⁷⁹ Walking engages me with new surroundings and help me understand them and be a part of them. Researcher Filipa Matos Wunderlich explains that walking is an elemental way of perceiving urban spaces to learn and experience and develop feelings and thoughts in the spatial design discipline.⁸⁰ As an architect, I have engaged in site analysis to understand the site and the context before designing and building. I have employed a walking methodology to perceive the unknown city of Tāmaki Makaurau to find a sense of belonging.

Sensory Ethnography

I have coupled walking methodologies with sensory ethnography, signifying sound. Pink defines sensory ethnography as a methodology that emphasises paying attention to the environment's multisensorial aspect as a way of understanding a place, its people, their cultures, and customs.⁸¹ The act of walking through a place is a multisensorial experience. As I walk, my body moves through the place, absorbing its ambience through the senses and creating an embodied experience. Pink

⁷⁸ Ibid., 31.

⁷⁹ Sarah Pink, *Doing Sensory Ethnography* (London: SAGE Publications Ltd, 2009), 33, doi:10.4135/9781446249383.

⁸⁰ Filipa Matos Wunderlich, "Walking and Rhythmicity: Sensing Urban Space," 13, no. 1 (2008): 125-139, <https://doi-org.ezproxy.aut.ac.nz/10.1080/13574800701803472>.

⁸¹ Ibid., 1.

explains that as “we experience a new place, its social and physical and intangible components are inextricable from the invocation, creation, and reinvestment of memories.”⁸² As I walk through new places in Tāmaki Makaurau, my body brings in its emplaced past⁸³ in the present experience. I am looking at Tāmaki Makaurau through the lens of chaotic and noisy Mumbai city, which is compelling me to look for sounds in this comparatively quiet unfamiliar terrain. This place is made of the tangible surfaces that I can see and feel and the intangible elements like sounds. Wayfaring engages me in the aural ambience of the city.

Practice-based Methodology

To support the above two methodologies, I use practice-based research to spatialise the sensory walks and the unseen sense of sound. Researcher Linda Candy defines practice-based research as “an original investigation undertaken to gain new knowledge partly using practice and outcomes of practice.”⁸⁴ My creative practice helps me understand sound by drawing these invisible vibrations that affect my sense of being in a new place. I am using my creative artefacts as a basis for knowing my changing identity and exploring new ways to reimagine the heritage Kalamkari art.

The methods that I am employing to conduct this cross-cultural site analysis are drawing, cartography, mark making, digital techniques, screen printing, layering, and photography. A reflective analysis of these methods helps me understand how to create spaces that give an embodied experience as a spatial designer.

⁸² Ibid., 38.

⁸³ Ibid., 38.

⁸⁴ Linda Candy. “Practice Based Research: A Guide.” *Creativity and Cognition Studios Report 1* (2006): 19.

https://www.researchgate.net/publication/257944497_Practice_Based_Research_A_Guide.

METHODS

My methods are interconnected in a series of different processes that help me visualise sound. These process includes walking, listening, drawing, mapping, digital editing, screen printing on fabric, and photography.

I begin with walks around the city to hear the Myna and Tui sing at different times of the day. To visualise and record these walks, I use drawing, mapping, photography, and audio recording. After repetitive listening to the recorded birdsongs, I decipher their tone, pitch, timbre, and intensity through drawing, and mark-making. I use lines, dots, and dashes to characterise the different birdsongs and design motifs. I then scan and digitise my handmade sound motifs while retaining the handmade quality of the drawing. Digitisation of the motifs helps me replicate them to create different patterns depicting various rhythms and repetitions of the sound. These patterns are then used to develop screens for the screen printing process. The screen printing process with various types of fabrics such as cotton voile, calico, linen, poly chiffon, organza, explores the interaction of the printed patterns with the fabric mesh and opacity. The next step after the screen printing is meticulous photography of the textile artefacts placed in layers to capture how light and shadow impact on these surfaces and the space surrounding them. The layering of different patterns leads to interference patterns called *moiré*. All these methods in my process help me visualise sound. As a spatial designer, I see the potential of these sound patterns to enhance a space through surface design in the form of curtains, partitions, wallpapers, and upholstery.

ANALYSIS OF PRACTICE

SOUND WALKS and CARTOGRAPHY

Springgay defines sound walks as a method of walking in silence while paying attention to the ambient sounds of the environment.⁸⁵ She further mentions that sound walks require active listening, embodiment, tactile, and auditory understanding of a place.⁸⁶ Duffy and Waitt define listening practices as a skill that helps forge a sense of place through bodies.⁸⁷ I have employed sound walks to listen to the sounds of Tui and Myna birds in the city.

I have conducted sound walks in Auckland CBD and two parks, Albert Park and Myers Park. The reason for choosing these parks as they have various native trees where the Tui resides. In contrast, the Myna was more common on the trees along streets and sidewalks, as these birds love to feast on dead bugs and insects on the road. Researcher Jennifer Schine mentions that “Acoustic cues and signals are aural reminders and temporal nods to the rhythms of daily life; they help define an area spatially, temporally, socially and culturally.”⁸⁸ The purpose of these walks was to immerse myself in the city’s environment, where I hear the birdsongs to develop a sense of place. Walking in the city has led me to discover various places and landmarks to listen to the birdsongs. One of

my findings was that the birds do not sing throughout the day and are only active at some times of the day and hence, I had to conduct the sound walks at different times to understand the pattern of singing.

To record the sound walk’s aural experiences, I employ drawing, photography, audio recording, and cartography. As an architect, I have engaged in site analysis and mapped various site characteristics, such as the wind, sun path, trees, contours, and landscape for a better understanding of the site. I use my professional knowledge of drawing to map places around the city where I hear the birdsong. In these maps are landmarks where the birds sing. Jacob Kreutzfeldt and Rune Söchting define sound mark as a sonic landmark.⁸⁹ Mapping these sound marks is my way of engaging with the environment and unravel the places that help me transpire. The sound marks mark a place and mark the individual listening to the sounds in that place.⁹⁰ While making my maps, I am considering this dual nature of the sound mark of marking myself and the places. My sound maps show this entangled link between myself, the sound, and the place.

My maps show places where I conducted sound walks, highlighting the sound source and its radial spread. (Figure 17, 19, 21.) Coupled with these layouts are sketches and notes that help me visualise the place and the various textural details of it. I imagine sound to start at one point and move omnidirectionally. Although at the same time, I can detect it’s

⁸⁵ Ibid., 35.

⁸⁶ Ibid. 35-36.

⁸⁷ Ibid., 122.

⁸⁸ Jennifer Schine. “Movement, Memory & the Senses in Soundscape Studies.” *Canadian Acoustics* 38, no. 3 (September 1, 2010): 100. <https://jcaa.caa-aca.ca/index.php/jcaa/article/view/2264>.

⁸⁹ Jacob Kreutzfeldt, and Rune Söchting. “The Aesthetics of the Soundmark,” *Public Art Dialogue* 9 (2019): 66. <https://doi.org/10.1080/21502552.2019.1571823>.

⁹⁰ Ibid., 71.

source having the highest intensity of vibrations. The dotted rings around the source depict dispersion. Nature ID app has helped me identify the various trees in which the Tui and Myna birds gravitate toward. The commonality between the trees is that it bears flowers (nectar) and berries, that the birds eat.

Click below link to listen to the audio recording during sound walks with Tui sounds :

<https://soundcloud.com/archana-bhurke/albert-park-tui-sounds>

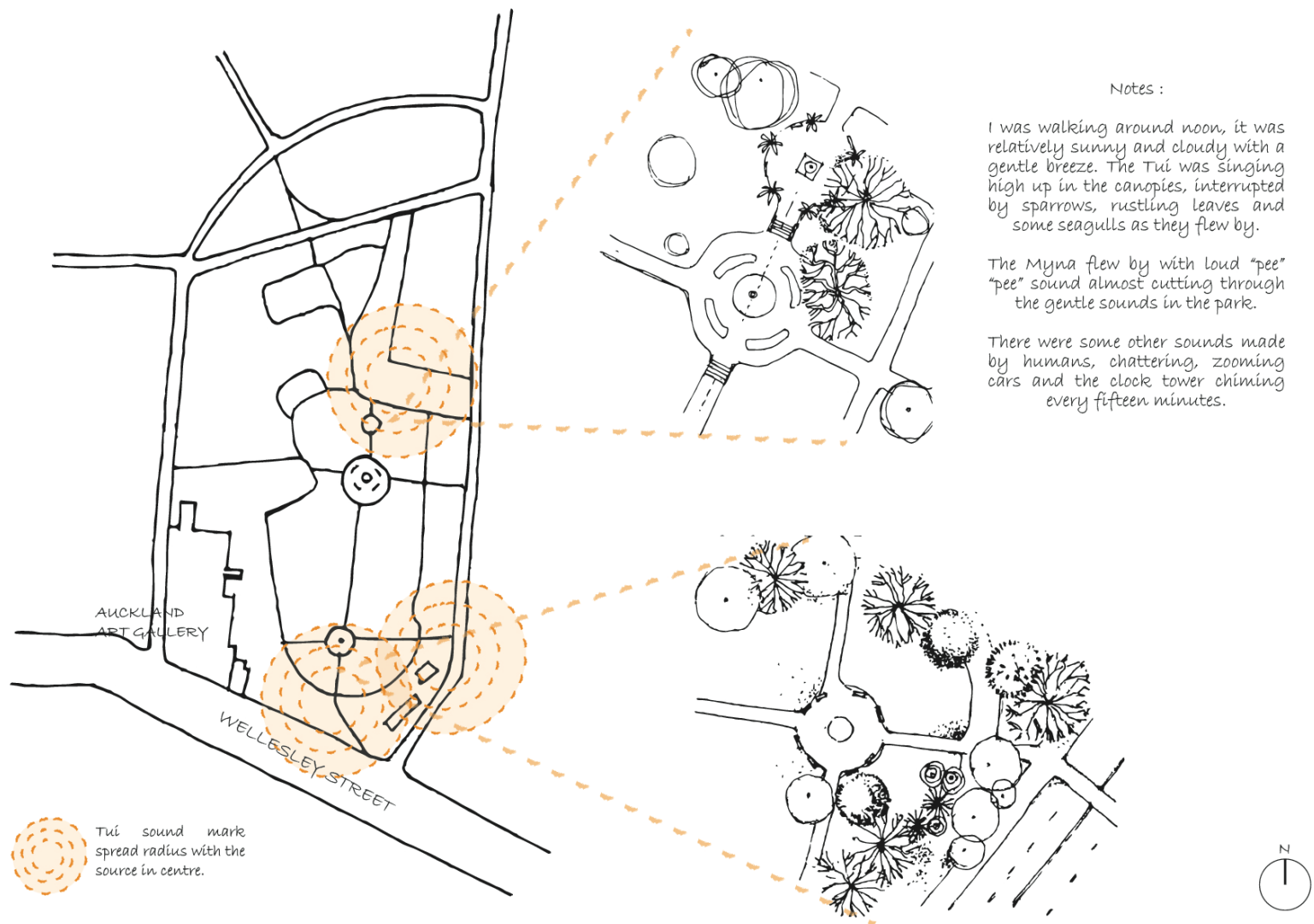
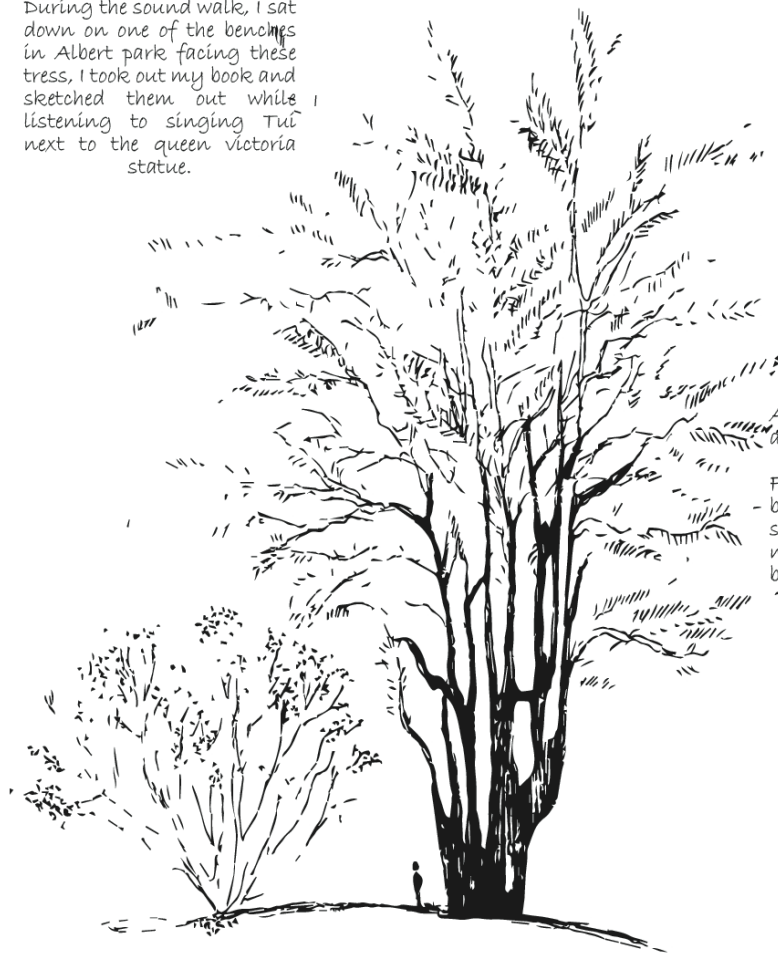


Figure 17 Archana Bhurke, Albert park map and notes showing Tui birdsong spread and location, 2020.

During the sound walk, I sat down on one of the benches in Albert park facing these trees, I took out my book and sketched them out while listening to singing Tui next to the queen victoria statue.



According to the nature ID app on my phone, this tree identifies as *Ficus macrophylla* or black fig, whose flowers serve as a rich source of nectar for animals and birds like the Tui. It also bears fruit - figs.



Figure 18 Archana Bhurke, Sketches and notes made in Albert park, 2020.

