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From Dough to Wheat: A Posthuman Performance Practice with Companion Species

An exegesis presented in partial fulfilment of the requirements for the degree of

Doctor of Philosophy

College of Creative Arts, Toi Rauwharangi, Massey University,
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Figure 1. Film still from Madaleine Trigg and Simon Donger's *Knead*, London, UK, 2018

Abstract	5
Keywords	6
Dedication	6
Acknowledgements	6
List Of Creative And Scholarly Works	8
List Of Figures	10
Preface	16
Introduction	18
What Follows	19
Chapter 1: Groundwork, Marking Out The Field	21
Body And Bodies	21
Leaky Bodies, Bodies Of Water	23
Biological Bodies	25
Microbial Bodies	25
Bodies Of Work	26
Material Agency	27
Language	29
Guman	31
Methodology: Embracing Philosophies Rather Than Theories	34
Contact Improvisation	36
Practice	38

Chapter 2: Wearing, Materials, Bodies	41
<i>Sutre</i>	42
<i>Felt Me</i>	44
<i>Dough Dress</i>	46
<i>Knead</i>	48
Chapter 3: Context	56
Chapter 4: Unsettling Visions, Collaborations With The Camera	79
<i>Body-Made-Bread</i>	84
<i>Lockdown Loaves</i>	90
<i>Cocklebrids</i>	91
A Note On Consumption	97
<i>Co-Kneading</i>	99
<i>The Unsettling Eros Of Contact Zones: Breaking Bread With Our Messmates</i>	108
Re-Producing Different (Video) Spaces. Ecologies In Contact Contaminate Systems Of Representation.	110
Chapter 5: Within The Wheatfield	116
Plate 1	125
Plate 2	127
Plate 3	130
Plate 4	131
Coming To A Closure: A Composted Conclusion	133
Bibliography	140
Appendix	152

Abstract

This creative-practice-led doctoral research follows a question: What is it to practice Posthumanism? (Or, "what can Posthumanism do?") The research joins a recent wave of enthusiasm, curiosity and speculation on Posthumanism, which finds contemporary scholarship traversing feminist studies, social and political sciences, and the humanities both informing and being informed by the arts. As such I follow, and am beholden to, figures such as Donna Haraway, Karen Barad, Rosi Braidotti, Astrida Neimanis, Stephanie Springgay and Tarsh Bates.

Building upon my experience and training across performance, theatre, costume, movement studies and photography, I use an iterative and process-oriented mode of inquiry centred on learning in the making and critical reflection upon one experimental work to shape and score the next one. A series of performances framed as contact improvisations has assisted my realisation of the expansive agency of yeast as it exerts itself in alternative methods of mixing, kneading, rising and baking processes. These range from cultivating seeds, wearing and cooking dough, and preparing bread for consumption. In this context, the physical, social and chemical boundaries of all bodies, including technological bodies, blur, converge and multiply; they are guided and activated by literal and conceptual gestures of touch.

One of the central tenets in this transdisciplinary field of concern is exploring humankind's relation to the environment, unhinging the root causes of human hubris, habits of waste, control and dominance at the expense of other bodies and, hopefully, to stall or prevent the destruction of the earth and inequities resulting from the misuse of power. I am one of many artists exploring what happens when binaries are abandoned—when humans let go of their self-importance—to reignite a co-living model with other species. Resting on the prospect of making contact with, building a relationship with, communicating with another material body, a non-human body, the research wonders what a new relationship between humans and "other-than-humans" might be.

Keywords

contact improvisation; performance art; dough; material agency; body/bodies; companion species; feminist philosophy; New Materialism; Posthumanism; Yeast; Wheat.

Dedication

This body of work is dedicated to Simon Donger, a dear friend and generous, ingenious collaborator. Thank you for being with me through thick and thin and enriching my practice and research.

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Firstly, I want to acknowledge the creative force and vital contribution that all mothers make. Without them we wouldn't be alive. A special thank you to my mother, Glenys Trigg, who nurtured my curiosity and appetite for life. I've missed not being in the same room as you. I'm also in awe of the microbial "mothers," the (sourdough) starters that have been my companions and taught me so much about the complexity of interrelations with others.

Warm and heartfelt thanks to my supervisors Professor Julieanna Preston and Associate Professor Martin Patrick for taking this journey with me. I am grateful for their expertise, insights and never-ending support. Julieanna's passion and care for materials and non-human others pushed my practice into new territories and was complemented by Martin's vast knowledge on performance art and photography. It has been a privilege to have them as my supervisors and I thank them for all the conversations and provocations.

Over the past four years there have been many people who have gifted their time, friendship, love, funding and lent me their consoling ears and shoulders: A special thank you to Mo and Chris Parker, Sarah Gilligan and Vanessa Gerrie. Tobias and Wim, may you rest in peace.

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List of Creative and Scholarly Works

Madaleine Trigg, *Dough Dress* [performance, 15 mins]. Southbank Centre, London, UK, March 9, 2018.

Madaleine Trigg and Simon Donger (film and lighting), *Knead* [video, 09.59 mins], Royal Central School of Speech and Drama (RCSSD), London, August 2018.

Video 01 knead 2018.mp4

Madaleine Trigg, "Knead" [Conference flash talk featuring *Knead* video, 10 mins], *Critical Costume*, Ivy Arts Centre, Guildford School of Acting, University of Surrey, UK, September 13, 2018.

Madaleine Trigg, *Fat Corner, Felting Corner and (Un)Finished Corner*, Acrylic screen with butter, video, projector, wool, unfinished sewing samples, books, 10A17, Massey University, December 2018:

Madaleine Trigg, *Body-Made-Bread*, [video, 14.14 mins], Massey University, New Zealand, April 2019.

Video 02 bodymadebread 2019.mp4

Madaleine Trigg, *Untitled*, Chromatograms of yeasts and breads, 6 x circular filter papers, Offshoot Gallery, London (created during a workshop led by Hannah Fletcher), August 4, 2019.

Madaleine Trigg and Simon Donger (film and lighting), *Rising* [video, 3.47 mins and 10 mins], RCSSD, August 2019.

Video 03 Rising 1st Contact Improvisation 2019.mp4

Video 04 Rising 2nd Contact Improvisation 2019.mp4

Madaleine Trigg and Alex Stone, *Dough Duet* [performance and video] RCSSD, August 2019.

Madaleine Trigg, *Confirmation Exhibition: Body-Made-Bread, Rising*, projector, 6 x Chromatograms and 1 jar of "mother," 10A18, Massey University, November 2019.

Madaleine Trigg, *Go-Pro Dough and Batter*, [video experiments, 2-10 mins], 10A17, Massey University, February 2020.

Madaleine Trigg, *Lockdown Loaves*, Photographic documentation of bread baked during lockdown, April 2020.

Madaleine Trigg, *Empty Shelves*, Photographic documentation of empty flour/yeast shelves worldwide, April 2020.

Madaleine Trigg and anonymous collaborator, *Co-Kneading* [video, 21.12 mins], Kitchen, Wellington, New Zealand, April 8-10, 2020.

Video 05 cokneading 2020.mp4

Madaleine Trigg, *Cocklebreadcrumbs*, [video, 13.35 mins and two loaves of Cocklebread], Kitchen, Wellington, New Zealand, April 26, 2020.
Video 06 cocklebreadcrumbs 2020.mp4

Madaleine Trigg, *Cocklebreadcrumbs casts*, [dough and salt], 10A85, Massey University, May 2020

Madaleine Trigg, *Ph Dress*, [Red cabbage-soaked paper garment, acrylic screen], 10A85, Massey University, July 2020.

Madaleine Trigg, *Wheatfield* [performance, 9 months], Alice Town, Lower Hutt, Wellington, August 2020-April 2021.

Madaleine Trigg, *Weeds within the Wheatfield* [lumens x 115, photographic paper (various dimensions), various species of weeds from the wheatfield], Alice Town, Lower Hutt, Wellington, January-April 2021.

Madaleine Trigg, *After the Birds Harvest*, [video, 5 mins], Alice Town, Lower Hutt, Wellington, April 1, 2021.

Madaleine Trigg, *Within The Wheatfield*, [video, 20.01 mins], Window Gallery Online, November 2021. <https://windowgallery.co.nz/exhibitions/within-the-wheatfield>
Video 07 within the wheatfield 2021.mp4

Madaleine Trigg, *Companion Species*, [video, 55 secs], Upstairs Gallery Online, Auckland, December 4, 2021.

Madaleine Trigg, "Kneading Bodies," in *Posthumanism in Practice*, ed. Christine Daigle and Matthew Hayler. Bloomsbury, January 2023. <https://www.bloomsbury.com/au/posthumanism-in-practice-9781350293816/>

List of Figures

Fig 1. Film still from *Knead*, Performance for film by Madaleine Trigg and Simon Donger, RCSSD, London, UK, August 2018.

Fig 2. Madaleine Trigg, *Sutre*, Performance, Battersea Arts Centre (BAC), London, UK, May 2010 (photograph by Jemima Yong).

Fig 3. Madaleine Trigg, *Sutre*, Performance, Battersea Arts Centre (BAC), London, UK, May 2010 (photograph by Jemima Yong).

Fig 4. Madaleine Trigg, *Felt Me*, Performance, Europäisches Künstlerhaus Oberbayern (Schafhof), Freising, Germany, July 2013 (photograph by Agnes Dümig).

Fig 5. Madaleine Trigg, *Felt Me*, Performance, Europäisches Künstlerhaus Oberbayern (Schafhof), Freising, Germany, July 2013 (photograph by Agnes Dümig).

Fig 6. Madaleine Trigg, Felt dress made during *Felt Me*, Exhibition, *Changing Threads*, Refinery Artspace, Nelson, New Zealand, June 2019 (photograph by Madaleine Trigg).

Fig 7. Madaleine Trigg, *Dough Dress*, Performance, Southbank Centre, London, UK, March 2018 (photograph by Alex Stone).

Fig 8. Madaleine Trigg and Simon Donger, *Knead*, Contact improvisation/studio explorations, Royal Central School of Speech and Drama (RCSSD), London, UK, August 2018 (photograph by Simon Donger).

Fig 9. Madaleine Trigg and Simon Donger, *Knead*, Contact improvisation/studio explorations, RCSSD, London, UK, August 2018 (photograph by Simon Donger).

Fig 10. Madaleine Trigg and Simon Donger, *Knead*, Contact improvisation/studio explorations, RCSSD, London, UK, August 2018 (photograph by Simon Donger).

Fig 11. Madaleine Trigg and Simon Donger, *Knead*, Contact improvisation/studio explorations, Royal Central School of Speech and Drama (RCSSD), London, UK, August 2018 (photograph by Simon Donger).

Fig 12. Film still from *Knead*, Performance for film by Madaleine Trigg and Simon Donger, RCSSD, London, UK, August 2018.

Fig 13. Film still from *Knead*, Performance for film by Madaleine Trigg and Simon Donger, RCSSD, London, UK, August 2018.

Fig 14. Film still from *Knead*, Performance for film by Madaleine Trigg and Simon Donger, RCSSD, London, UK, August 2018.

Fig 15. Film still from *Knead*, Performance for film by Madaleine Trigg and Simon Donger, RCSSD, London, UK, August 2018.

Fig 16. Film still from *Knead*, Performance for film by Madaleine Trigg and Simon Donger, RCSSD, London, UK, August 2018.

Fig 17. Film still from *Knead*, Performance for film by Madaleine Trigg and Simon Donger, RCSSD, London, UK, August 2018.

Fig 18. Photographs from Berni Searle's *Still*, 2001, digital prints on backlit paper, 8 images, 120 x 120cm each, represented by Michael Stevenson Gallery, Cape Town, South Africa, accessed March 23, 2022, <https://archive.stevenson.info/exhibitions/searle/works/item6.htm>

Fig 19. Guerrilla Girls, *We Sell White Bread*, 1986/7, New York, screenprint on paper, 330 x 560 mm, Tate Collection, London, purchased 2003, accessed March 2019, <https://www.tate.org.uk/art/artworks/guerrilla-girls-we-sell-white-bread-p78800>

Fig 20. Martha Rosler, *Kitchen Economics: The Wonder of (white) Bread*, 1975, Reprint, in Martha Rosler and Catherine de Zegher (ed), *Martha Rosler: Positions in the Life World*, (Birmingham: Ikon Gallery and Generali Foundation, 1998), 198-199.

Fig 21. Martha Rosler, *Kitchen Economics: The Wonder of (white) Bread*, 1975, Reprint, in Martha Rosler and Catherine de Zegher (ed), *Martha Rosler: Positions in the Life World*, (Birmingham: Ikon Gallery and Generali Foundation, 1998), 198-199.

Fig 22. Photograph of *malediction*, Performance by Ann Hamilton, "malediction," Louver Gallery, New York, USA, December 7, 1991-January 4, 1992, photograph by D. James Dee, from Ann Hamilton Studio, accessed August 2019, <http://www.annhamiltonstudio.com/projects/malediction.html>

Fig 23. Photographic detail of dough casts from *malediction*, Performance by Ann Hamilton, "malediction," Louver Gallery, New York, USA, December 7, 1991-January 4, 1992, photograph by D. James Dee, from Ann Hamilton Studio, accessed August 2019, <http://www.annhamiltonstudio.com/projects/malediction.html>

Fig 24. Photograph of *Wheatfield-A Confrontation*, Performance/installation by Agnes Denes, "Wheatfield-A Confrontation," Battery Park Landfill, Downtown Manhattan, May-August 16, 1982, photograph by Agnes Denes, accessed October 27 2021, <http://www.agnesdenesstudio.com/works7.html>

Fig 25. Photograph of *Rise*, Performance by Java Dance Company, choreographed by Sacha Copland, "Rise," BATS Theatre, Wellington, New Zealand, October 22-November 5, 2011, photographer unknown, accessed February 2019, <https://dancemagazine.com.au/2012/09/nz-dance-news-september/>

Fig 26. Photograph of *Fold and Stretch*, Performance by Laura Wilson, choreographed by Lucy Suggate with performers Kirsty Arnold, Hannah Buckley and Lucy Suggate, "Fold and Stretch," SPACE, London, UK, September 24, 2016, photographer unknown, accessed April 2019, <https://spacestudios.org.uk/events/laura-wilson-folds/laura-wilson-fold-and-stretch/>

Fig 27. Photograph of *Fold and Stretch*, Performance by Laura Wilson, choreographed by Lucy Suggate with performers Kirsty Arnold, Hannah Buckley and Lucy Suggate, "Fold and Stretch," SPACE, London, UK, September 24, 2016, photographer unknown, accessed April 2019, <https://spacestudios.org.uk/events/laura-wilson-folds/laura-wilson-fold-and-stretch/>

Fig 28: Film still from *Dough*, Film Installation by Mika Rottenberg, performed by Queen Racqui et al, "Dough," 2006, Video sculpture, with sound, 7 min, with drop ceiling, wood, sandbags, and ceiling fan, dimensions variable, from Solomon R. Guggenheim Museum, New York, purchased with funds contributed by the Young Collectors Council, accessed April 2019, <https://www.nytimes.com/video/t-magazine/100000001149614/dough-20052006.html>

Fig 29: Sarra, 37, London, 2010, Photograph from Søren Dahlgaard's *Dough Portraits*, 2008-2015, dimensions variable, from University of Melbourne, "Mixing Sculpture and Performance in Dough Portraits," accessed November 2018, <https://pursuit.unimelb.edu.au/articles/mixing-sculpture-and-performance-in-dough-portraits> (Image courtesy of Søren Dahlgaard)

Fig 30: Frederik, 18, SMK – The National Art Gallery, Denmark, 2008, Photograph from Søren Dahlgaard's *Dough Portraits*, 2008-2015, dimensions variable, from Trendhunter, "Dough Portraits," accessed September 2019, <https://www.trendhunter.com/trends/obscure-art-dough-on-faces> (Image courtesy of Søren Dahlgaard)

Fig 31. Film still from *Untitled Dough Project (Self-Portrait)*, Performance by Santina Amato, "Untitled Dough Project (Self-Portrait)," 2015, Video performance, 8 secs, looped, School of Art Institute, Chicago, from Santina Amato, "Untitled Dough Project (Self-Portrait)," accessed May 2019, <https://santinaamato.com/untitled-self-potrait-2015> (Image courtesy of Santina Amato)

Fig 32. Film still from *Untitled Dough Project (Self-Portrait)*, Performance by Santina Amato, "Untitled Dough Project (Self-Portrait)," 2015, Video performance, 8 secs, looped, School of Art Institute, Chicago, from Santina Amato, "Untitled Dough Project (Self-Portrait)," accessed May 2019, <https://santinaamato.com/untitled-self-potrait-2015> (Image courtesy of Santina Amato)

Fig 33. Film still from *Rising*, Performance for camera and film by Madaleine Trigg and Simon Donger, performed by Madaleine Trigg, "Rising," August 2019, 3.47 mins and 10 mins, RCSSD, London, UK.

Fig 34. Film still from *Rising*, Performance for camera and film by Madaleine Trigg and Simon Donger, performed by Madaleine Trigg, "Rising," August 2019, 3.47 mins and 10 mins, RCSSD, London, UK.

Fig 35. Film still from *Rising*, Performance for camera and film by Madaleine Trigg and Simon Donger, performed by Madaleine Trigg, "Rising," August 2019, 3.47 mins and 10 mins, RCSSD, London, UK.

Fig 36. Film still from *Knead*, Performance for film by Madaleine Trigg and Simon Donger, RCSSD, London, UK, August 2018.

Fig 37. Film still from *Knead*, Performance for film by Madaleine Trigg and Simon Donger, RCSSD, London, UK, August 2018.

Fig 38. Film still from Madaleine Trigg's *Body-Made-Bread*, Performance to camera, 14.14 mins, Massey University, Wellington, New Zealand, April 2019.

Fig 39. Film still from Madaleine Trigg's *Body-Made-Bread*, Performance to camera, 14.14 mins, Massey University, Wellington, New Zealand, April 2019.

Fig 40. Film still from Madaleine Trigg's *Body-Made-Bread*, Performance to camera, 14.14 mins, Massey University, Wellington, New Zealand, April 2019.

Fig 41. Film still from Madaleine Trigg's *Body-Made-Bread*, Performance to camera, 14.14 mins, Massey University, Wellington, New Zealand, April 2019.

Fig 42. *Body-Made-Bread* set-up. Drawing by Madaleine Trigg, 2019.

Fig 43. *Cocklebread* set-up. Drawing by Madaleine Trigg, 2020.

Fig 44. Film still from Madaleine Trigg's *Cocklebread*s, Performance with camera, 13.35 mins, kitchen, Wellington, New Zealand, April 2020.

Fig 45. Film still from Madaleine Trigg's *Cocklebread*s, Performance with camera, 13.35 mins, kitchen, Wellington, New Zealand, April 2020.

Fig 46. Film still from Madaleine Trigg's *Cocklebread*s, Performance with camera, 13.35 mins, kitchen, Wellington, New Zealand, April 2020.

Fig 47. Film still from Madaleine Trigg's *Cocklebread*s, Performance with camera, 13.35 mins, kitchen, Wellington, New Zealand, April 2020.