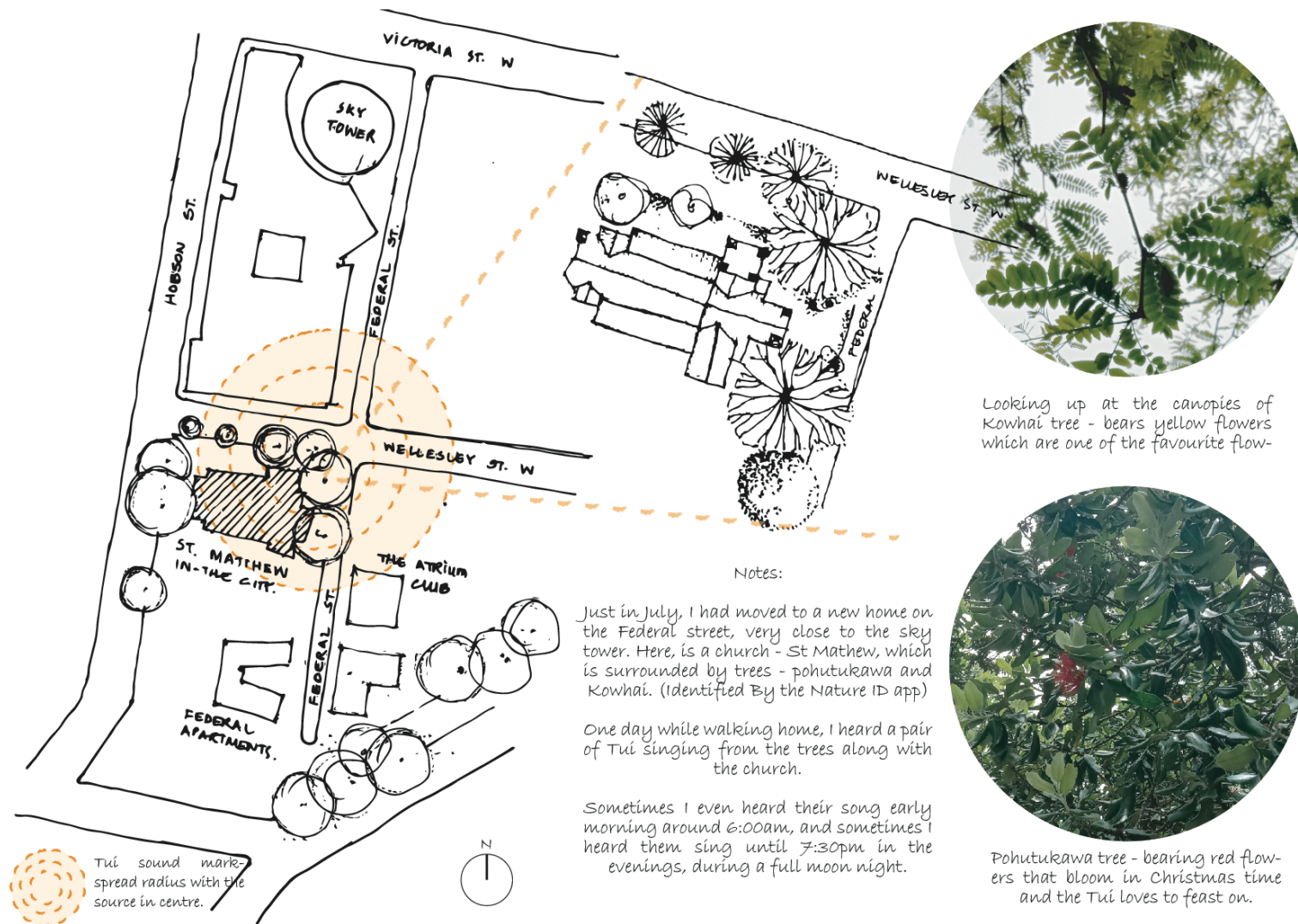


Figure 19 Archana Bhurke, Federal Street map, photos, and notes, showing Tui birdsong spread and location, 2020.

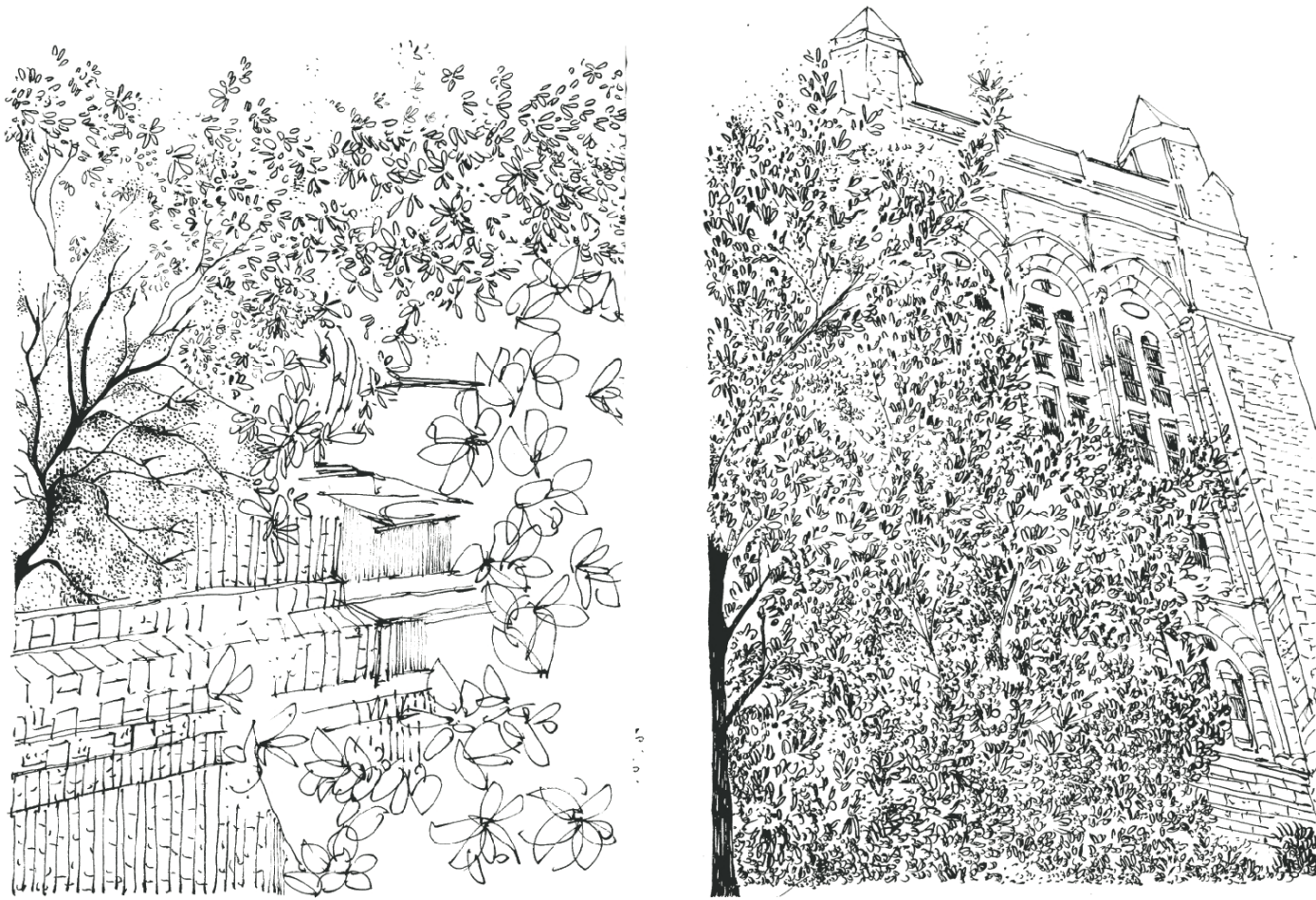
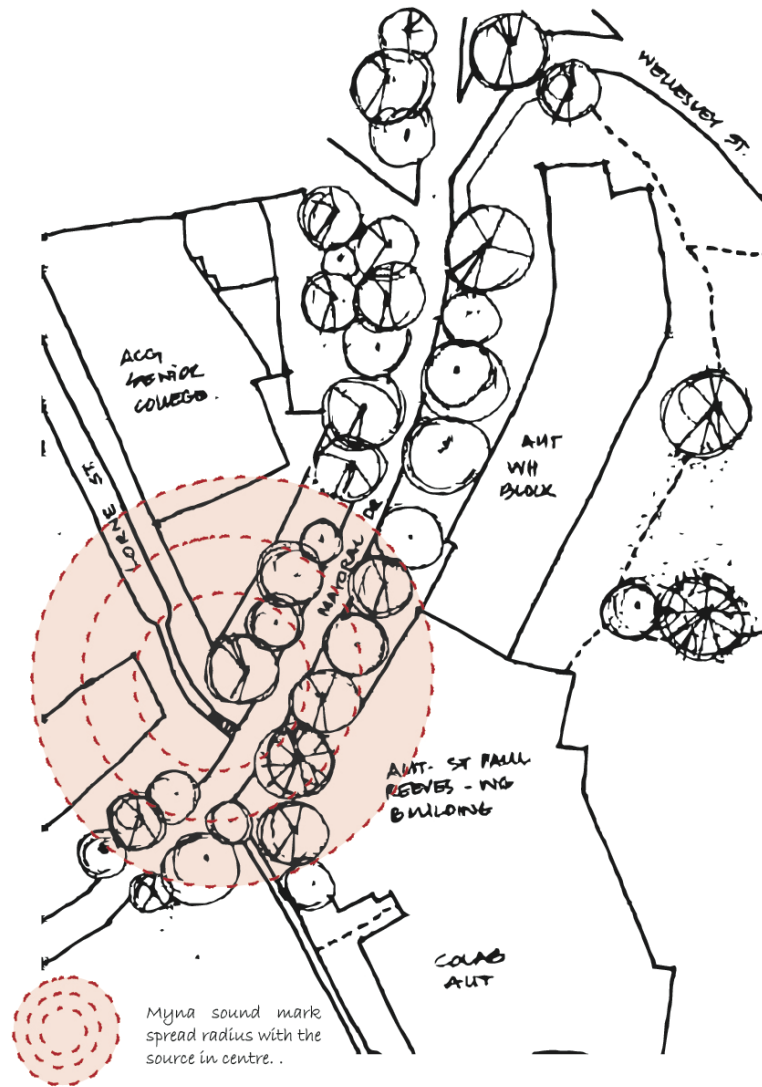


Figure 20 Archana Bhurke, Sketches of Kowhai and Pohutukawa tree around St Mathew Church, 2020.



Notes:

As I walk back home from my AUT studio, I cross the WG block of the AUT building. The street abutting WG block is Mayoral Dr road lined with trees along the sidewalk. This is where I hear the Myna almost every day on my way to the studio and back home.

On my walks, I have usually found Mynas on trees along roads, as they love to feast on dead bugs on the street killed by vehicles.



Figure 21 Archana Bhurke, Mayoral Dr and upper Queen street map showing Myna birdsong spread and location, 2020.



Figure 22 Archana Bhurke, Albert Park picture taken during sound walks, 2020.



Figure 23 Archana Bhurke, Albert park picture taken during sound walks, 2020.



Figure 24 Archana Bhurke, Albert park picture taken during sound walks, 2020.



Figure 25 Archana Bhurke, St. Mathew Church picture taken during sound walks, 2020.



Figure 26 Archana Bhurke, Federal Street picture taken during sound walks, 2020.



Figure 27 Archana Bhurke, Myers park picture taken during sound walks, 2020.

IMAGINING SOUND and DESIGNING MOTIFS

Drawing is my critical link to visualising the unseen. Drawing makes sound tangible. Drawing helps me represent sound and also break it down into its primary parts of timbre and to reassemble it into a sound motif. A sound is a form of energy produced by a vibrating object in the form of acoustic waves. I am reimagining sound as lines instead of a wave. Since the waves are lines in oscillation, I consider the line to be the primary form of a wave.

To make the sound motif, I repeatedly listen to the audio recordings taken during the sound walks. Then I interpret the timbre keeping the line as the most straightforward breakdown of sound. A line can be curved, wavy, dotted, thick, or thin depending on the nature of the sound. As an architect professional, every line weight has a different meaning and depicts different layers in actual space. Here I use the line weights to describe the intensity or the loudness (volume) of the sound. The thicker the line, the higher the pitch and the thinner the line, the lower the pitch. A dotted line represents the flickering nature of the sound, showing that the sound is interrupted by alternating silences. And the curved line depicts the directionality of sound. The number of repeats of the lines and their composition defines the tone of the sound. A harmonious sound will be more symmetrically composed with fewer overlaps of lines and a loud, unpleasant sound with a chaotic composition having more overlaps.

To understand the birdsongs better, I also researched the nature, lifestyle, and characteristics of the Tui and Myna. Both the birds are very territorial, but the sounds of Myna are more aggressive and pecking as compared to the Tui.



Figure 28 Archana Bhurke, Hand drawn sound motifs of the Tui and Myna, and notes on grid paper, 2020.

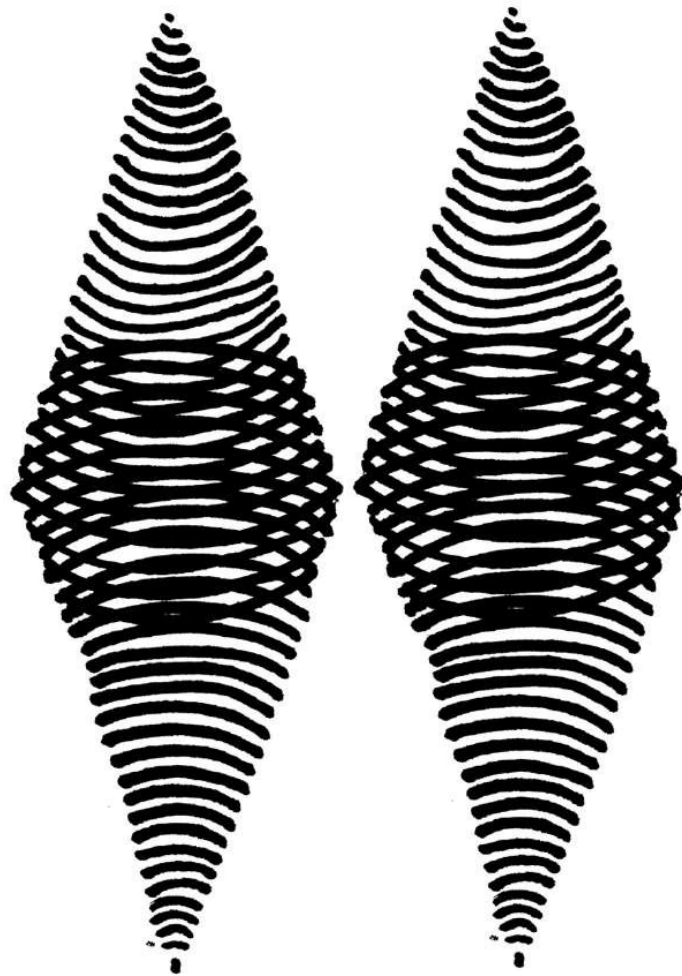
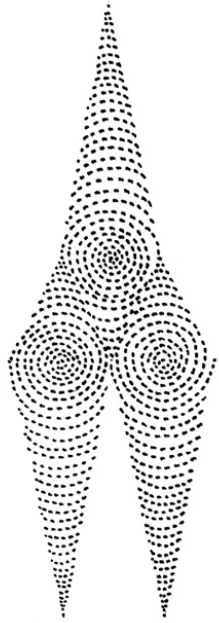


Figure 29 Archana Bhurke, Hand drawn Tui sound motif, 2020.

Figure 29 shows a loud squawk made by the Tui bird followed by another squawk made mingling with the echo of the first one. The interactions between the two squawks also remind me of the white-coloured filament like plumes on the bird's neck.

All the sound motifs are hand-drawn onto grid paper. I wanted to return to the traditional methods of drawing by hand rather than digitally making them. The handmade quality of sound drawings makes them more personal and valued. The imperfections in the handmade also resonate with the imperfections of sound.