Fig 48. Film still from Madaleine Trigg's *Cocklebread*s, Performance with camera, 13.35 mins, kitchen, Wellington, New Zealand, April 2020.

Fig 49. Film still from Madaleine Trigg's *Cocklebread*s, Performance with camera, 13.35 mins, kitchen, Wellington, New Zealand, April 2020.

Fig 50. *Raw Cocklebread*. Photograph by Madaleine Trigg, April 26, 2020.

Fig 51. *Cooked Cocklebread*. Photograph by Madaleine Trigg, April 26, 2020.

Fig 52. *Co-Kneading* set-up. Drawing by Madaleine Trigg, 2020.

Fig 53. Film still from Madaleine Trigg and anonymous collaborator's *Co-Kneading*, Performance with camera, 21.12 mins, kitchen, Wellington, New Zealand, April 2020.

Fig 54. Film still from Madaleine Trigg and anonymous collaborator's *Co-Kneading*, Performance with camera, 21.12 mins, kitchen, Wellington, New Zealand, April 2020.

Fig 55. Film still from Madaleine Trigg and anonymous collaborator's *Co-Kneading*, Performance with camera, 21.12 mins, kitchen, Wellington, New Zealand, April 2020.

Fig 56. Film still from Madaleine Trigg and anonymous collaborator's *Co-Kneading*, Performance with camera, 21.12 mins, kitchen, Wellington, New Zealand, April 2020.

Fig 57. Film still from Madaleine Trigg and anonymous collaborator's *Co-Kneading*, Performance with camera, 21.12 mins, kitchen, Wellington, New Zealand, April 2020.

Fig 58. Film still from Madaleine Trigg and anonymous collaborator's *Co-Kneading*, Performance with camera, 21.12 mins, kitchen, Wellington, New Zealand, April 2020.

Fig 59. Image/recipe for Tarsh Bates' *The Unsettling Eros of Contact Zones*, Dimensions variable, Perth, Australia, October 2015. (Image courtesy of Tarsh Bates)

Fig 60. Film still from *Dough*, Film Installation by Mika Rottenberg, performed by Queen Racqui et al, "Dough," 2006, Video sculpture, with sound, 7 min., with drop ceiling, wood, sandbags, and ceiling fan, dimensions variable, from Solomon R. Guggenheim Museum, New York, purchased with funds contributed by the Young Collectors Council, accessed April 2019, <https://www.nytimes.com/video/t-magazine/100000001149614/dough-20052006.html>

Fig 61. Film still from *Dough*, Film Installation by Mika Rottenberg, performed by Queen Racqui et al, "Dough," 2006, Video sculpture, with sound, 7 min., with drop ceiling, wood, sandbags, and ceiling fan, dimensions variable, from Solomon R. Guggenheim Museum, New York, purchased with funds contributed by the Young Collectors Council, accessed April 2019, <https://www.nytimes.com/video/t-magazine/100000001149614/dough-20052006.html>

Fig 62. Film still with detail of Queen Racqui's toe from *Dough*, Film Installation by Mika Rottenberg, performed by Queen Racqui et al, "Dough," 2006, Video sculpture, with sound, 7 min., with drop ceiling, wood, sandbags, and ceiling fan, dimensions variable, from Solomon R. Guggenheim Museum, New York, purchased with funds contributed by the Young Collectors Council, accessed April 2019, <https://www.nytimes.com/video/t-magazine/100000001149614/dough-20052006.html>

Fig 63: Photograph of *Crux*, Five-channel video/sound installation by Gary Hill, performed by Gary Hill, "Crux," 1983-1987, Five 20-inch color video monitors, four monitor-mounting brackets, five speakers, five-channel synchronizer, five laserdisc players and five laserdiscs (color; mono sound), dimensions variable, approx. 144 x 144 in. (365 x 365 cm) from Gary Hill "Mixed-Media Installation, Crux," accessed July 2, 2022. https://garyhill.com/work/mixed_media_installation/crux.html

Fig 64: Photograph of *Body Press*, Film installation by Dan Graham, performed by Dan Graham and unknown (female) artist, "Body Press," 1970-1972, Film installation of two synchronized silent 16mm-film projections, color, 8', dimensions variable, from Medien Kunst Netz, "Dan Graham Body Press," accessed June 6, 2022. <http://www.medienkunstnetz.de/works/body-press/> (photograph © Kramlich Collection)

Fig 65. Plate 1, Chapter 5, *Within the Wheatfield*. By Madaleine Trigg.

Fig 66. Plate 2, Chapter 5, *Within the Wheatfield*. By Madaleine Trigg.
Video 08 plate 2.mp4

Fig 67. Plate 3, Chapter 5, *Within the Wheatfield*. By Madaleine Trigg.
Video 09 plate 3.mp4

Fig 68. Plate 4, Chapter 5, *Within the Wheatfield*. By Madaleine Trigg.
Video 10 plate 4.mp4

Fig 69. Plate 5, Chapter 5, *Within the Wheatfield*. By Madaleine Trigg.
Video 11 plate 5.mp4

Preface

I am a feminist performance artist and photographer who trained in Alternative Theatre and New Performance Practices at the Royal Central School of Speech and Drama. I specialised as a performer and director in devised, improvised, collaborative and site-specific performances that were movement-based and materials-led. Since graduating in 2009, I have created, self-produced and toured my interdisciplinary performances in Europe and internationally, presenting them in theatre, gallery and outdoor spaces. I initially created my own performances as I wanted to have agency over how my body (in particular) and the female body (in general) is represented on stage. I sought to have control over what I make creatively, being active in shaping the meaning and taking responsibility for what I put out into the world. Having studied within a traditional theatre school, I was determined not to be a performer whose life and actions are predominantly directed by yet another male body who is considered the auteur and artistic genius. I was particularly traumatised by the prospect that I would only get work if I impressed someone else with my appearance rather than the quality of my audition.

The interdisciplinary nature of my practice means that it doesn't fit easily within any of these performance/exhibition contexts: it shifts, absorbs, and borrows from various environments depending on the work. For example, the way I use materials within my practice has often led to it being identified as performance art, and yet, I am often deemed "too theatrical" for the live/performance art scene. As the work is primarily performative and ephemeral, the lack of saleable objects has meant that, in certain contexts, it isn't regarded as fine art. My interest in materiality has found a home within scenography and the emerging field of "costume as performance" yet being a performer and not a designer has made this relationship complicated. I have learned to glean from many knowledge domains while shaping a hybrid practice. I am deliberately undisciplined; or rather, I embrace multiple media on purpose.

I have a long-standing concern for how the human body's gestures can communicate with and affect others. Conveying meaning and, correspondingly, leaving meaning open to interpretation are key elements of my performance practice. During my theatre training, I got into the habit of showing performance material to others before talking about my intentions. I realised through this process that there was a marked difference from the ideas I wanted to convey and its reception to the audience. I couldn't trust ideas alone; it was how they materialised in time and space that mattered. The work was grounded in the realisation not the intellectualisation.¹ In the period leading up to my doctoral studies, I explored non-verbal performance techniques, such as corporeal mime, (contact) improvisation and Butoh, a Japanese form of dance that was called

¹These "show n' tells" were a vital turning point in my performance training and I'm grateful for workshops with Phelim McDermott (Improbable), Tristan Sharps (Dreamthinkspeak) and Louise Mari (Shunt) which consolidated the value of this approach. I couldn't trust whether ideas would work a priori, I had to put them into practice to see.

Ankoku Butoh (暗黒舞踏), translating as "dance of utter darkness."² My body honed an ability to become articulate through movement; "to (make) sense," a point French stage actor and movement coach Jacques Lecoq notes as the various articulations of the body with regard to lines/positions.³ The embodied knowledge that I gained from this phase of my career was the first glimmer that material and intellectual impressions of the world are formed in the midst of practical encounters.

Originally from the UK, I moved to Aotearoa in 2018 to commence this doctoral study. On my first day, sleepy and crumpled from jetlag, I experienced an earthquake. I hadn't been moved by the earth before nor felt so small and scared by nature. This experience set the tone for my time here, reminding that I had moved to a new place which productively disrupted my worldview even before COVID hit and further transformed our relations to non-human others. Although I have received a warm welcome here, I am an outsider. My life has been turned upside down. Opposite seasons and time differences have propelled me into a day in the future, confusing night with day as I telephone home. I am surrounded by an unfamiliar language and culture and "exotic" animals, birds and plants I don't know the names for. The crimson flowers of Pōhutukawa now signal Christmas. I look for the holes in Kawakawa leaves to make the tastiest tea and smile when I hear the call of Ruru at night. I'm intensely grateful for the opportunity to be immersed in a different world. This research into New Materialism and Posthumanism has hugely benefited from engaging with and learning from this land and the people that inhabit it. The rich relations between humans and non-human beings as embodied and expressed in mātauranga Māori have been inspiring to me but it's not my story to tell. I leave that practice and research to others. However, I wanted to acknowledge how being here has made me grow and the following work is the result of this cross-pollination.

²William Andrews, "A Short History of Ankoku Butoh," Tokyo Stages. Japanese Contemporary Theatre and Performing Arts, last updated October 14, 2016. <https://tokyostages.wordpress.com/2016/10/14/a-short-history-of-ankoku-butoh/>

In a Butoh workshop with movement practitioner Scarlett Perdereau (2018), one of the exercises featured kneading my body as though it was dough. This exercise drew attention to the physicality of our bodies, "waking it up" so that it was a responsive material to being-with others.

³"To (make) sense," is my own term here. I was impressed with how subtle shifts in the position of body, gestures and movement radically altered meaning. I explored this practically by working with the actress, Eleonore Grave, (2007-2008) on the production of *Synchronicity* (Institute of Contemporary Arts [ICA], 2007). Grave introduced me to the principles of mime and Lecoq's exercises. I also observed actor training given by Thomas Prattki in 2007 at London International School of Performing Arts (LISPA). In particular, an exercise where students would choose a painting and embody the dynamics of that artwork in time and space resonated with me. For more information on Jacques Lecoq's pedagogy please refer to: Jacques Lecoq, *The Moving Body (Le Corps Poétique) Teaching Creative Theatre*. (London: Methuen Drama, 2020), <http://dx.doi.org/10.5040/9781474244800>

Introduction

Over the past four years, my creative practice as a performance artist has focused on cultivating interrelations between myself and the material life of dough, yeasts, wheat and bread. These "bodies of works" have explored different modes of contact improvisation. They open toward the possibility of a practical, sensual exchange between human and non-human bodies conceptualised within contemporary New Materialist and Posthuman philosophy.

Led by a performance and moving image practice, this research seeks to disrupt and problematize the predominance of anthropocentric narratives. Diminishing the dominance and presence of the human body within performance practices, I explore what emerges when I relinquish the need to control materials and instead, I am left open to being moved and shaped by non-human bodies. In contrast to theatre and staged performance, I practice performance as a live, durational, contingent, open-ended and spatio-temporal encounter. This practice supports the overarching aim of the research as a subjective embodied learning process that prioritises knowing through doing, communication through proximity, and understanding through non-verbal physical interactions unconstrained by semiotic language and text. Performance affords the development and expression of complex narratives known for generating deeply felt emotions that, when directed through a feminist New Materialist and Posthuman lens, pry open some of the realities of unthinking and remaking very basic principles and values of living in this world with a host of "others."

This creative practice-led research has been guided by the following questions and considerations:

How does my performance practice relate to, reform and expand philosophical notions of New Materialism and Posthumanism?

And conversely, what does practicing Posthuman philosophies do to our understanding of performance?

How do contact improvisations creatively practice relations between companion species?

What emerges from the interactions and intra-actions of a live performance practice focussed on contact improvisations entwined with the world and the field of inquiry?

What Follows

This creative practice exegesis reflects on four distinct phases of my research. I discuss the creative work in chronological order, foregrounding the practice before reflecting upon the related discoveries I have made. Throughout, I fold relevant artists and philosophers into the text to trace the influences that have inspired me and informed the context of the creative works.

Chapter 1, **Groundwork**, provides the reader with a lexicon of key terminology used in the exegesis and in doing so, identifies the theoretical field of enquiry. Marking out a field of concern, it articulates some of the key thinkers influencing the intellectual framework of the project and the motivations for the practice. My intention is not to offer absolute definitions, rather to highlight (and problematise) the conceptual language to contextualise and assist the reader in navigating the critical reflection.

This feeds into the creative practice within Chapters 2, 3, 4 and 5, which serve as "speculative fabulations" on the various types of contact improvisations that emerged over the course of the study period. "Speculative fabulations" is a term I borrow from Posthuman scholar Donna Haraway to signal "stories in which multispecies players, who are enmeshed in partial and flawed translations across difference, redo ways of living and dying attuned to still possible finite flourishing, still possible recuperation."⁴ I prefer to consider these speculative fabulations as practices rather than narratives to move away from the anthropocentric reliance on language and to emphasise practice as a (re-)doing.

Chapter 2, **Wearing, materials, bodies**, focuses on my creative practice prior to my doctoral study to gesture how my work was beginning to explore similar concerns to this research. It is important that this discussion is included in this exegesis to demonstrate the marked transformation of my creative practice during the study period. This early phase provided a genealogy for the evolution and maturation of more recent work, including the original contribution it makes to the disciplines of performance and Posthumanism.

Chapter 3, **Context**, outlines the initial research I did in the first eight months of PhD study to indicate how it clarified the direction of my project. Becoming more familiar with the material, cultural, social, historical, political elements of yeasts, dough, flour and wheat was important to understand the complexity of their existing interrelations. This contextual research culminated in a contact improvisation, *Rising*, which starts to embody how this research differs from other artists working with similar materials. In this process, the agency of dough became startlingly apparent.

⁴ Donna Haraway. *Staying with the Trouble: Making Kin in the Chthulucene*, (Durham: Duke University Press, 2016), 10.

Chapter 4, **Unsettling Visions, Collaborations with the Camera**, explores three contact improvisations: *Body-Made-Bread*; *Cocklebreadcrumbs*; *Co-Kneading*. Set in white cube gallery spaces or a domestic kitchen, these works ultimately address the role of technology in this project, specifically the video camera. These three creative works reveal how as the camera is increasingly brought closer to the "guman" body, the camera shifts from being a tool of visual representation and documentation to becoming another body and collaborator within the improvisations. As such, the camera, as an anthropocentric device that captures and controls representations of bodies, is de-stabilised.

Chapter 5 digs into an extended contact improvisation with wheat that finds me planting, tending to and attempting to harvest a wheatfield. Immersed in the environment and weathered by the elements, **Within the Wheatfield** I muse upon the rich relations and direction this research took when I left man-made, constructed spaces to work outdoors. This was a different way of working for me which disrupted my normal habit(at)s. In keeping with the non-verbal, cyclical and embodied nature of this experience and its encounter with multiple companion species, the chapter consists primarily of plates, a series of scores that emphasise the practical relations and attempt to maintain the practice of doing. In this process, I treat the page as a field.

Chapter 6, **Coming to a Closure, a Composted Conclusion** is intentionally provisional. As this project has progressed, I have becoming increasingly aware of the folly of trying to assert that we have the answers or can pretend to "know everything." The discoveries I made from these speculative fabulations form a manifesto which articulates how this research generates provocations and proposals of what Posthuman performance practices could evolve into and become.

Chapter 1: Groundwork, marking out the field

To ask questions regarding “how to practice posthumanism” or “what posthumanism can do” prompts me to introduce some essential, framing contexts that support a reader to navigate, interpret and consider the significance of the creative work and the critical reflection it invokes. Here I situate my use of terminology and phrasing, to better clarify my field of research and my relative positioning.

I begin with bodies, incorporating a discussion of what they are and can be. I then address material agency and animism and consider the multiple terms that have been used to describe (non-)human bodies. I selected companion species and advocate for “gumans” rather than humans to emphasise relations to the earth and environment. I also intend for this section to emphasise and evidence the ways spoken and written language are intricately entangled with anthropocentric perspectives and, in turn, complicate the language associated with Posthumanism. I then discuss my methodology, which involves how Contact Improvisation acts as an appropriate performance approach for practicing Posthuman relations.

Body and Bodies

Recognising that the term “body” is complex, multifarious and culturally and socially constructed, I consider the particularities of my own female body, its capacity to perform and its intersection with non-human bodies—our microbial “messmates.”⁵ This research relies on more abstracted understandings of “body” and “bodies,” such as in relation to contact improvisations as emerging “bodies of work,” and New Materialist notions of all things as “material bodies” or assemblages, human and otherwise inclusive.

Contemporary philosopher Elizabeth Grosz led me to imagine an alternative to the (human) body “as passive and reproductive but largely unproductive.”⁶ With an aim to subvert the Cartesian binary that separates body from mind, Grosz envisions a corporeal feminism that recognises the precarious, porous and permeable nature of boundaries between a full spectrum of bodies; she reworks historical, essentialist and socially constructed assumptions about female bodies in order to restore balance to a “natural inequality.”⁷ “Only when the relation between mind and body is adequately retheorized can we understand the contributions of the body to the production of knowledge systems, regimes of representation, cultural production, and socioeconomic exchange.”⁸

⁵ Donna J. Haraway. *When Species Meet*. (Minneapolis: University of Minneapolis Press, 2008), 4.

⁶ Elizabeth Grosz. *Volatile Bodies. Towards A Corporeal Feminism*. (St Leonards, New South Wales: Allen and Unwin, 1994), 9.

⁷ Grosz, *Volatile Bodies*, 14. Grosz emphasises this term in her publication.

⁸ Grosz, *Volatile Bodies*, 19.

In my research, I deliberately and explicitly use the physicality of my female body as a performance language, which also refers to and signals its subjectivity, emotions and contingent interior and exterior states. My body has a palpable presence. I have learned how to tune it; to recognise what it can say in its doing. It is itself and at the same time, speaks to and for other women as well as other things. I perform as a “defiant affirmation of a multiplicity, a field of differences, of other kinds of bodies and subjectivities.”⁹ As Grosz writes:

The body is a most peculiar “thing,” for it is never quite reducible to being merely a thing; nor does it ever quite manage to rise above the status of thing. Thus it is both a thing and a nonthing, an object, but an object which somehow contains or coexists with an interiority, an object able to take itself and the others as subjects, a unique kind of object not reducible to other objects. Human bodies, indeed all animate bodies are objects necessarily different from other objects; they are materialities that are uncontainable in physicalist terms alone. If bodies are objects or things, they are like no others, for they are the centers of perspective, insight, reflection, desire, agency. They require quite different intellectual models than those that have been used thus far to represent and understand them.¹⁰

In this creative practice research, I consider embodied relationships to constitute a practical form of theory-making, or what has been called “doing theory.”¹¹ Through my “fieldwork,” (contact improvisations with flour, dough and the camera in the kitchen and also actually working in a field of wheat that I cultivated), this research embraces these “fields of differences” literally.¹² Unlike Grosz, I am not specifically concerned with the sexual difference between female and male bodies but rather, I am performing in such a way to reconcile the differences between human and non-human beings without removing those differences. In this instance, practice is a mode of theorizing; theory is constructed in the doing of performance. I also, following scholar Lisa Heldke, consider theory in this research as a recipe rather than fixed idea. I am drawing upon my embodied knowledge when entering relations with concepts rather than following them faithfully.