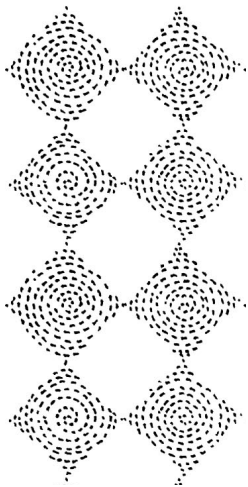
The following 16 figures (Figure 30 to 45) are sound motifs of the Tui and Myna, with supporting text that describes the sound.



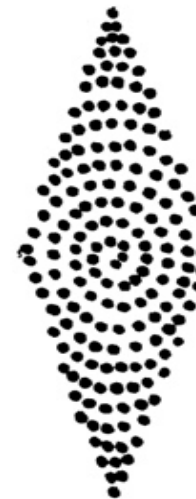
The dots going in circles are resonant with the soft and gentle shrills or trills made by the Tui while singing. This pattern is intended to be very calming and hypnotic, creating the same effect when Tui singing is heard. The sound appears to be starting at one point and then it grows in all directions, but is interrupted by the next trill and so all of come together to form a wave. It reminds me of ripples, and hence the circles merging into one another form waves. The dots also depict the flickering nature of the warbling sound. (Figure 30)



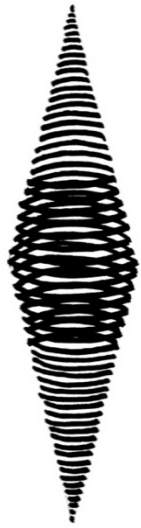
The central diamond is the sound of gentle shrills, but soft squeals also accompany it. The outer four diamonds represent the soft squeals. (Figure 31)



The smaller diamonds with spiral dotted lines rendered the moment when the Tui interrupts its song with clicks. It almost sounds like it is tsking (clicking the tongue in disapproval of other birds and their song). And then it continues back to twitter as if showing I can sing better. I am referring to the character of the Tui as a stubborn territorial bird. (Figure 32)



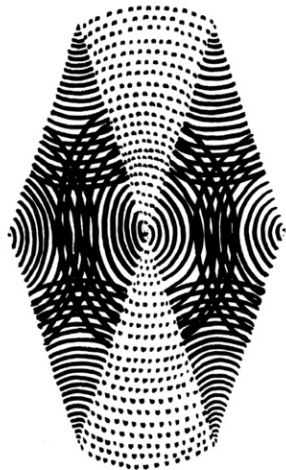
The spiral of a thick dotted elongated diamond is another interpretation of the gentle squealing sound of the Tui. (Figure 33)



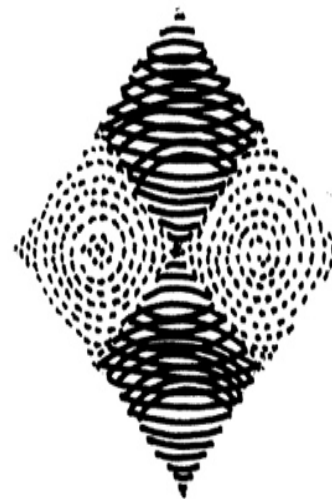
The Tui interrupts its song by occasional grunts, and croaks. They are loud, harsh, and aggressive, usually territorial to protect their young ones or berries. The thick lines reverberate with truculent behaviour. The intermingling lines show that the echo of the first sound fuses with the next creating a bewildering effect (almost like ringing) for the intruder. (Figure 34)



This motif is another interpretation of the occasional grunts, and croaks. These are territorial noises made by the Tui pair. The thick lines resonate with the jarring noise. The overlapping lines are echos of the two grunts mixing over one another. (Figure 35)



When the tuis are singing in pairs, their sounds fuse and create this mixture of trills, squeaks, croaks, cackles, and clicks. This motif is a mixture of both the jarring and soft, gentle calls of the bird song since this sound is not territorial. It is harmonious (all the lines meeting each other to create a hypnotic effect) in appearance as compared to the sharp and hostile appearance of the territorial squawk. (Figure 36)



This motif (figure) is another interpretation of the Tui singing with grunts, croaks and clicks, mixing harsh and soft sounds with thick lines and thin dotted lines. It's a pleasant song, not territorial, but a harmonious composition of thick, delicate lines and dots. (Figure 37)



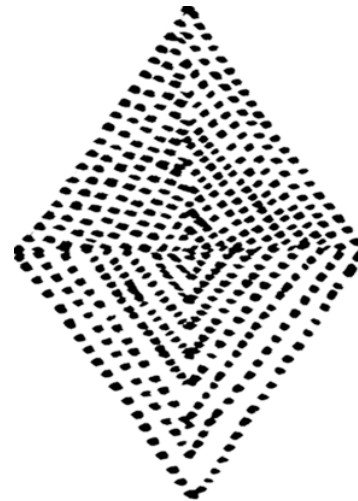
This sound is expressive of the clicks made by the Myna interrupting a song. The clicks are continuous and pecking in one direction. The thick dotted lines are suggestive that the sound is loud, but not harsh and alternated with silences. (Figure 38)



The clicks made by the Myna are continuous one directional. The two dotted diamonds are suggestive that the clicking sounds are made by a Myna pair, singing together. The sounds are loud but not harsh, depicted by the thick dots with gaps showing the silences in between. (Figure 39)



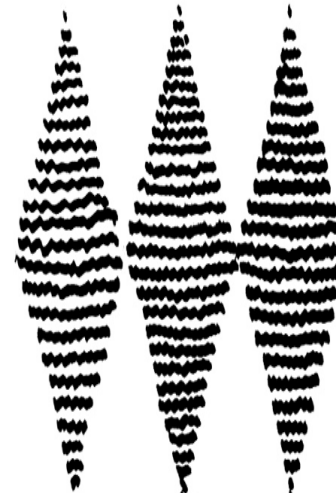
The arrow shapes represent the "pee-pee" sounds made by the Myna before flying off. The use of the thick wavy lines indicates that these sounds are loud and directional (towards flying or take off), as they are used to call for a mate. (Figure 40)



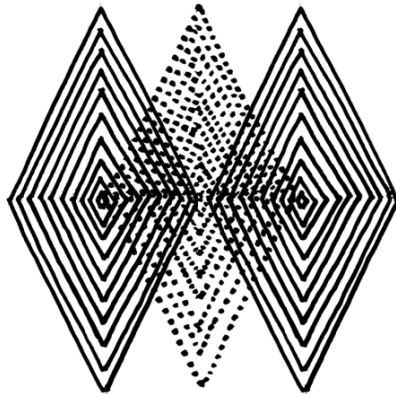
The growls made by the Myna are made of silences. The dotted lines represent the sound and silences when the Myna growls during her song. The concentric dotted lines are a reminder of the fact that some sounds made by the singing Myna can be sweet and hypnotic. (Figure 41)



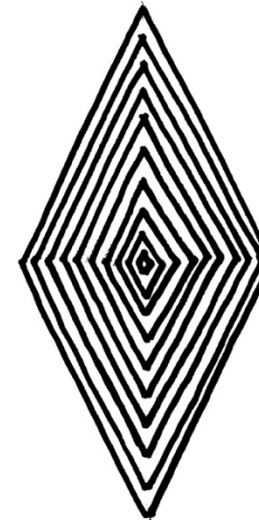
The Thick lines represent the “Chickork” sounds made by the Myna as a sign of territorialising. “Chickork” is accompanied by clicks depicted by the dotted lines. The Myna makes sharp piercing sounds interrupted by clicks to warn other birds of its space. The nature of this thick line is wavering, showing the agitation accompanied by the territorial sound. The sound is bothersome and constant, with only a few gaps in between the calls. (Figure 42)



These are loud screeching noises made to alert the mate or other birds of danger or intruders. This sound is very harsh and raucous as it is filled with anger and fear. When a Myna screeches, it is continuous and louder, and sometimes the mate also joins in the alarm shrieks. The thick, pointed lines with flickers show agitation and distress. (Figure 43)



This motif is a mixture of loud and soft Myna calls. The thick concentric diamonds are loud, harsh squeals and the concentric dotted diamonds are gentle clicks. (Figure 44)



The thick-lined concentric diamond represents a squealing noise which is dissipated in all directions. This sound too is an alarm or distress call, made by the Myna to scare away intruders. The concentric lines are showing the resonance of the squeal. (Figure 45)

DIGITAL EDITING and PATTERN MAKING

It is advantageous to have software's that retain the handmade but also at the same time help in fast editing and replication. Photoshop is one such software. I have employed photoshop to edit my scanned motif drawings and replicate them to create patterns. I have not vectorised the scanned images and retained the imperfections of the handmade.

Using photoshop has also helped me vary the scale of the motifs, to understand how varying scale creates an impact on the viewer. For example, increasing the scale a dainty dotted motif makes it lose its delicateness and decreasing the scale of a bold motif makes it delicate. The scale of the motif is essential because it determines the mood it sets for the viewer.

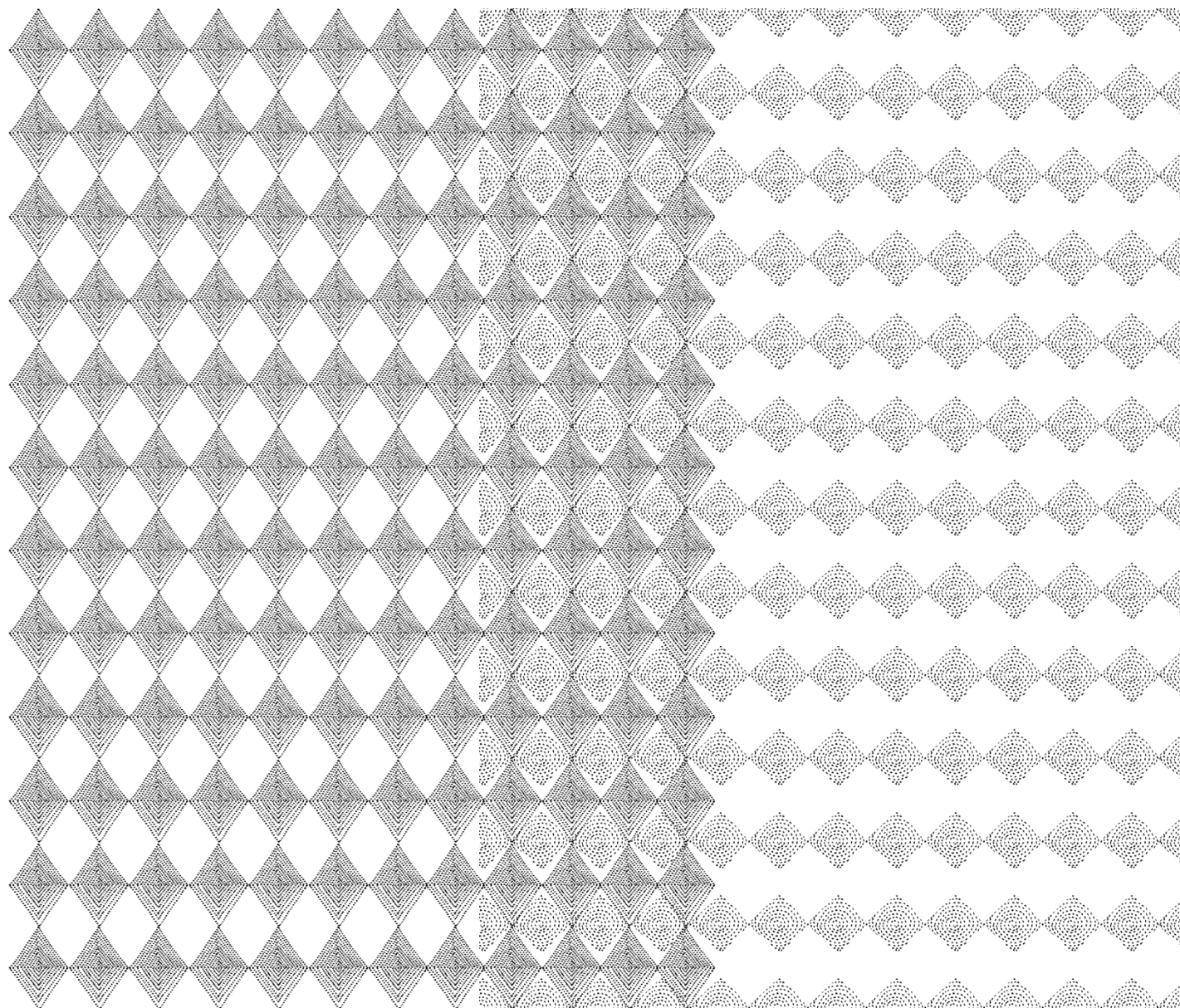
I intended to create the patterns in a particular rhythm and repetition, as the bird calls are continuous and reoccurring. I wanted to create a dialogue between the Tui and Myna patterns as if they were in a conversation, like the stories I heard as a child. Digitally editing them in photoshop allowed me to overlap the Tui and Myna patterns to test how they interact when layered. Each pattern is made of gaps in between the motif repeats; I reckon these are the silences in the birdsong. The Tui patterns have more gaps in them as some of the birdcalls of the Tui are very high pitched and can't be heard by the human ear.