Theorizing is not the one-sided activity of a detached subject, think about baking bread... When I use a recipe, I enter into a kind of relation with the ingredients. I do not assume complete separateness from them, nor total power

⁹ Grosz, *Volatile Bodies*, 19.

¹⁰ Grosz, *Volatile Bodies*, xi.

¹¹ Maitrayee Chaudhuri and Manish Thakur. *Doing Theory. Locations, Hierarchies and Disjunctions*. (Hyderabad, Orient Blackswan: 2019).

Richard Schechner has also been a major proponent in the “performative turn” and key practitioner and theorist on the intersections between performance and everyday life. Schechner, Richard. *Performance Theory*. London, Routledge: 2003.

¹² Grosz, *Volatile Bodies*, 19.

over them. I think the same claim can be made, to some degree, about any kind of inquiry-activity.¹³

This relational relationship between embodied knowledge, art, research and writing can be considered "research-creation," a term coined by scholar Stephanie Springgay who suggests, by referring to Erin Manning and Brian Massumi's book *Thought in the Act: Passages in the Ecology of Experience* that:

[i]nstead of perpetuating an idea of art as separate from thinking and writing, the hyphenation of research-creation engenders "concepts in-the-making" which according to Manning and Massumi (2014) is a process of "thinking-with and across techniques of creative practice."¹⁴

Most significantly, according to Springgay as well as within my own research practice, this knowledge is generated through contact, touching (trans-)materialities and more-than-human bodies. Springgay focuses on the affective role that the hand-made affords in knowledge production. However, in my practice I expand this field of inquiry to embrace the whole body; both inside and out to include our "messmates" as well as other materials.¹⁵

Leaky Bodies, Bodies of Water

The reality of live bodies is that they leak. They leak because they are bundles of fluids partially contained by a porous membrane. "[B]ody fluids attest to the permeability of the body, its necessary dependence on an outside, its liability to collapse into this outside."¹⁶ Bodily fluids remind us of our corporeality, fragility and mortality, a condition that is not static or safe as it is constantly being negotiated by/through other bodies that threaten to seep into us, challenging a sovereign and stable sense of self. In contrast to the perceived determinism of solids,

... body fluids flow, they seep, they infiltrate; their control is a matter of vigilance, never guaranteed. In this sense, they betray a certain irreducible materiality; they assert the priority of the body over subjectivity; they demonstrate the limits of subjectivity in the body, the irreducible specificity of particular bodies. They force megalomaniacal aspirations to earth, refusing consciousness its supremacy, they level differences while also specifying them. In our culture, they are enduring; they are necessary but embarrassing.¹⁷

¹³ Lisa Heldke. "Recipes for Theory Making," *Hypatia* 3, no. 2 (Summer 1988): 28. <https://www.jstor.org/stable/3809949>

¹⁴ Stephanie Springgay, "'How to Write as Felt' Touching Transmaterialities and More-Than-Human Intimacies," *Studies in Philosophy and Education* 38. (July 2018): 59. <https://doi.org/10.1007/s11217-018-9624-5>

¹⁵ Haraway, *When Species Meet*, 4. Messmates is a term that Haraway uses to discuss the microbial bodies that humans host within their body and is considered in more detail in the following section, "Biological Bodies."

¹⁶ Grosz, *Volatile Bodies*, 193.

¹⁷ Grosz, *Volatile Bodies*, 194.

These fluids are embarrassing as they undermine the sanctity of the human body by transgressing bodily boundaries. They are an undeniable and uncomfortable reminder that humans are not entirely whole nor always in control. The anthropocentric illusion that humans are separate, and superior doesn't make sense and cannot be sustained if other bodies pass through and compose us. A body's porosity connects it literally with the rest of the world. Environmental humanities scholar, Astrida Neimanis emphasises this by expanding notions of embodiment to incorporate "Bodies of Water."¹⁸ Over sixty percent of the human body is constituted by/of/with water.¹⁹ Neimanis' figuration reworks the conception of porosity from one of loss and incompleteness, to one that stresses the occurrence of a "constant process of intake, transformation and exchange."²⁰ Neimanis' "Bodies of Water" emphasises the circularity, ecology and interconnections between bodies.

[D]rinking, urinating, sweating, transfusing, siphoning, sponging, weeping. Human bodies are thus very literally implicated in other animal, vegetable and planetary bodies that materially flow through us, replenish us, and draw upon our own bodies as wells. This circulation inaugurates us into complex relations of gift, theft, and debt with all other life.²¹

This affirmation of humans' "inalienable connection to the more-than-human world" simultaneously emphasises the expansiveness of the human body but also dilutes its importance.²² The human body cannot be at the centre if it ebbs and flows and it is dispersed through others. Recognising these physical, material connections to the environment also has profound implications for how we act towards it.

Bodies of water as figuration remind us that our bodies are composed of-and affect-generations and geographies that vastly exceed our own human-scaled subjectivity. This is not an instalment of mastery; it is a call for responsivity and responsibility.²³

Neimanis' figuration has been generative for me in considering the complexity of entanglements between bodies as they stretch across spaces and occupy a temporality that dwarfs my own lived experience. In addition to evoking a more profound sense of responsibility to the world, these bodies of water provoke tantalising possibilities for the scope of material bodies' performances.

¹⁸ Astrida Neimanis, "Posthuman Phenomenologies for Planetary Bodies of Water," in *A Feminist Companion to the Posthumanities*, ed. Cecilia Åsberg and Rosi Braidotti, (Cham, Switzerland: Springer, 2018), 55.

¹⁹ Eric Jéquier and Florence Constant, "Water as an Essential Nutrient: The Physiological Basis of Hydration," *European Journal of Clinical Nutrition* 64, no. 2 (2010): 116, <https://doi.org/10.1038/ejcn.2009.111>

²⁰ Neimanis, "Planetary Bodies of Water," 55.

²¹ Neimanis, "Planetary Bodies of Water," 55. Neimanis also cites her earlier publications (2009, 2012, 2013), where she has discussed the concept of gift, theft and debt that circulates within bodies of water.

²² Neimanis, "Planetary Bodies of Water," 61.

²³ Neimanis, "Planetary Bodies of Water," 61.

Biological bodies

Cautious to avoid biological essentialism, in many ways, the blurring of borders between different types of material bodies that I have come to know in life and creative practice has been well established within scientific research. In 1996 the geneticist Albert Jacquard wrote about the discovery of DNA:

... the boundary between inanimate objects and animate beings was more the result of an optical illusion than objective reality ... The word "life", therefore, does not define a specific capacity possessed by certain objects; it simply translates our wonder at the powers these objects have: those of reproduction, of reaction, of struggle against the environment. But these powers are the result of an interaction of the same natural forces as those in a pebble. Like everything around us, we human beings are "stardust." On what then do we base our claim to be entitled to special rights?²⁴

Clearly what constitutes a body depends on the ways one observes and relates to other bodies. I join Jacquard in rejecting an anthropocentric perspective. The fact is that at an elemental level, ninety-nine percent of the human body consists of combinations of hydrogen, oxygen, carbon and nitrogen.²⁵ These elements coagulate in different combinations to compose skins, skeletons, synapses, and senses. The same materials also assemble in other configurations to create all other life-forms with whom humans cohabit. If human bodies are not so distinct from non-human bodies materially, how does this revise our understanding of and interactions with them?

Microbial Bodies

I am not separate from non-human bodies, as we are all material bodies. As a multitude of microbial bodies reside within the human body, I am full of and with them. I am their host and home. As biologist and writer Donna Haraway reminds us; "I become an adult human being in company with these tiny messmates. To be one is always to *become with many*" (emphasis in original).²⁶ Haraway's allusion to our messmates alerts us to recent research which estimates that the ratio of human DNA to microbial bodies such as bacteria and fungi is 1:1 or the equivalent.²⁷ In some regions of the body, such as the

²⁴ Albert Jacquard, "Human Rights and Human Nature," in *Taking Action for Human Rights in the Twenty-First Century*, ed. Frederico Mayer, (Paris: Unesco Publishing, 1998), 33-34 quoted in Rebecca Schneider, "New Materialisms and Performance Studies," *TDR: The Drama Review* 59, no. 4 (2015): 11, https://doi.org/10.1162/DRAM_a_00493

²⁵ New Scientist, "What is the Body Made of?" Accessed June 14 2022, <https://www.newscientist.com/question/what-is-the-body-made-of/>

²⁶ Haraway, *When Species Meet*, 4.

²⁷ Ron Sender, Shai Fuchs, and Ron Milo, "Revised estimates for the Number of Human and Bacteria Cells in the Body," *PLoS biology* 14, no. 8 (2016): 1, e1002533. This estimate updates the widely cited claim that 90 per cent of cells within the human body are bacterial rather than human.

gut, the amount of microbial bodies even outnumbers human cells.²⁸ Other scientific studies suggest that the microbiome within the gut affects the behaviour of animals, effectively controlling their bodily movements.²⁹ These scientific studies question, even challenge, the self-determinacy of the human body; the human body is revealed to be a multifaceted, shifting composite within a porous eco-system, rather than a distanced, discrete entity at the top of a hierarchy.

As it so happens, *Saccharomyces cerevisiae*, the species of yeasts that is fundamental to fermentation within dough, can be found on and within the human body.³⁰ It demonstrates a degree of existing familiarity and entanglement already at play. As this creative practice-led research unfolded, it became apparent that respecting and abiding by artificial distinctions between human and non-human bodies is futile. Fungi and bacteria are a part of our human physical constitution and as such, these non-human bodies are fundamental to the evolution, existence and effective functioning of *Homo sapiens*. I am arguing via my own performance-based practice, closely related to the discourse of New Materialism and Posthumanism, that a radical reconfiguration of Western philosophy's conceptions of bodies and embodiment is of crucial importance to nurturing a responsible kinship to oneself, others and the environment.

Bodies of Work

In this research, I engage with a performative process that recognises all matter, including human messmates, as collaborators within the creative process. Part of the reason I relish the collaborative devising process is that it seemingly starts with nothing. The "performance material" emerges from improvisation in between the performing material bodies. This creative process is exciting, unknown and unpredictable. Associate Professor of Theatre Jimmy Bickerstaff observes that the creative process within collaborations functions more like an "organism than a linear rationality."³¹

The artwork as collaborator is not simply a personification or metaphor here. Not only is creative theatrical activity a

²⁸ Both Merlin Sheldrake and Ed Yong discuss how there are more bacteria in our guts than stars in our Galaxy. Ed Yong notes that; "It's estimated that every human contains 100 trillion microbes, most of which live in our guts. By comparison, the Milky Way contains between 100 million and 400 million stars." Ed Yong, *I Contain Multitudes: The Microbes Within Us and a Grand View of Life*, (New York: HarperCollins, 2016), 269. Merlin Sheldrake proposes that for our microbes, the human "body is a planet."

Merlin Sheldrake, *Entangled Life: How Fungi Make Our Worlds, Change Our Minds and Shape Our Futures*, (London: The Bodley Head, 2020), 18.

²⁹ Jake M. Robinson and Ross Cameron, "The Holobiont Blindspot: Relating Host-Microbiome Interactions to Cognitive Biases and the Concept of the 'Umwelt,'" *Frontiers in Psychology* 11, (November 2020) 2-3. <https://doi.org/10.3389/fpsyg.2020.591071>

³⁰ Rob Dunn, *Never Home Alone. From Microbes to Millipedes, Camel Crickets, and Honeybees, The Natural History of Where We Live*, (New York: Basic Books, 2018), 246-253. *Saccharomyces cerevisiae* has also been found in space on the International Space Station. Dunn, *Never Home Alone*, 107.

³¹ Jimmy Bickerstaff, "Collaborative Theatre/Creative Process," *Communication and Theater Association of Minnesota Journal* 38 (Fall 2011): 44. <https://cornerstone.lib.mnsu.edu/cgi/viewcontent.cgi?article=1053&context=ctamj>

synergistic activity among individuals, but looked at psychoanalytically the emerging artwork has itself begun to function like another person, a creature in dialogue with the personality of the creative system.³²

Unlike Bickerstaff, I do not feel that it is necessary to personify the artwork; I am more interested in the non-human actors, and our corresponding engagement with this emerging interaction as what constitutes "bodies of work," in which the performance is a material body with a life of its own.

Material Agency

Agency is the capacity, condition or state of acting or of exerting power.³³ Etymologically it is derived from the latin *agere*, "to set in motion, drive forward; to do, perform."³⁴

In a New Materialist or Posthumanist ontology, materials have agency; matter is anything but passive. As Professors of Political and Social Theory and Science, Diana Coole and Samantha Frost observe, "[F]or materiality is always something more than 'mere' matter: an excess, force, vitality, relationality, or difference that renders matter active, self-creative, productive, unpredictable."³⁵ The agency that materials possess is part of what makes them bodies. "Bodies are not inert; they function interactively and productively. They act and react. They generate what is new, surprising, unpredictable."³⁶ Agency suggests a kind of liveness. Political scientist and philosopher Jane Bennett would call it "thing-power"³⁷ or what she elaborates on as the "force of things."³⁸

There is a difference between agency and animism. Agency, as figured by Bennett's New Materialism, seriously considers natural and technological materialities to themselves be "actors alongside and within us—[with] vitalities, trajectories, and powers irreducible to the meanings, intentions, or symbolic values humans invest in them;" whereas animism holds onto a power invested by/through humans.³⁹ As Christopher Braddock (2017) reminds us, animism was re-defined by Edward Burnett Tylor in *Primitive Culture* (1871) as the belief that a human soul can leave its body and re-enter things, such as Burnett Tylor states, "rivers, stones, trees, weapons" to animate them, giving them life and thus subjectivity.⁴⁰

³² Bickerstaff, "Collaborative Theatre/Creative Process," 43.

³³ "Agency," Merriam-Webster. Accessed June 2022. <https://www.merriam-webster.com/dictionary/agency>

³⁴ "Agency (n.)," Online Etymology Dictionary. Accessed June 2022. <https://www.etymonline.com/word/agency>

³⁵ Diana Coole and Samantha Frost, "Introducing the New Materialisms," In *New Materialisms. Ontology, Agency, and Politics*, ed. Diana Coole and Samantha Frost (Durham: Duke University Press, 2010), 9.

³⁶ Grosz, *Volatile Bodies*, xi.

³⁷ Jane Bennett, "The Force of Things: Steps toward an Ecology of Matter," *Political Theory* 32, no. 3 (2004): 348. <https://journals-sagepub-com.ezproxy.massey.ac.nz/doi/pdf/10.1177/0090591703260853>

³⁸ Bennett, "The Force of Things," 347-372.

³⁹ Jane Bennett, "A Vitalist Stopover on the Way to a New Materialism," In *New Materialisms. Ontology, Agency, and Politics*, ed. Diana Coole and Samantha Frost (Durham: Duke University Press, 2010), 47.

⁴⁰ Christopher Braddock, ed. *Animism in Art and Performance*. (Cham: Palgrave Macmillan, 2017), 3.

The energy that is imbued into/onto things in addition becomes problematic as anthropocentric traits are often assigned to them. Animism thus re-inscribes and expands human power over non-human matter.

Not only does the anthropocentrism of animism take over the life of non-human matter, but also, accordingly, denies its mortality. Thus, Braddock calls upon Posthuman scholar Karen Barad's challenging of "the animate/inanimate dualism [...] that stops animacy cold in its tracks, leaving rocks, molecules, particles, and other inorganic entities on the other side of death, of the side of those who are denied even the ability to die, despite the fact that articles have finite life-times."⁴¹ For Barad, agency "never ends. It can never 'run out!'"⁴² Barad proposes that agency isn't a property of a body; it is the result of multiple bodies encountering each other in movement, in a "congealing of agency."⁴³ Expanding her concept of agential realism, and informed by an expertise in physics, Barad writes:

Agency is a matter of intra-acting; it is an enactment, not something that someone or something has. Agency cannot be designated as an attribute of "subjects" or "objects." Agency is "doing"/ "being" in its intra-activity.⁴⁴

This principle of agency is at the core of what motivates me to inquire as to what might happen when two material bodies collaborate in this doing/being. Barad's distinction between interaction and intra-action is particularly important here and represents a "profound conceptual shift."⁴⁵ Whereas interaction implies or "presumes the prior existence of independent entities/relata... [i]t is through specific agential intra-actions that the boundaries and properties of the 'components' of phenomena become determinate and that particular embodied concepts become meaningful."⁴⁶ For Barad,

[w]hat is needed is a robust account of the materialization of *all* bodies – 'human' and 'nonhuman' – and the material-discursive practices by which their differential constitutions are marked. This will require an understanding of the nature of the relationship between discursive practices and material phenomena, an accounting of 'nonhuman' as well as 'human' forms of agency, and an understanding of the precise causal nature of productive practices that takes account of the fullness of matter's implication in its ongoing historicity (Emphasis in original).⁴⁷

In addition, for Barad, "[b]odies are not objects with inherent boundaries and properties; they are material-discursive phenomena. "Human" bodies are not inherently different

⁴¹ Braddock, *Animism in Art and Performance*, 14.

⁴² Karen Barad, *Meeting the Universe Halfway: Quantum Physics and The Entanglement of Matter and Meaning* (Durham: Duke University Press, 2007), 177.

⁴⁴ Karen Barad, "Posthumanist Performativity: Toward an Understanding of How Matter Comes to Matter," in *A Feminist Companion to the Posthumanities*, ed. Cecilia Åsberg and Rosi Braidotti (Cham, Switzerland: Springer, 2018), 232.

⁴⁵ Barad, "Posthuman Performativity," 230.

⁴⁶ Barad, "Posthuman Performativity," 230.

⁴⁷ Barad, "Posthumanist Performativity," 227-228.

from 'nonhuman' ones."⁴⁸ This is why using my body within this research and working through Contact Improvisation could be useful for developing a Posthuman practice as it is based within bodies and therefore is a material-discursive practice rather than a discourse bound by language.

Language

The above discussion on the subject (and object) of body and bodies begins to reconceptualise assumptions around the human body's status. It reveals how language struggles to fully account for the complexity and intricacy of interspecies relations. In a world generally dominated by Cartesian dualism, such existing terminology reinforces binary thinking: matter/things, mind/body, subject/object, culture/nature, alive/dead.

During this research, I have come to realise the inadequacies of the English language in coping with the conceptual reconfiguration that New Materialist and Posthuman discourses demand. How can I understand and communicate the complexity of relations between humans and non-human bodies if the language I'm using is bound up in the anthropocentric ideology I'm trying to un-do/un-make?

These limitations and problems are provisionally addressed by an embodied practical approach to the research and its audio-visual dissemination; these serve as "material-discursive practices."⁴⁹ I have a body and as a performance artist and moving image maker, I have access to other modes of language, such as the visual, sonic, tactile, haptic and olfactory. Using articulations of my body, materials and scenography, tempo and rhythm, I am positing an embodied vocabulary (i.e., an understanding of body language). I have trained in ways to communicate with and through my body to "speak" to an audience and move them emotionally. This exegesis contextualises the creative practice, annotating it with intellectual approximations to what is otherwise a sensual matter.