I have designed the patterns to be in couples like the Tui and Myna (Tota (parrot)-Myna). To create a conversation between them, using the gaps between motif repeats. So when the two patterns are layered together, the second pattern appears between the interstices of the first pattern. (Figure 46-53)

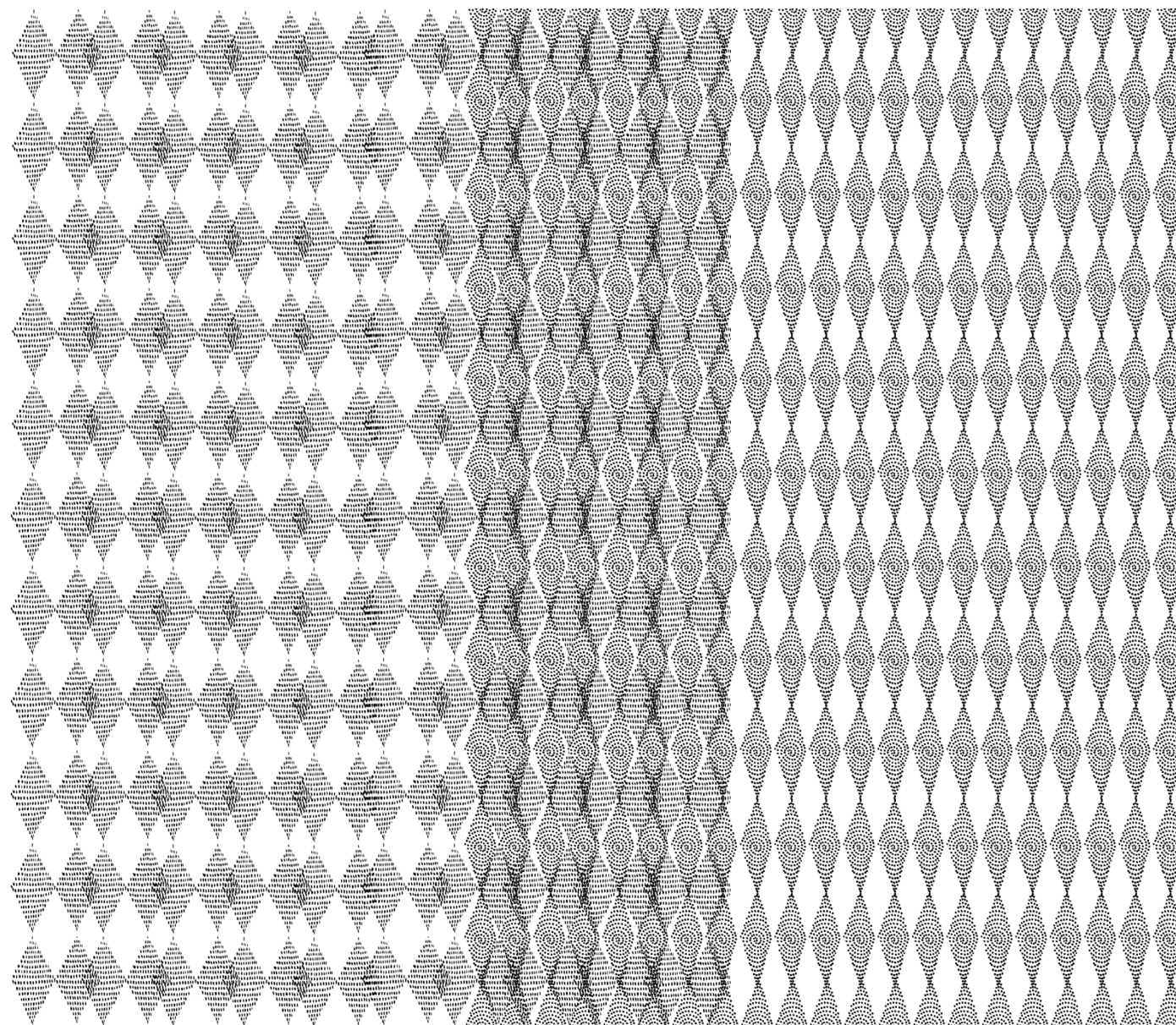
According to the story of Tota-Myna, the birds are first arguing over who is the better singer. To depict this phase of the story, I use bold motifs denoting a scuffle between the two birds. The more subtle, delicate motifs are used to construct patterns that characterise the next phase of the tale, where the birds sing harmoniously. In total there are sixteen motifs and sixteen patterns, eight of the Tui and eight of the Myna. The reason for making them in eight was to refer to the musical scores being in eight as the Indian classical music. As the birdcalls are harmonious, I compare them to the eight Indian musical scores - सा, रे, ग, म, प, ध, नी, सा. (sa, re, ga, ma, pa, dh, ni, sa.) The loud and harsh birdcalls are depicted higher-pitched notes - प, ध, नी, सा (pa, dh, ni, sa). The soft and gentle birdcalls are characterised with lower-pitched notes - सा, रे, ग, म (sa, re, ga, ma).

Using Photoshop made these iterative tests of overlapping, layering and replicating much more efficient as compared to drawing them by hand. It helped me visualise the story of the birds. There can always be a bridge between the digital and analogue methods if used advantageously.

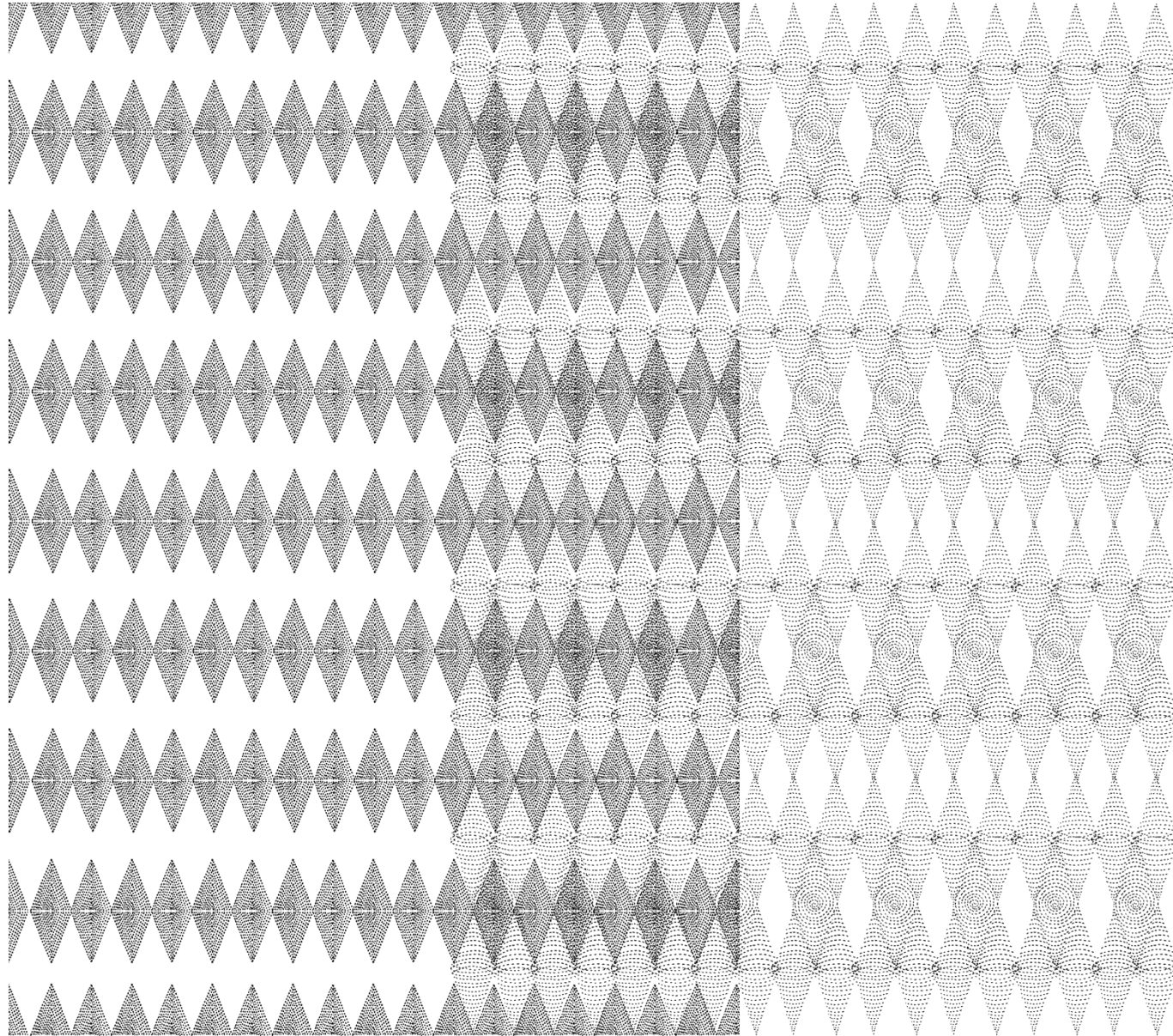
The following series of photoshopped images is the birdsong patterns of the Tui and Myna overlapping each other (Figure 46 to 53). There are eight patterns of Tui and eight patterns of Myna resonating as the Hindi classical musical scales – सा, रे, ग, म, प, ध, नी, सा. (sa, re, ga, ma, pa, dh, ni, sa)