Another approach to language that emerged through this process, specifically Chapter 5, is considering language as a collaborator to improvise with and the page as a stage or field of inquiry. Beholden to performance artist and Professor of Spatial Practice, Julieanna Preston, I moved from resisting text to embracing it as a creative act and force. Using the "writing process as a parallel state of play and experimentation" made me appreciate that "language is material and as susceptible and resistant to hard edged tools and metaphors as concrete, or wool."⁵⁰ I have struggled to write this exegesis and articulate academically the intuitive, embodied knowledge that I sensed was vital. This is a virtue of this research. This tension is productive as it motions what is at stake for

⁴⁸ Barad, "Posthumanist Performativity," 234.

⁴⁹ Barad, "Posthumanist Performativity," 227-228

⁵⁰ Julieanna Preston, *Performing Matter: Interior Surface and Feminist Actions* (Bunach: Spurbuchverlag, 2014), 192.

humans if we take Posthumanism seriously — it is not easy to find ways of communicating effectively and translating our experience with others. I often felt dumb. But perhaps embracing being “dense,” “half-baked” and silent is necessary to be able to listen to, sense, sit with and become with non-human others.⁵¹

Re-configuring my relationship to record this process I realised, to draw upon film critic, curator and scholar Laura U. Marks, “art and writing constitute a sort of connective tissue among material entities separate in place and time.”⁵² For both Marks and I, this “connective tissue” is best exemplified by dough:

One of my favourite metaphors from quantum physics is that the universe is like a great surface that has been infinitely folded together, until points that were unfathomably distant in space-time come to touch each other. I once watched someone make a strudel, beginning with a pliant sheet of dough, so thin it was translucent, that covered the top of a large table, and then folding and folding it until those thin layers pressed close together in a dense roll (with apples and raisins). The universe is like a strudel. Each time we perceive something, we acknowledge the continuity between its many layers. Expressing these perceptions, we actualize the virtual events enfolded in those layers.⁵³

Kneading dough then, within this research, simultaneously operates as a practical and philosophical exploration of how bodies are folded and re-folded in time and space. Reflecting on these folding gestures as contact improvisations with dough manifests another layer of this “strudel.” The writing of this exegesis has served as another fold too and expresses how these events have fermented and re-activated.

While the value of an embodied practical approach will become evident in the chapters to follow, I am mindful that the language I use still matters. Language is important as it functions to define and represent things, shaping histories and cultural attitudes. To distinguish linguistically between human and non-human bodies, is to continue to perpetuate a separation between *Homo sapiens* and other species; it doesn't accurately represent the diverse physical characteristics of the biological world. Limited by anthropocentric attitudes and technologies unable yet to sense our microbial messmates, the biological turn offers a radical reinterpretation of what it consists of to be human. My research practices and demonstrates the potential of performance to resist these anthropocentric perspectives and historical precedents, offering alternative ways of seeing and sensing co-habiting bodies.

⁵¹I deliberately use a vocabulary here which equates silence with stupidity to emphasize how the inability to speak/use language is derided within Western culture. These particular words have been chosen as they also have qualities that are often attributed to materials and as such, shows how prejudices towards matter are already embedded in language.

⁵²Laura U. Marks, *Touch. Sensuous Theory and Multisensory Media*. (Minneapolis: University of Minnesota Press, 2002), xi.

⁵³Marks, *Touch*, xi

Rather than abandoning or dismissing textual language altogether, I have chosen to “stay with the trouble,” a well-worn inspirational mantra from theorist of the Posthuman Donna Haraway.⁵⁴ The trouble with language finds me investing in the language produced by bodies, one of them being my own body, to practice and perform bodies. What words then can adequately reflect the microbial multitude that we/they are?

Guman

There has been debate within Posthuman discourses (Haraway, 2016; Braidotti, 2018) around the anthropocentric predicament of using terms such as “Posthuman” or “non-human.” Indeed, these terms reveal the tangle that language, especially the English language, leaves us when writing and speaking since they grapple with the lingering anthropocentric tenet of human beings being authors of the world. Renaming the humanities as “humusities,” scholar Donna Haraway attempts to solve this problem by re-thinking and re-articulating anthropocentric narratives and terminology within science and philosophy.⁵⁵ Haraway’s “speculative fabulation” is useful for this practice-based research as it helps to imagine and test new relations and worldings with multifarious, lively cohabitants.⁵⁶

[T]his Terrapolis is not the home world for the human as *Homo*, that ever parabolic, re- and de-tumescing, phallic self-image of the same; but for the human that is transmogrified in etymological Indo-European sleight of tongue into guman, that worker of and in the soil (emphasis in original).⁵⁷

My creative practice has evolved significantly over the last four years. While I entered doctoral study as a performance artist working with materials as props and staging theatrical performance in black or white box environments, I completed the creative practice portion of the study by growing a wheatfield, literally becoming the worker within the soil in a Terrapolis. Haraway’s “Terrapolis is for companion species, *cum panis*, with bread, at table together—not ‘posthuman’ but ‘com-post.’”⁵⁸ It is purposeful and intentional that I use the term “gumans” instead of humans throughout the remainder of this exegesis to emphasise *Homo sapiens*’ intrinsic relation to soil, humus and compost. For Haraway and this practice-led project, “this guman is adama/adam, composted from all available genders and genres and competent to make a home world for staying with

⁵⁴ Haraway, Donna. *Staying with the Trouble: Making Kin in the Chthulucene*. Durham: Duke University Press, 2016.

⁵⁵ Haraway, *Staying with the Trouble*, 97. Haraway herself renames humanities to humusities to emphasise our relation to humus and compost. “[W]e are compost, not posthuman; we inhabit the humusities, not the humanities. Philosophically and materially, I am a compostist, not a posthumanist.”

⁵⁶ Haraway, *Staying with the Trouble*, 10.

⁵⁷ Haraway, *Staying with the Trouble*, 11.

⁵⁸ Haraway, *Staying with the Trouble*, 11. Haraway deliberately uses “com-post” to draw attention to and trouble the “post” of Posthuman.

the trouble."⁵⁹

Returning to the Old English etymological root of the word human by evoking *guman* also emphasises that language too is a living body (of knowledge) that evolves and is constructed through interactions with other bodies.

Using the word *guman* rather than *human* has been controversial for spell-checker and within my own doctoral discussions. Despite changing just one letter, it enacts a palpable shift that demonstrates the power of language. Although employing the word *guman* is awkward, it is an essential approach as it embodies a cognitive dissonance that I want to emphasise. It acts as a reminder of the established expectations that cling to the word *human*. It's vital to destabilise and de-territorialise words used to describe certain bodies to move forward within Posthuman discourse. Haraway introduces the term and in the spirit of "staying with the trouble,"⁶⁰ I am asking the reader to carry on despite the discomfort. Putting this word to work, I also hope that practicing it expands our understanding of the term and seeds new understandings—of how words (re-)form *gumans* and the importance of the language we use.

Although use of the term *guman* emphasises an integral relation between *Homo sapiens* and the earth; what can I call the non-*guman* bodies I encounter? I am fond of Haraway's use of the terms "critters," "messmates" and "companion species" "engaged in the old art of terraforming"⁶¹ with their "relentlessly becoming-with. . . where who is/are to be in/ of the world is constituted in intra-and interaction."⁶² I use these terms interchangeably. Haraway also introduces the term "Chthonic ones" to refer to beings that are trying to recuperate relations with others and in the process

. . . demonstrate and perform the material meaningfulness of earth processes and critters. They also demonstrate and perform consequences. Chthonic ones . . . writhe and luxuriate in manifold forms and manifold names in all the airs, waters, and places of earth. They make and unmake; they are made and unmade. They are who are.⁶³

While I appreciate Haraway's distinction of these terms, I prefer to employ the term "companion species," which capitalises upon the fact that the etymological root of

⁵⁹Haraway, *Staying with the Trouble*, 12. In her notes, Haraway expands on the significance of the word *guman*. "From Proto-Germanic and Old English, *guman* later became *human*, but both come soiled with the earth and its critters, rich in humus, *humaine*, earthly beings as opposed to the gods. In Hebrew, Adam is from *adamah* or "ground." The historical linguistic gender tone of *guman*, like *human* and *man*, is masculine/ universal; but in SF worlding *adam*, *guma*, *adamah* become more a microbiome of fermenting critters of many genders and kinds, i.e., companion species, at table together, eating and being eaten, messmates, compost (emphasis in original)." Haraway, *Staying with the Trouble*, 169-170.

⁶⁰Haraway, *Staying with the Trouble*.

⁶¹Haraway, *Staying with the Trouble*, 11.

⁶²Haraway, *Staying with the Trouble*, 13.

⁶³Haraway, *Staying with the Trouble*, 2.

"companion" is "com-panis, or "to break bread with another."⁶⁴ Importantly, "no species is ever One; to be a species is to be constitutively a crowd. ...Species is about the dance linking kin and kind."⁶⁵ The specific implications and relevance of this preference will become much more evident in the chapters to come. It must also be noted that whilst "companion species" sounds initially like a convivial relationship, there are tensions that permeate this relationship; bodies are consuming each other. Breaking bread with others, "[g]etting hungry, eating, and partially digesting, partially assimilating, and partially transforming; these are the actions of companion species."⁶⁶ Humans and their companion species are deeply entwined on the inside and outside of bodies, even as they pass through and between fluid bodies. Emphasising such transformations and how bodies are affected by manifold others lies at the core of this research.