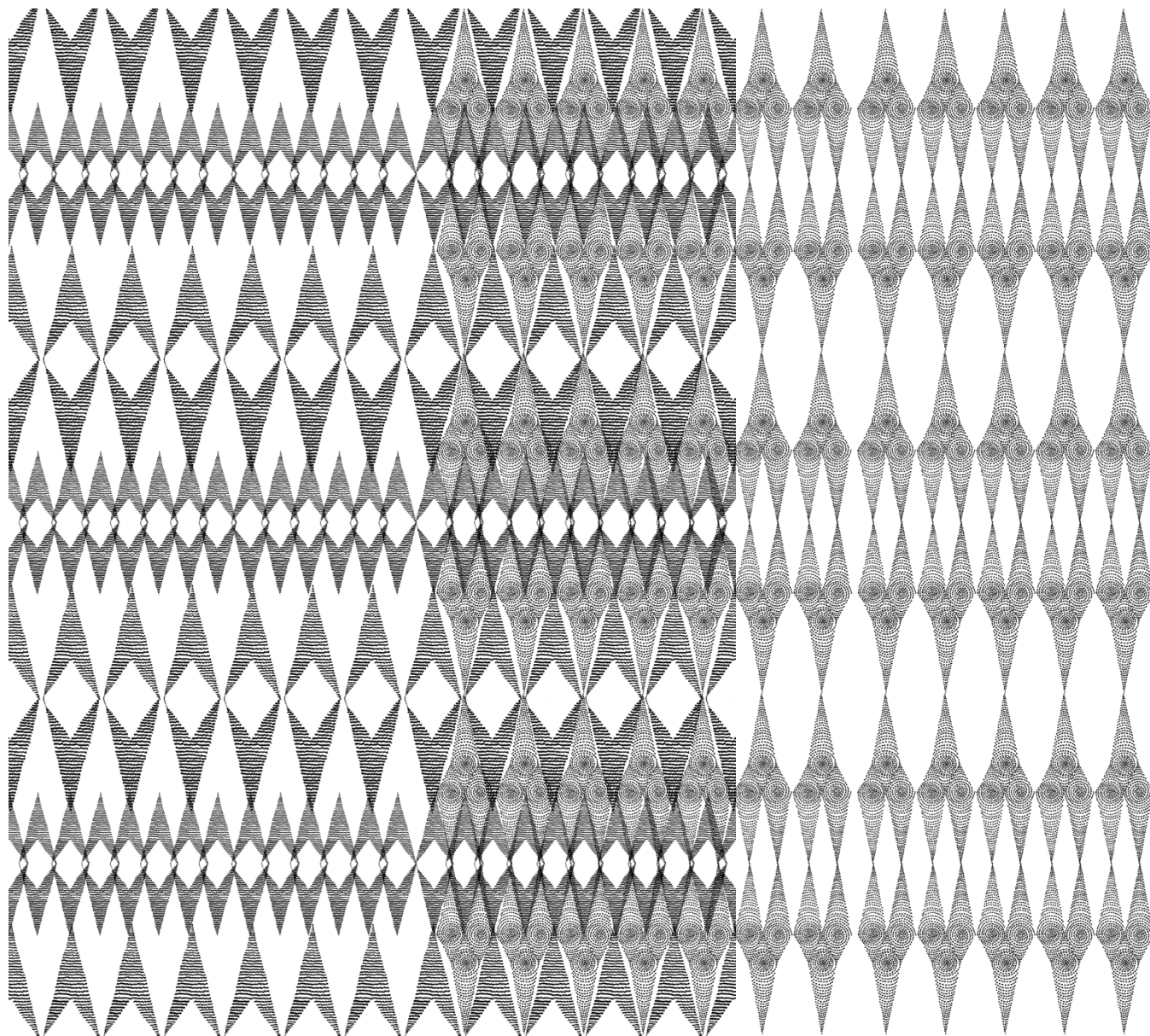
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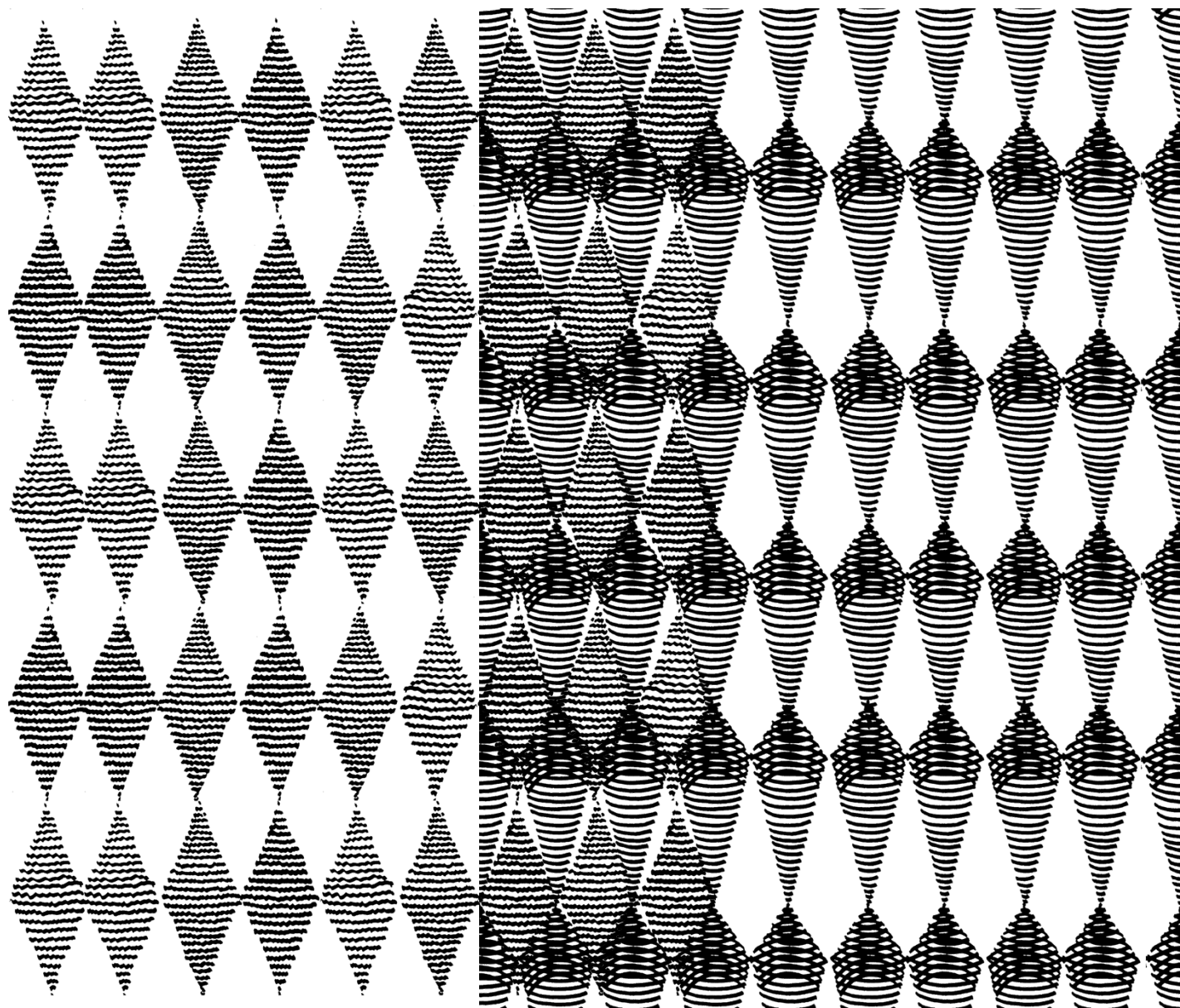
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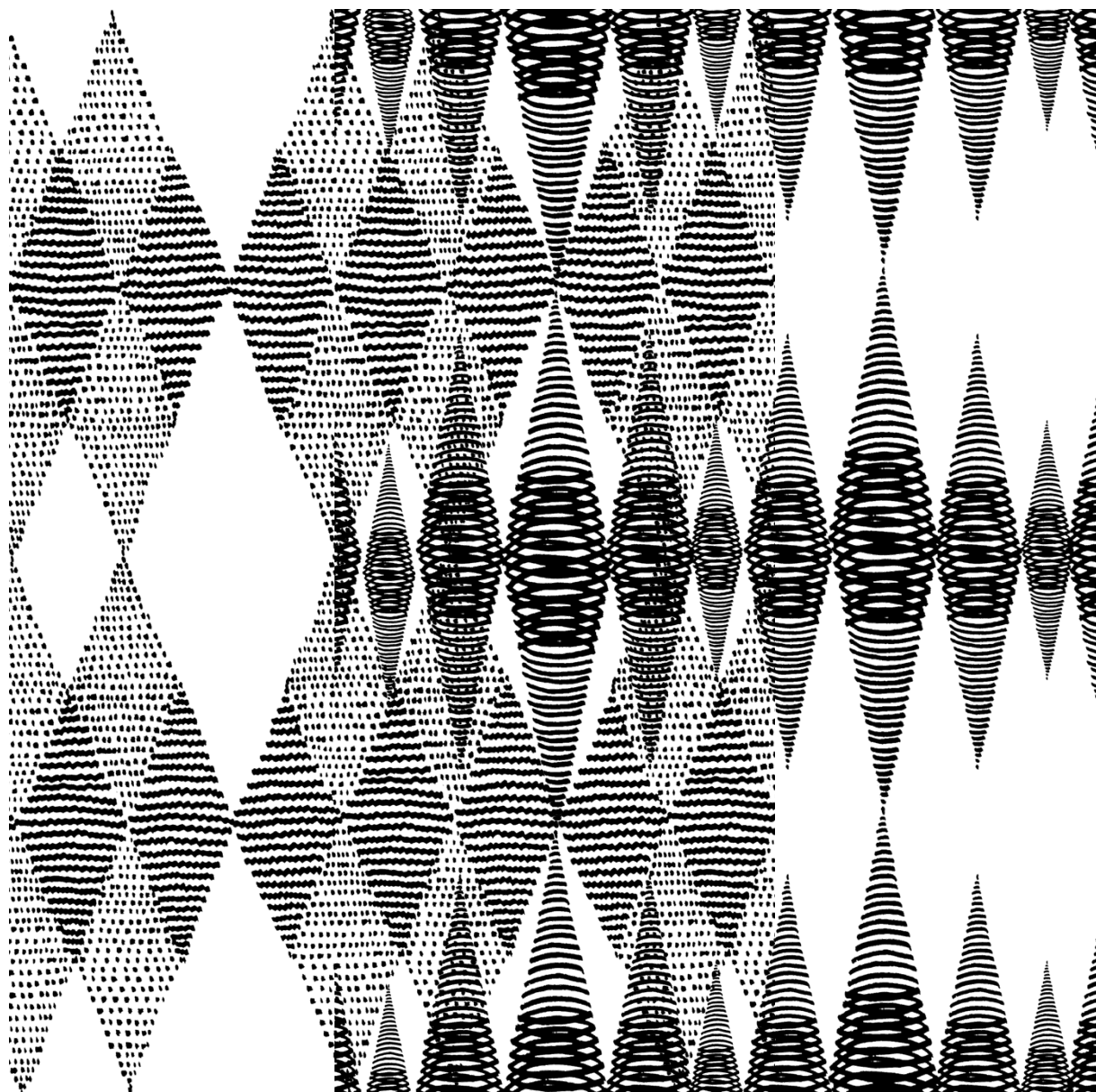
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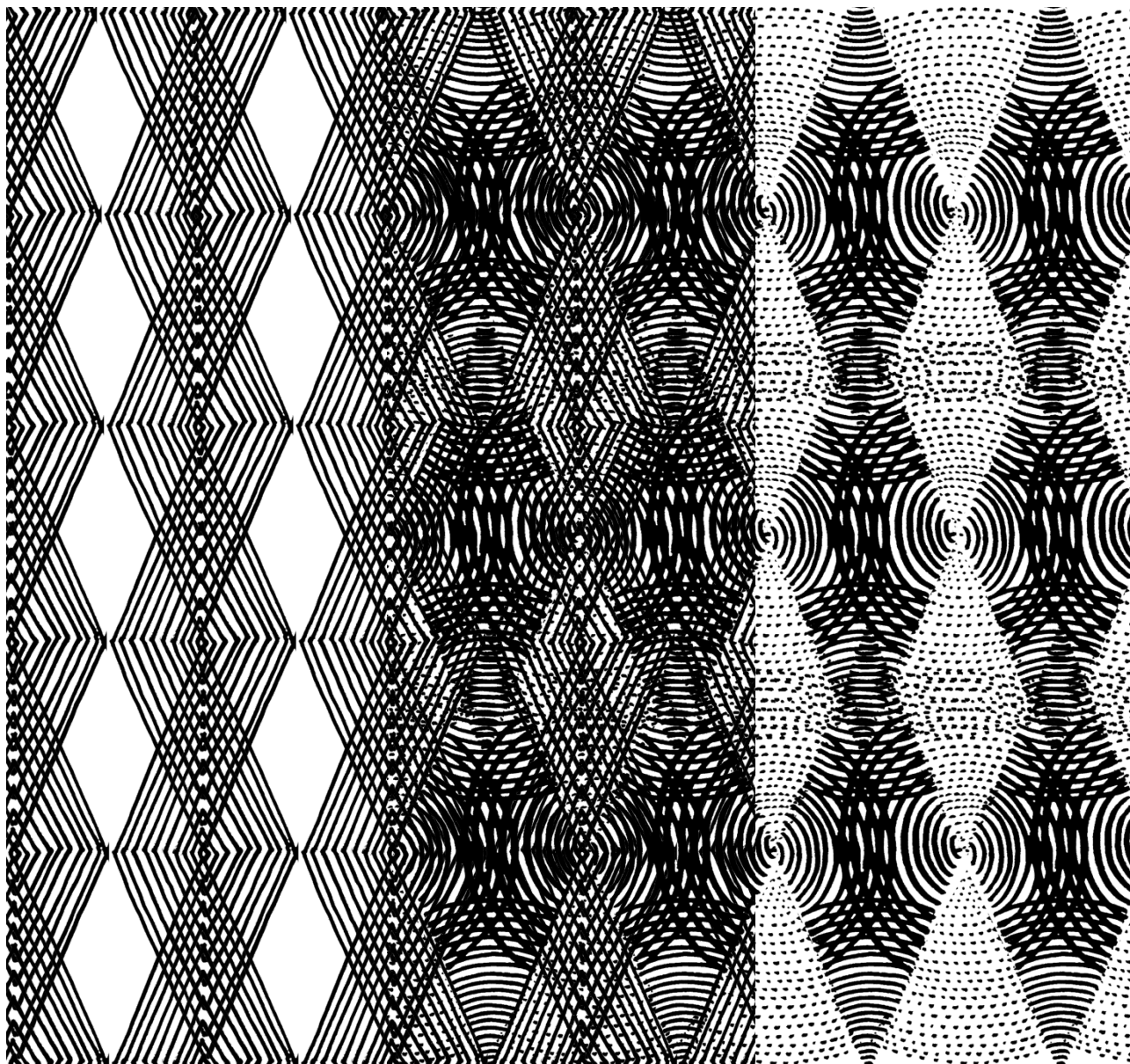
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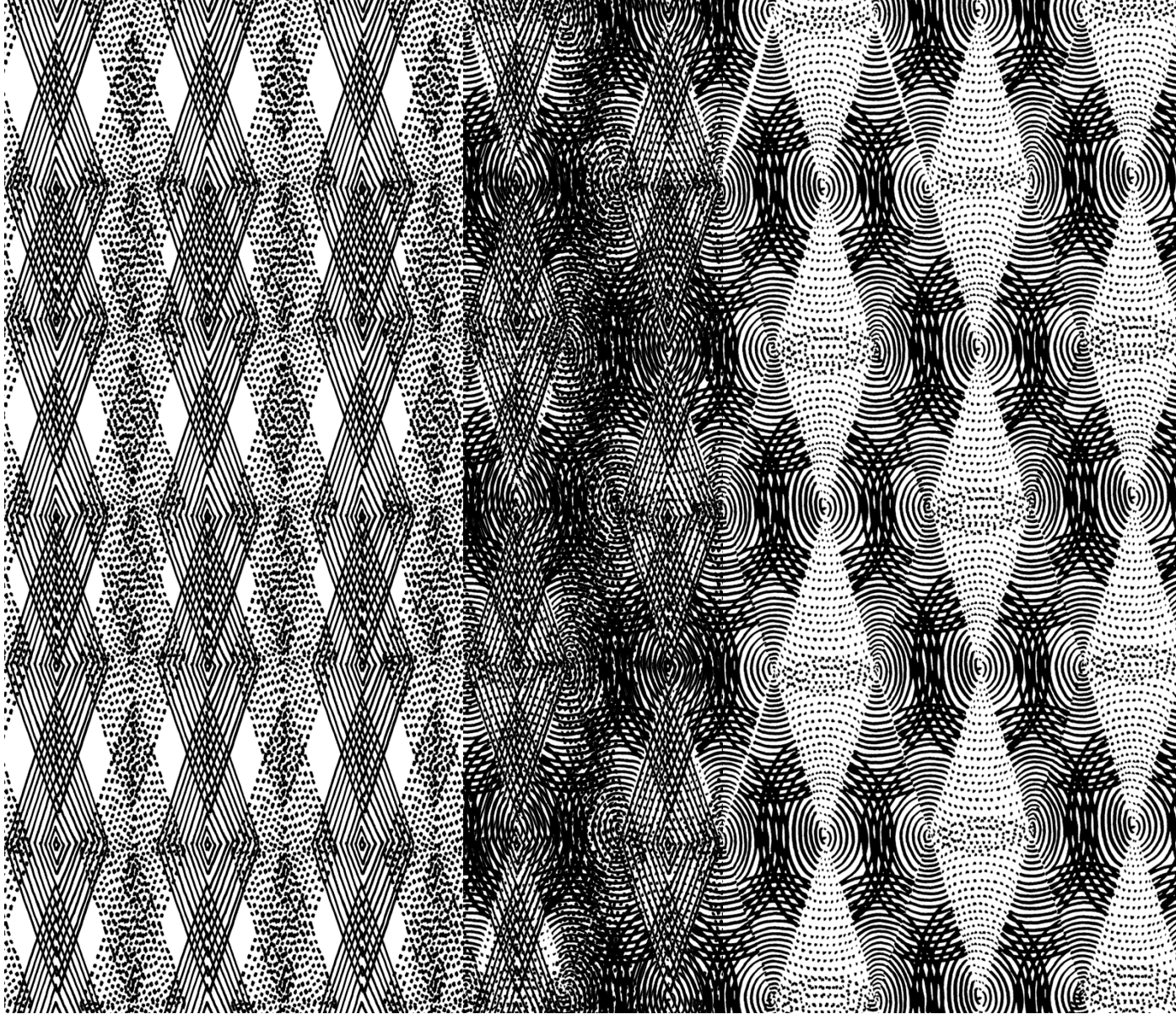
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सा सा

Printing Processes

The next step of my process was to make imprints of the sounds that connected me to Tāmaki Makaurau. I experimented with different methods of printing such as woodblock printing, digital printing, laser cutting and finally screen printing. I also experimented with multiple fabrics and papers to analyse the different textures and effects they created.

Woodblock Printing

Traditional Kalamkari fabrics use hand-carved teak woodblock printing techniques for printing on cotton textiles. The colours used in conventional woodblock printing are natural vegetable dyes with a thin consistency. In my experiment, I used the digital scans of handmade drawings of birdsongs to laser cut the MDF and pine woodblocks. Laser cutting pine the woodblocks was not ideal for such delicate designs compared to hand-carving the designs. The laser cutting process burned away the negative area of the design, which weakened the woodblock. When I used the woodblock for printing the design on calico fabric, the more delicate bits of the design broke due to the pressure applied during printing. The breaking of the woodblock affected the printed design and gave an unfinished look and took away the delicateness and elegance of the design. Another disadvantage was the woodblocks were breaking apart and had to be laser cut several times, making it cost-ineffective. The texture achieved in this process was very watery as textile paint needed to be thinned down with water for a successful woodblock print. The print looked faded and uneven, which was not the effect I was trying to achieve. (Figure 54, 55, and 56.) The sound I heard was bold and clear, and the woodblock printing process took away that impact from the prints.



Figure 54 Archana Bhurke, Woodblock printing on calico using MDF and pine woodblocks with textile ink, 2020.



Figure 55 Archana Bhurke, woodblock printing of sound motifs on calico, 2020.



Figure 56 Archana Bhurke, woodblock printing zoomed in image showing the watery texture, 2020.

Digital Printing

In this process, a digital printer used the scanned handmade drawings to print on chemically treated (with synthetic urea, which encourages the fibres to absorb the dye rather than it sit on the surface of the fabric and to prevent the droplets of dye from bleeding when they come into contact with the fabric) silk georgette fabric. The result was very fine and delicate, but it lacked texture. The only texture was that of the material substrate itself, which was not enough as sound has a texture which needed to be present as part of the design fabric. This printing process only created a moiré effect when different prints were placed in layers. The printed silk, when held against the light, did not cast any shadows, which is a critical aspect of the design for me as its one of the ways the patterns mingle with space. The shadows represent the echoes of birdsong that are left behind in a metaphysical way that helps to establish my process of placemaking.



Figure 57 Archana Bhurke, Digital Tui motif digitally printed on silk georgette, 2020.

Laser cutting Fabric and Paper

Another process in my experiments was laser cutting fabrics and papers. The scanned handmade drawings were used in a laser cutting machine to cut out calico and 300 gsm watercolour paper. This process burned the fabric as well as the paper and left behind the brown coloured burn marks and a sooty smell. I aimed to create artefacts that symbolise the process of capturing sound, but this process created voids. The laser cutting was breaking the fabric apart, which was opposite to what I was trying to achieve; the sounds were building my association with Tāmaki Makaurau and not breaking them. I aimed to consider the fabric to be an abstract skin or a mesh that catches the sound. The voids represented a harsher consequence left behind by sound, which is not the case. I interpret the holes created in the material from laser cutting were reminiscent of piercing and passing through rather than being caught and absorbed by the fabric.



Figure 58 Archana Bhurke, Laser cut of Motif on textured 300 gsm paper, 2020.



Figure 59 Archana Bhurke, Laser cutting of sound motif on calico showing the burnt fabric, 2020.



Figure 60 Archana Bhurke, Sound motif laser cut calico with wooden frame, 2020.



Figure 61 Archana Bhurke, Sound motif laser cut on 300 gsm paper showing the burnt paper, 2020.

Screen Printing

The screen printing process consists of two phases, one is preparing the screen and the second one is the printing process. I used photoshop to replicate the handmade motif and create various patterns that represented the birdsongs. The handcrafted quality of the drawings was retained during this process. The imperfect lines and dots added a unique character to the patterns, unlike the toneless machine-made feel. Each motif, even though it was repeated, seemed different because it was handmade. The imperfect nature of the handmade resonates with the fact that the birdsongs are also blemished with anthropony.

The patterns were created in such a way that a single screen could be used to repeat the pattern over the length of the fabric. The edges of the pattern had half the motif, so when it was repeated, it would meet the other half and be complete. This was meaningful learning in how the pattern repeats work. The repeats had to be done meticulously, following a calculated grid. Since all the processes of calculation and printing were handmade, the repeats were not wholly perfect, breaking away from the droning tonality. In some places, the paint was thicker, and in others, it was thinner according to pressure applied on the screen while printing. The unbalanced and uneven motifs represent the non-uniformity of bird sounds as heard in interference with other city sounds. The imperfect prints resonate with my non-integrated and displaced self. Lee, in her project “To begin again” (2018), draws patterns that never return to the same form.⁹¹ She uses Tjanting, the traditional instrument for applying hot wax in conventional Indonesian batik fabric to draw patterns that show her navigation between

cultures.⁹² Each repetition in her handmade patterned fabric depicts differences and displacements, fabricating a language of her liminal state.

I used multiple types of fabrics, with different opacities and textile paint for screen printing. Each material has its mesh texture. The cotton voile has a more pronounced mesh compared to the poly chiffon or silk georgette, which is more discreet. The textile paint is quite thick and gets caught into the fabric mesh; as if the birds sound was getting caught into a mesh. The screen printing process added a texture onto the texture of the fabric. The screen printing process helped me to add the texture of sound to the texture of the material on which it was imprinted.

When the printed fabrics are layered, a moiré effect is generated. The moiré effect adds a dynamic nature to the screen prints. Professor Adam Jaworski mentions that moiré signifies apparent motion.⁹³ I interpret this kinetic nature of the patterns to be a metaphor for my liminal state, which is always in motion and metamorphosing.

The less opaque fabrics, such as the poly chiffon and organza, created an exciting play of shadows when held against the light. The translucent quality of the fabric assisted in creating a dialogue between the patterns, as if the birds were in conversation, like the story. The thick opacity of the textile paint made an enigmatic interplay of the shadows on the ground; a subtle way of spatialising sound.

The colours chosen are black and white. The reason for a monochrome palette is me looking at Auckland city through the lens of Mumbai city. My city is colourful and vibrant when compared to Auckland’s built environment, which is less colourful and is mostly black, white and grey.

⁹¹ Ibid.

⁹² Ibid.

⁹³ Adam Jaworski, “Epilogue: The Moiré Effect and the Art of Assemblage.” *Social Semiotics* 27, no. 4 (September 2017): 533.
<https://doi.org/10.1080/10350330.2017.1334405>.

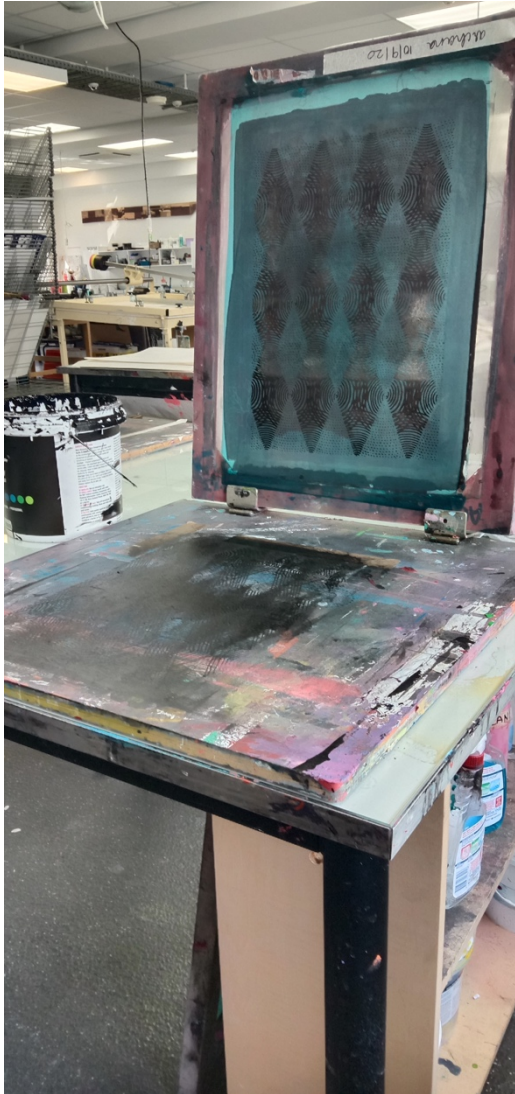


Figure 62 Archana Bhurke, Screen printing process showing the screen in use, 2020.



Figure 63 Archana Bhurke, Screen printed fabrics with black textile paint on cotton voile and poly chiffon, 2020.



Figure 64 Archana Bhurke, Screen printing imprints left behind on the wooden board when ink seeps through the fabric, 2020.

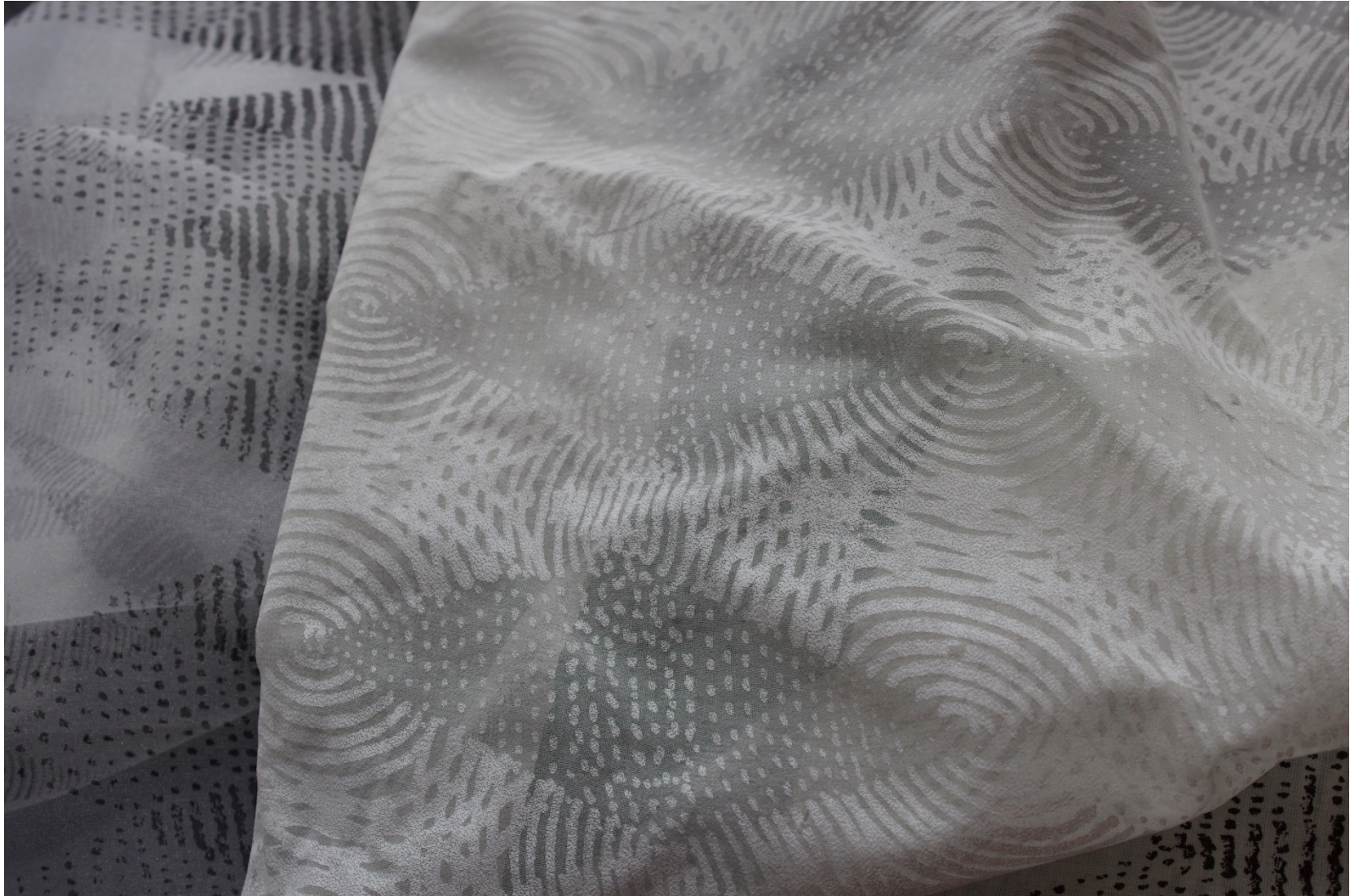


Figure 65 Archana Bhurke, Screen printed fabrics with white and black textile inks showing the various textures and moiré effect, 2020.



Figure 66 Archana Bhurke, Sound motif screen printed on silk chiffon in white textile ink, 2020.



Figure 67 Archana Bhurke, Test of large screen printing (1500 x1500mm) on cotton voile with white textile ink, 2020.



Figure 68 Archana Bhurke, Screen printed fabrics in white ink for the Fabric Book, 2020.

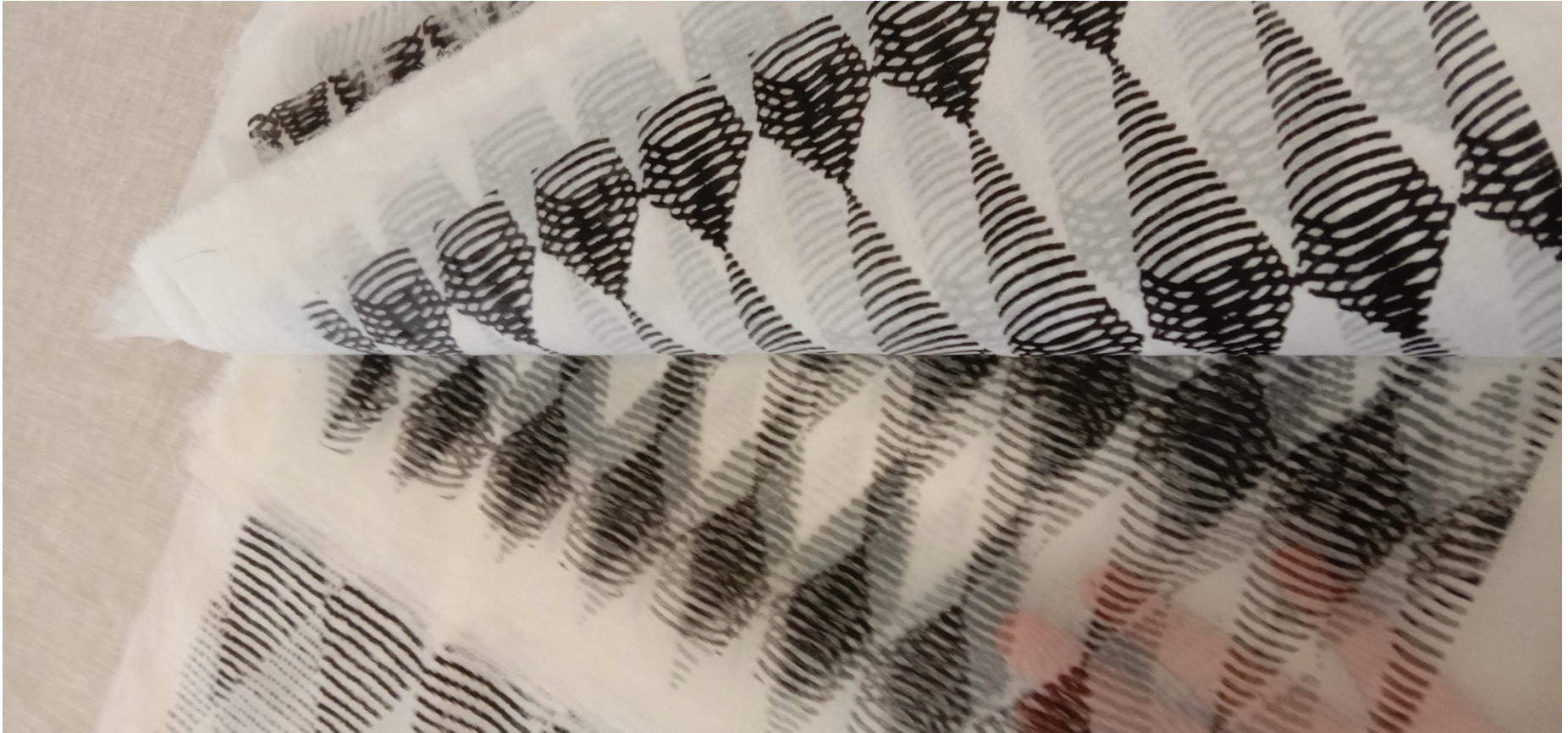


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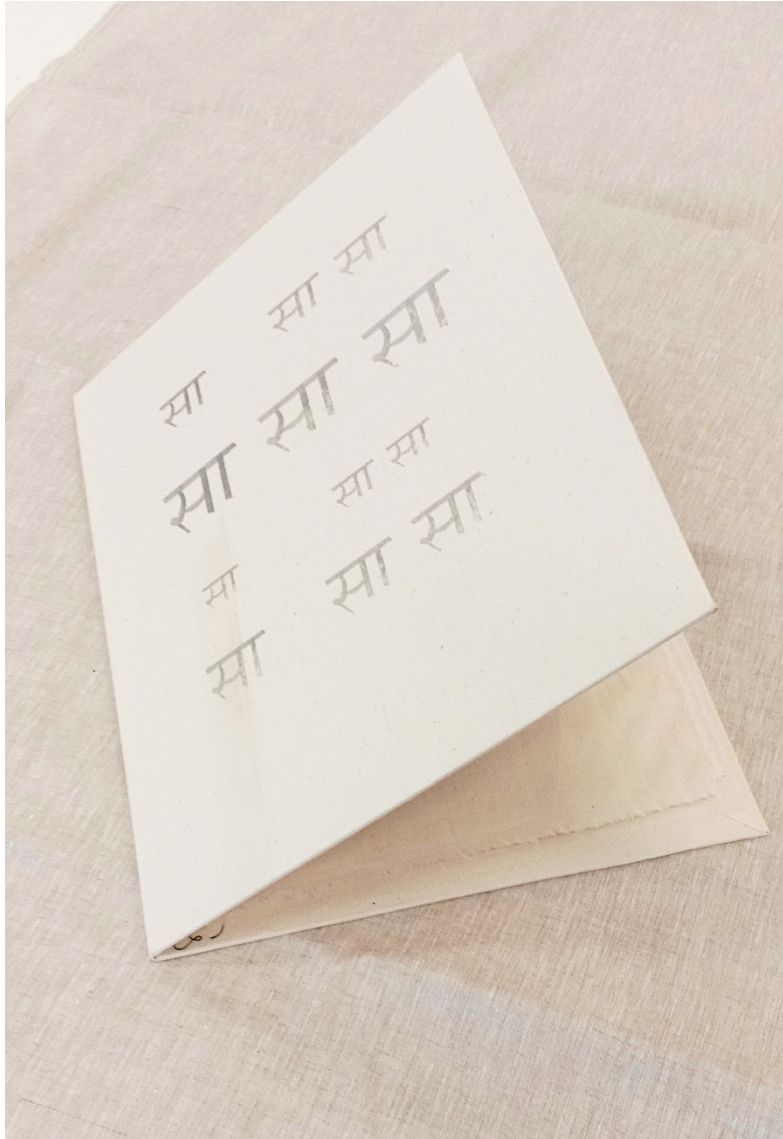


Figure 70 Archana Bhurke, Fabric Book test with calico hard cover and silver foiling, 2020.

Light, Shadows, and Zephyr: Spatialising Sound

Capturing how the fabrics interact with the environment is vital as it is one of the ways I can share how I am spatialising sound. Ingold mentions the link between light and sound; the darkness is reminiscent of silence, whereas the light is of sound.⁹⁴ The presence of light reinforces the presence of sound. The translucent fabrics allow the light to pass through them, and the thick opaque paint prints reflect it, castings their shadows on the ground. The shadows are the echoes of the resonant birdsongs that have been retained in my mind as a memory. Some of the fabrics like organza or silk have a gentle shimmer in the sunlight, which creates a mesmerising ambience. The breeze enhances the embodied experience by making it dynamic and ephemeral—photography of my artefacts in the right ambience, aids in the spatialising of my sound screens.

Thinking in spatial design terms, I am creating a space where the screen printed fabrics are in a dialogue with one another as well as the immediate environment, creating an interplay of moiré and shadows. The moiré effect represents the cacophony and confusion in my mind and heart caused by disorientation in the liminal state. I am interpreting the fabric screens to be a point of connection and threshold, where everything (atmosphere, body, emotions, and self) is transient.

Analysing exhibition site

Understanding the site dynamics for the display of my artefacts is essential as it is dependent on the sunlight, wind and scale of the

immediate surroundings. The foyer area of the WM building, is an ideal site for the display of my patterned screens, as it receives ample sunlight and just enough breeze to create an evocative and immersive experience for the viewers. The foyer is a transitional “in-between” space and keeps transforming throughout the day with the sunrise and sunset.

Sun path

The sun travels from east to west via north here in the Southern hemisphere, which is the opposite to Mumbai, India; another aspect of the environment that is affecting my displacement. The foyer area faces north, and hence it receives sunlight throughout the day at different angles. The screens are meticulously spaced in the foyer, depending on how the sun moves. The morning light drops shadows in the west and the evening light drops the shadows in the east. (Figure 75)

Breeze

The opening and closing of the main door to the WM building, lets a gentle breeze sway the fabric screens and creates movement. The haptic nature of the breeze also recalls the haptic nature of the sound and surface. The breeze brings in a notion of change that mutates the moiré patterns and the shadows on the ground. It catalyses the process of movement and transition while creating a balance between permanence and impermanence.

⁹⁴ BSUEnvHums. “Tim Ingold; Noise, Sound, Silence; Bath Spa University; 2018,” 2018, YouTube video, 15:00, <https://www.youtube.com/watch?v=ISwmepMf02k>.



Figure 71 Archana Bhurke, Screen printed sound motifs on poly chiffon and organza on a metal stand showing moiré and interplay of shadows, 2020.

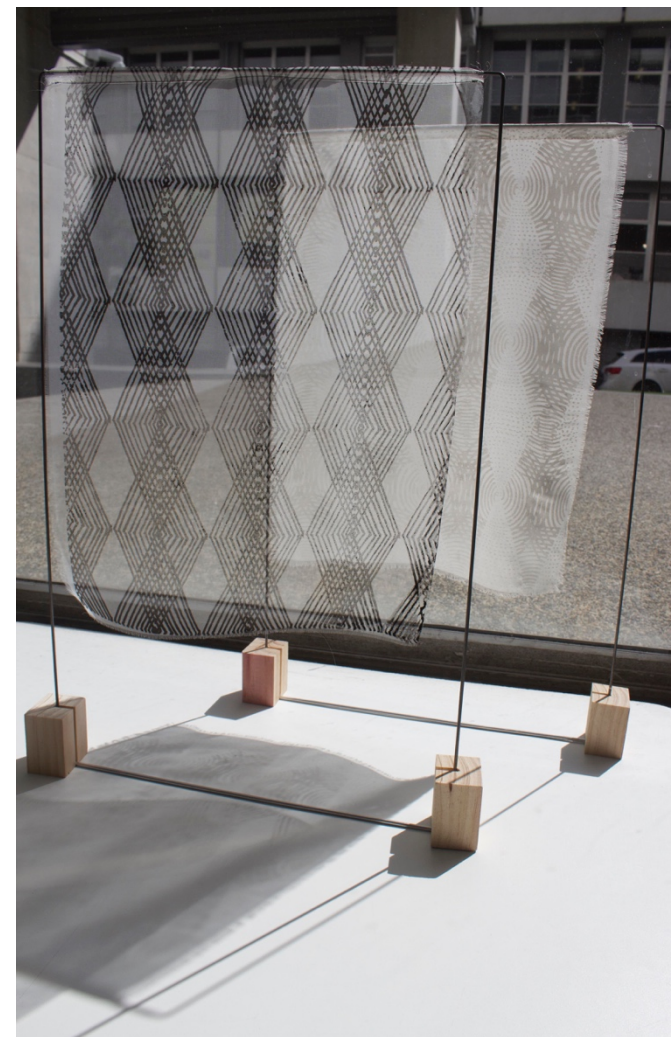


Figure 72 Archana Bhurke, Screen printed sound motifs on poly chiffon and organza on a metal stand showing moiré and shadows, 2020.



Figure 73 Archana Bhurke, Screen printed sound motif with white textile ink on poly chiffon showing shadows, 2020.



Figure 74 Archana Bhurke, Screen printed sound motif with black textile ink on organza showing shadows, 2020.

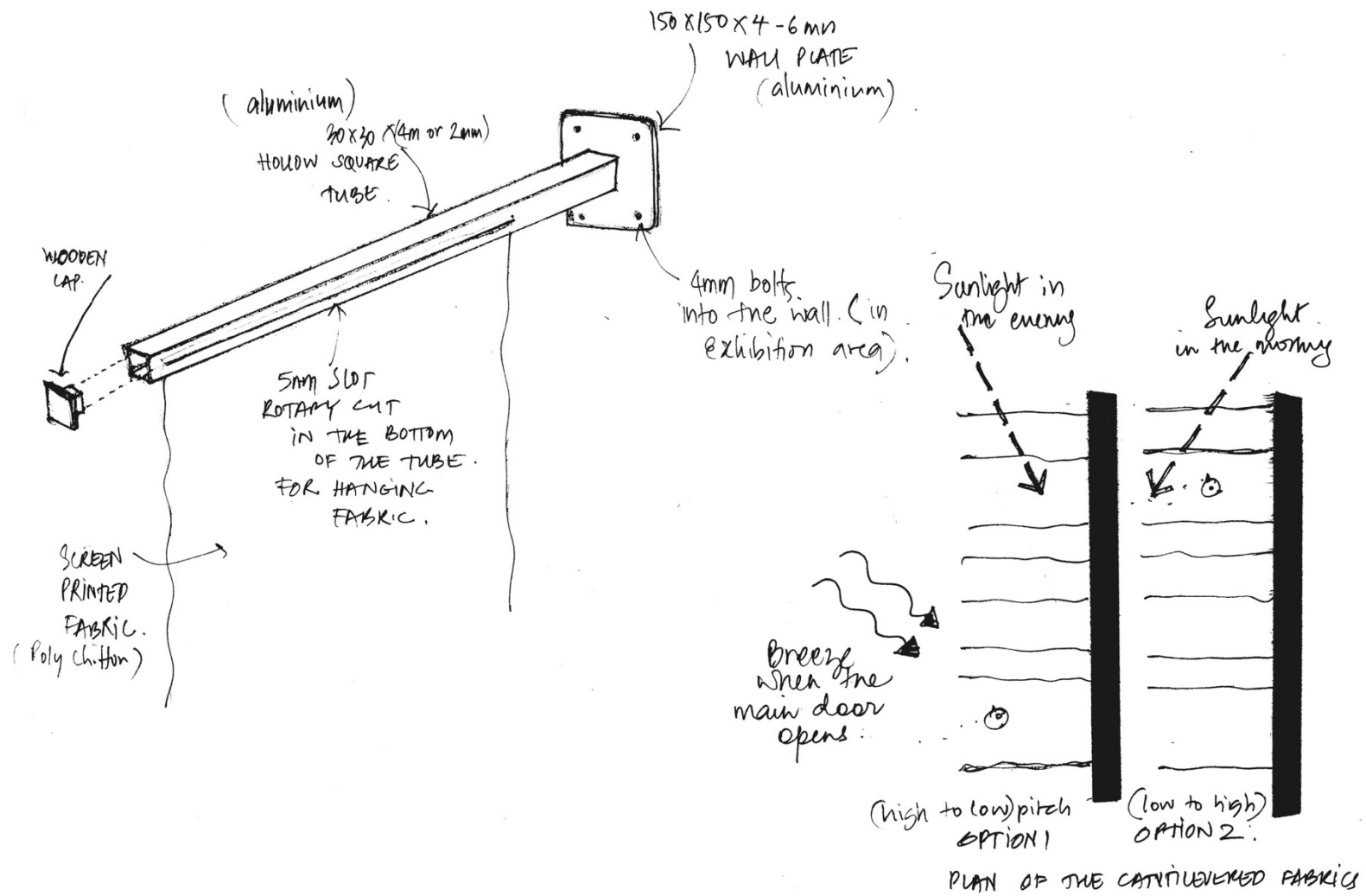


Figure 76 Archana Bhurke, Sun path, Sketches, and analysis of Exhibition area, 2020.

CONCLUSION

This body of work is my way of interpreting the heritage art of Kalamkari in present times by symbolising and abstracting the birds through their sounds; keeping the genealogical link to my culture, past, identity, and home. I began this project as a means to unravel and understand my changing self, caused by the unknown places that I occupy, gaining a newfound value and gratitude towards my culture and traditions. I believe that this thesis is takes inspiration from Kalamkari in terms of its power to tell stories through surfaces, patterns and motif.

The making of Kalamkari sound prints in Tāmaki Makaurau has left an everlasting imprint on my being. Until now, Kalamkari was just printed cotton for me, and now I see how so many people, their beliefs, materials, and their different journeys cross paths to make this piece of cloth.

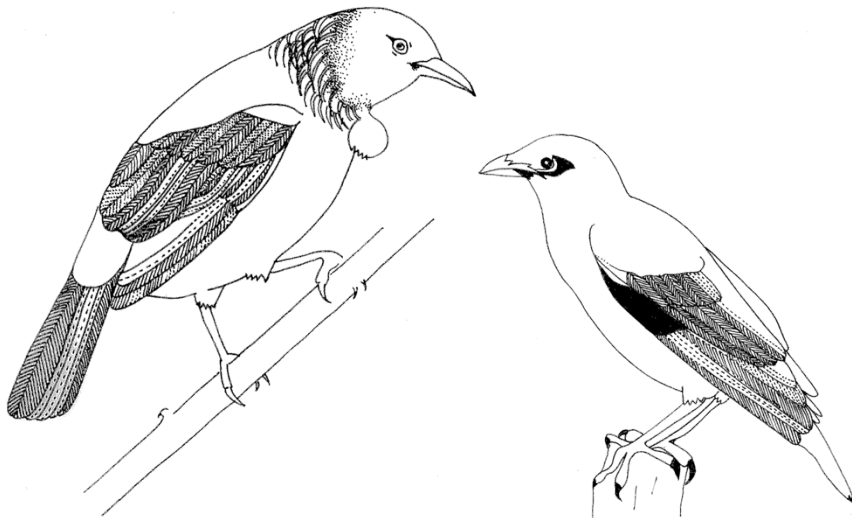


Figure 77 Archana Bhurke, Drawing of Tui and Myna in Dialogue, 2020.



Figure 78 Steven Park, Screen printed poly chiffon fabric drops and fabric books exhibited in WM building at AUT, 2021.

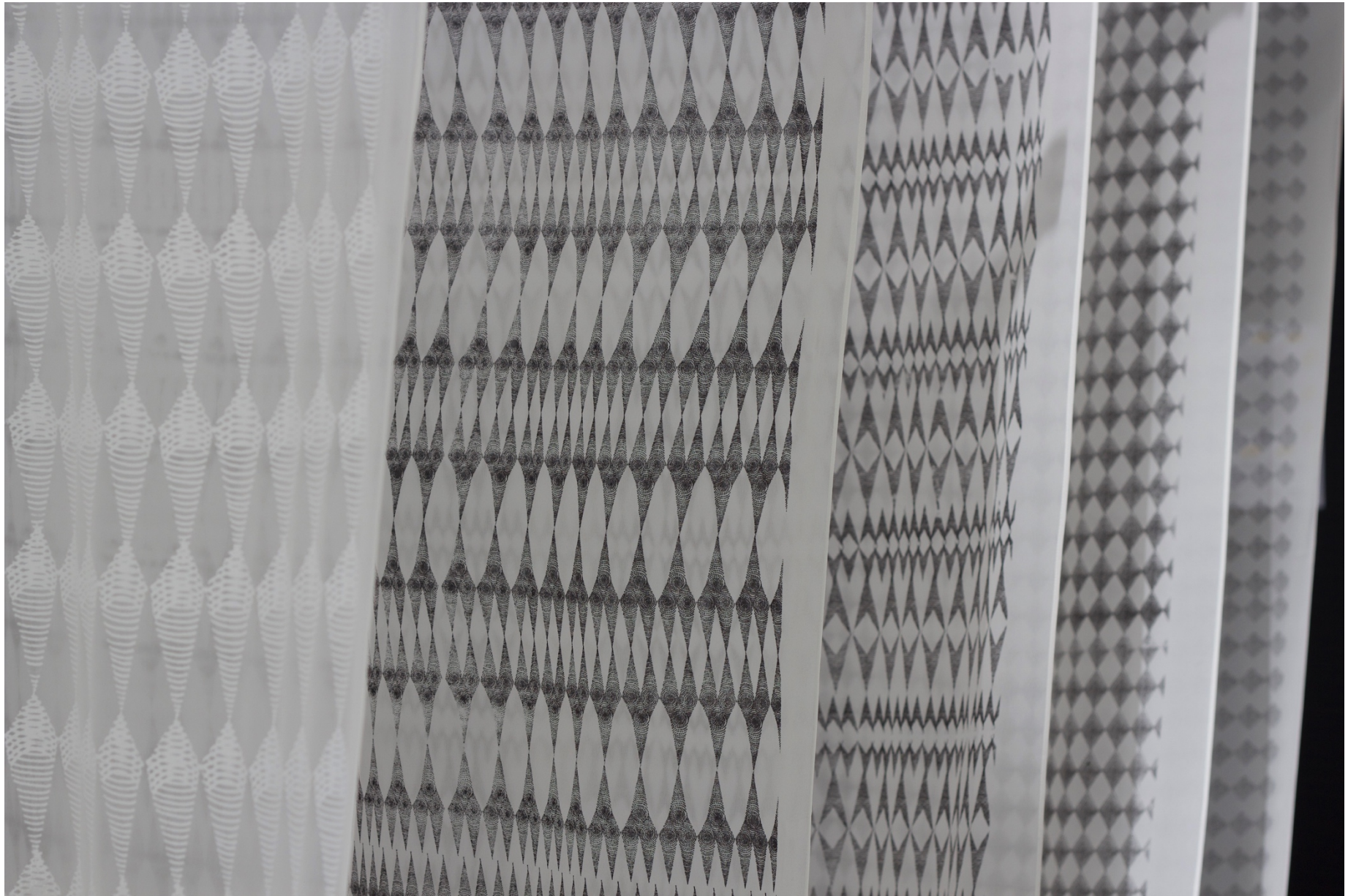


Figure 79 Daniel Voice and Archana Bhurke, layering of the screen printed poly chiffon fabric drops, 2021.

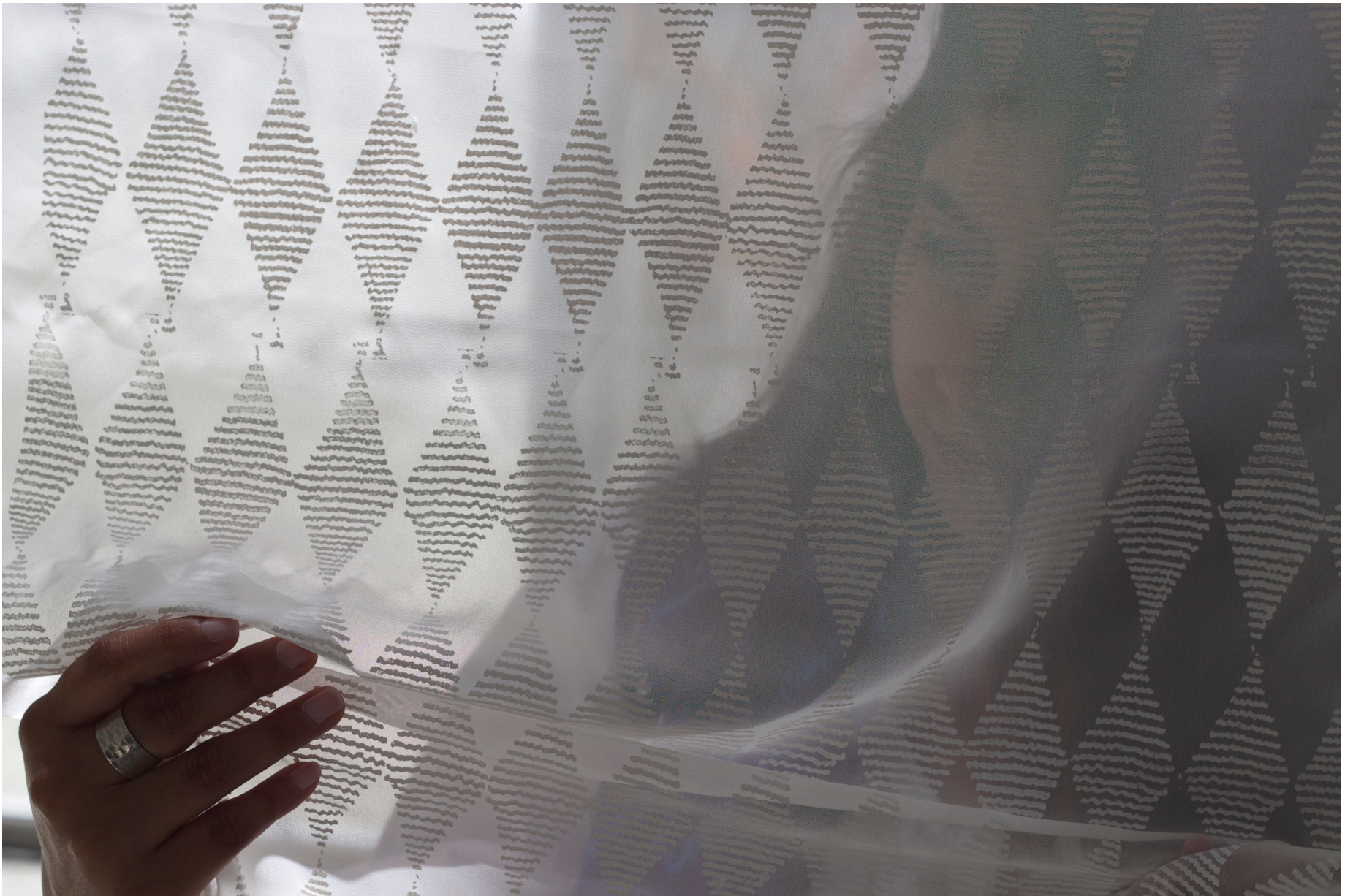


Figure 80 Daniel Voice and Archana Bhurke, immersive interaction with the screen printed poly chiffon fabric drops, 2021.

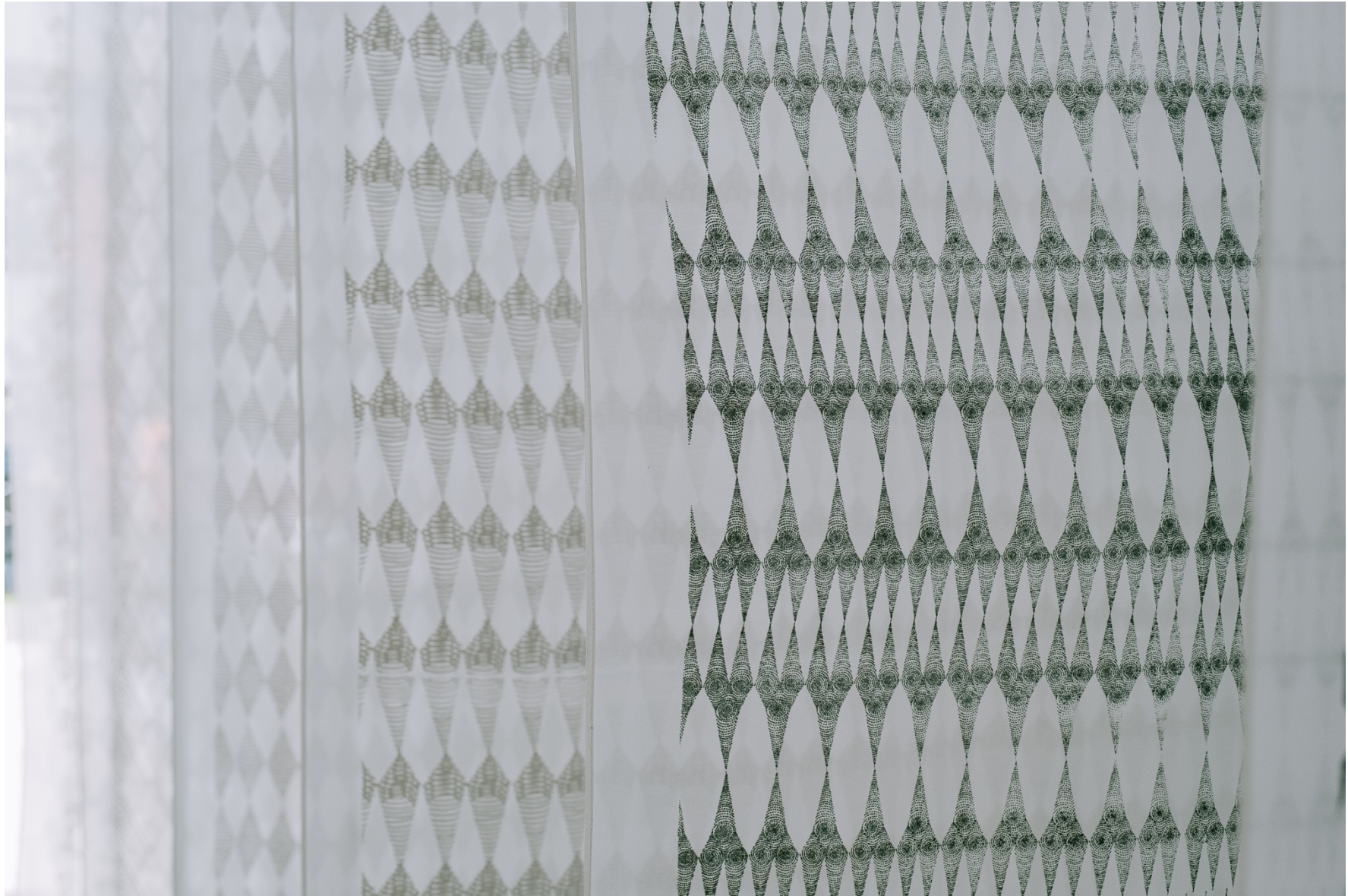


Figure 81 Steven Park, Layering and moiré effect in screen printed poly chiffon fabric drops, 2021.



Figure 82 Steven Park, screen printed poly chiffon Fabric drops layering, 2021.

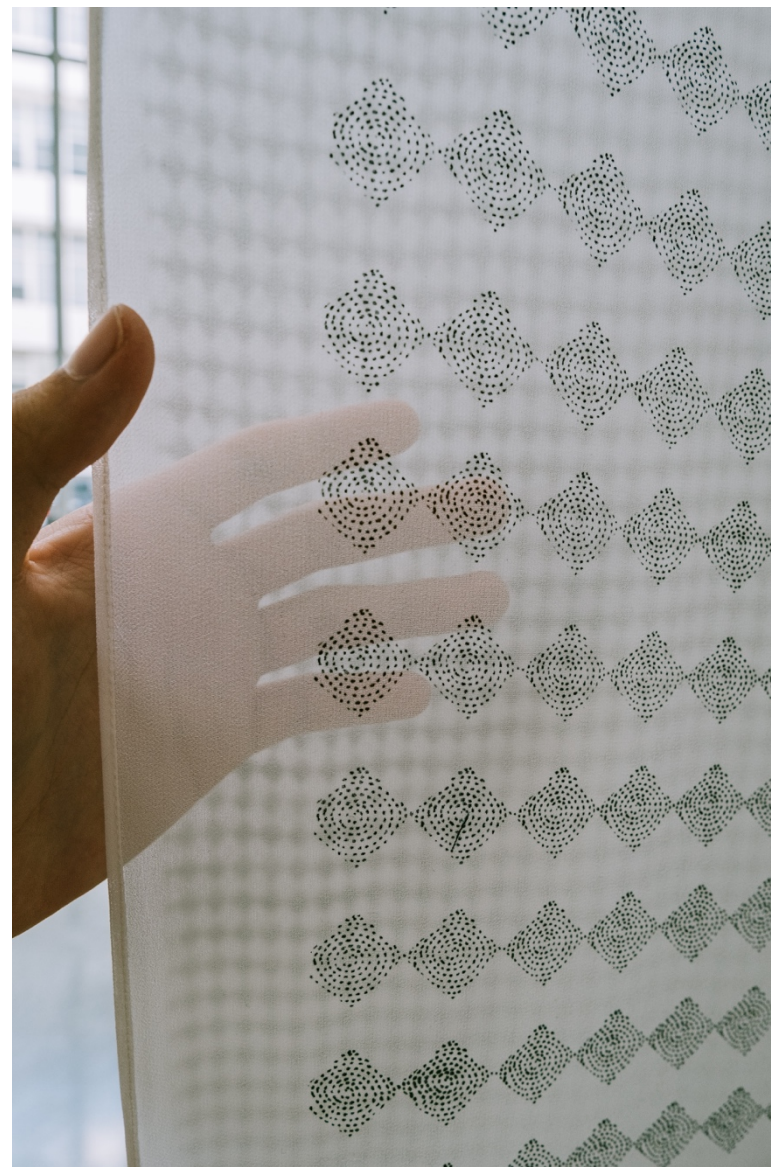


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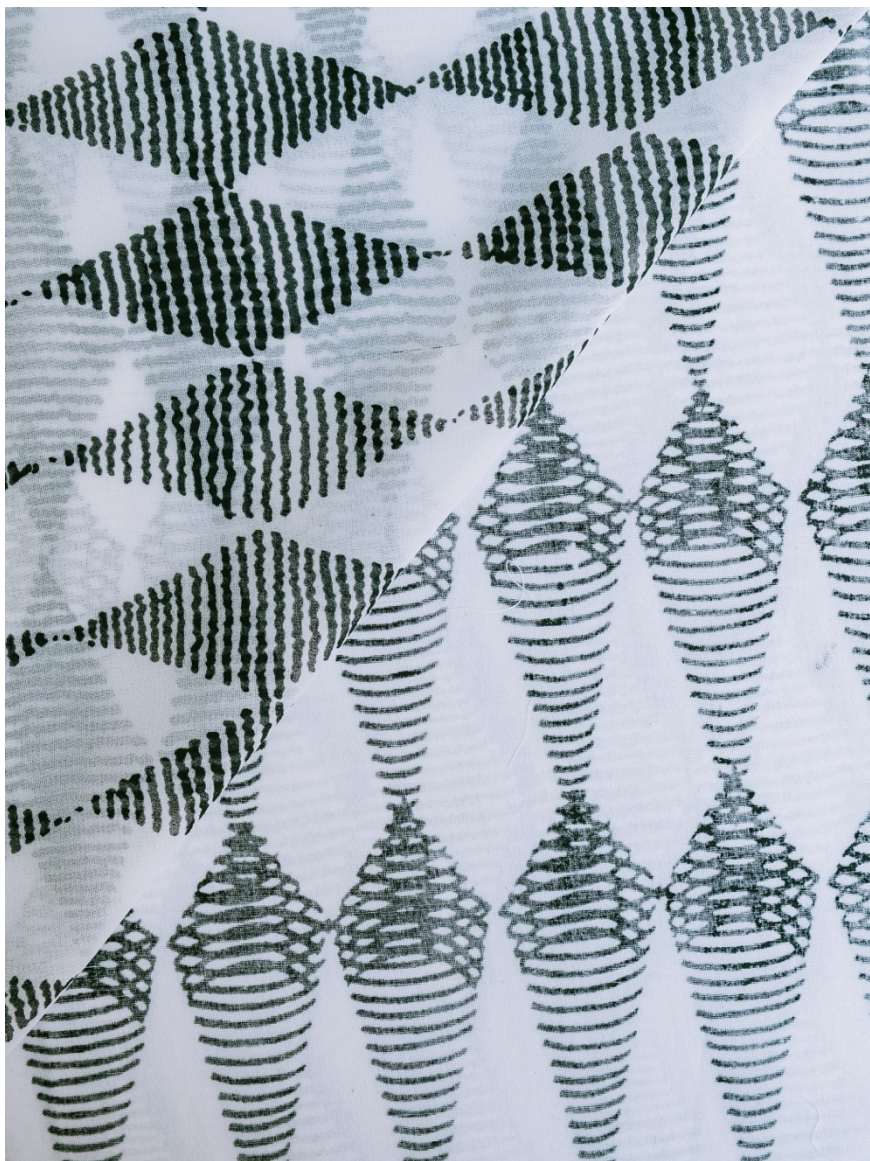


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Figure 86 Steven Park, Fabric books showing moiré and pattern interaction, 2021.



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