⁶⁴ Donna Haraway, "Companion Species, Mis-recognition, and Queer Worlding," in *Queering the Non/Human*, ed. Noreen Giffney, Myra J. Hird, (Hampshire: Ashgate Publishing, 2008), xxiii.

⁶⁵ Haraway, "Companion Species," xxiii.

⁶⁶ Haraway proposes this via Marilyn Strathern. Haraway, *Staying with the Trouble*, 65.

Methodology: Embracing philosophies rather than theories

How can humans structure a research methodology that is open-ended and sensitive to the movements, desires and needs of non-human bodies, but nonetheless can be followed by others? In *Philosophy of Improvisation* Gary Peters, a Professor of Philosophy and Performance, notes the inherent tensions and contradictions in trying to formalise a methodology that is deliberately unrepeatable and receptive to what emerges.⁶⁷ Peters proposes an alternative approach by French writer and literary theorist Maurice Blanchot who:

... improvised around an experientially rooted set of themes that are intensified over time through a combination of affirmation, concentration, and repetition. This, in turn, leads to a mode of what he describes as "research" that is radically unmethodological while, at the same time, being almost obsessively methodical, not only from work to work but from moment to moment...a fragmentary and pluralistic thought that restlessly moves through or along theoretical perspectives *in search* of an order to be provisionally affirmed rather than a truth to be confirmed (emphasis in original).⁶⁸

I follow this philosophy through creative practice and practicing relations. Aware of the anthropocentric bias inherent in a methodology designed by humans; iterating improvisations offers the potential to lead this research into different directions and grounds.

New Materialist scholars Milla Tiainen, Katve-Kaisa Kontturi⁶⁹ and Ilona Hongisto propose "following" as a methodology and "metamodeling device" for attending "to matters in movement: to tinklings, vibrations and sensations, and to the primacy of relations."⁷⁰ For Tiainen, Kontturi and Hongisto, whose observations come from dance and art practices, following is an important principle as it "does not offer a secure position for making interpretations. The researcher as follower cannot stay still perceptually or epistemologically; she must adjust herself to the movements of the followee."⁷¹ As such, "... following is not a passive activity. It is rather about "reciprocal reaching-toward", that is, "co-emerging."⁷²

⁶⁷ This is indeed the main issue and irony of considering improvisation as a methodology. How can we create a method that acts as a container but is open enough to respond to what emerges? How does structure change the nature of an improvisation? How can humans create a non-anthropocentric methodology and what would/could this look like?

⁶⁸ Gary Peters, *The Philosophy of Improvisation*. (Chicago: University of Chicago Press, 2009), 149.

⁶⁹ Katve-Kaisa Kontturi has also written a monograph, which is concerned with "following art in movement, about being attentive to art in the making" and demonstrates her interest in how writing, art practices, collaboration and movement intersect. Katve-Kaisa Kontturi, *Ways of Following, Art, Materiality, Collaboration*. (London: Open Humanities Press, 2018), 9. <http://openhumanitiespress.org/books/titles/ways-of-following/>

⁷⁰ Milla Tiainen, Katve-Kaisa Kontturi and Ilona Hongisto, "Framing, Following, Middling: Towards Methodologies of Relational Materialities," *Cultural Studies Review* 21, no. 2 (November 2015): 27-28. <https://doi.org/10.5130/csr.v21i2.4407>

⁷¹ Tiainen, Kontturi and Hongisto, "Framing, Following, Middling," 27-28.

⁷² Tiainen, Kontturi and Hongisto, "Framing, Following, Middling," 31.

Another advocate for following as a creative practice-led research methodology is Julieanna Preston, who firmly focuses on “following the material” to create “situated material learning” in her eco-ethical projects.⁷³ In *Following the Material or Materially Situated Learning*, architectural theorist and philosopher H  l  ne Frichot observes the value of Preston’s process is in the recognition that “a practice is never independent of its environment or milieu, and you do not know in advance what a practice can become, it’s a matter of experiencing-experimenting.”⁷⁴ Preston’s work practically considers how in “a material-led rather than human-led performance ecology” the “capacity for caring relations extends beyond the human.”⁷⁵ Co-emerging in the context of following a material then offers both a material and human led process, especially as Preston suggests that we can begin to “attune our embodied sensibility to the qualities of gestures and affects produced by these trans-ontological assemblages, cultivating a new ‘response-ability’ and positioning affective material labours as performances of care that maintain and repair our world.”⁷⁶ The “terraforming” within this research project did benefit from these “performances of care” and this “emerging vocabulary of gestures and affects.”⁷⁷ Following then is a humbling gesture for the human, that is more open to yielding than leading and paying attention to and caring for the desires and wills of other bodies.

While the act of following subtly suggests that one body is leading the other; leading can also be reversed and material and bodies can take turns in following each other. This attention toward the shifting relations between contacting bodies elicits my proposition that contact improvisations become an appropriate methodological focus for this performance-based practice-led research. As such, I explore how different forces and types of contact, such as resistance, are negotiated between bodies.⁷⁸ What makes bodies stop leading the other? What triggers this shift? How can acts of co-emerging, co-following and co-creation work amongst humans and materials?

⁷³ Preston, *Performing Matter*, 11.

⁷⁴ Preston, *Performing Matter*, 12.

⁷⁵ Jen Archer-Martin and Julieanna Preston, “Road Care,” in *Performing Care. New Perspectives on Socially Engaged Performance*, ed. Amanda Stuart Fisher and James Thompson (Manchester: Manchester University Press, 2020), 117.

⁷⁶ Archer-Martin and Preston, “Road Care”, 117-118. Preston here also makes reference to Donna Haraway’s concept of “response-ability.”

⁷⁷ Archer-Martin and Preston, “Road Care”, 117-118.

⁷⁸ Preston also considers resistance to be a creative act and an important approach within material discursive practices. “Resistance, any force that slows or stops movement or keeps movement from happening turns into a practice that embraces stillness, slowness, slowing down, listening closely, hesitating before acting, yielding — all hinged to a new materialist philosophy advocating ethical material practices.” Preston, *Performing Matter*, 192.

Contact Improvisation

Contact Improvisation comprises a practice whereby the movement emerges from the contact between two or more human bodies.⁷⁹ While Contact Improvisation is more typically associated with a dance practice, I embrace this specific approach in my research as it allows me to generate performance material without knowing exactly what will emerge; to be more fully engaged in the present moment. This open and risky, yet rigorously disciplined approach requires the performer to listen to and respond to another person's body, without knowing where the improvisation is going, what a partner will do nor where and when it will end.

In my research, I apply a movement practice which is often considered to occur between human bodies, to interactions between non-human bodies. Contact Improvisation is valuable as it considers the partner's body "as a medium for one's own movement."⁸⁰ As the movement emerges from the contact between two or more bodies, contact improvisations then are "neither leading nor following" but a "moving with" or a "being moved by."⁸¹ As co-founder of the practice Steve Paxton has observed:

Here is a movement form in which, in the essence of contact, touch and the exchange of weight, in the conversation between the masses, a very lively communicative interaction occurs, causing both people to improvise simultaneously to keep up with the other one as in conversation.⁸²

The conversational or relational nature of this practice is valuable for the way it informs a material-discursive practice. Contact improvisations are useful as a non-verbal form of communication between bodies because they are based on touch and proximity. As such, Contact Improvisation can be applied to companion species to better understand what transpires when these bodies intersect with us. How can we listen, move and respond to one another? What possibilities does this practice offer in allowing us to remodel relations between human bodies and other species?

⁷⁹ Cynthia J. Novack, *Sharing the Dance. Contact Improvisation and American Culture*. (Madison, Wisconsin: University of Wisconsin Press, 1990), 9. Novack's full description of contact improvisation: "Contact improvisation is most frequently performed as a duet, in silence, with dancers supporting each others' weight while in motion. Unlike wrestlers, who exert their strength to control a partner, contact improvisers use momentum to move in concert with a partner's weight, rolling, suspending, lurching together. They often yield rather than resist, using their arms to assist and support but seldom to manipulate. Interest lies in the ongoing flow of energy rather than on producing still pictures, as in ballet; consequently, dancers doing contact improvisations would just as soon fall as balance. . . . Even more important, they improvise their movement, inventing or choosing it at the moment of performance."

⁸⁰ Hannah Yohalem, "Displacing Vision: Contact Improvisation, Anarchy, and Empathy," *Dance Research Journal* 50, no. 2 (2018): 48, <https://doi.org/10.1017/S0149767718000220>

⁸¹ Foster, "Taken by Surprise: Improvisation in Dance and Mind," in *Taken by Surprise: A Dance Improvisation Reader*, ed. Ann Cooper Albright and David Gere (Middletown: Wesleyan University Press, 2003), 402.

⁸² Steve Paxton and Yvonne Rainer, "Conversation with Steve Paxton," in *On the Edge: Dialogues on Dance*

These questions help build a creative practice-based relationship with the comparative abstraction of New Materialist and Posthumanist philosophy that promotes a reconsideration of the significance of materials within encounters. In her article "Displacing Vision: Contact Improvisation, Anarchy, and Empathy," art and archaeology scholar Hannah Yohalem discusses how Contact Improvisation turned away from dance as a performed visual medium towards a focus on the tactile experience of the encounter between participants. Yohalem suggests that in Contact Improvisation, "subject and object positions dissolve into a collaborative . . . improvising together to draw something new out of one another that they did not know they possessed or could not access alone."⁸³ The focus shifts from vision and representation to an embodied knowledge that is generated in-situ rather than being pre-designed.

In "Taken by Surprise: Improvisation in Dance and Mind," choreographer and scholar Susan Leigh Foster suggests that the experience of improvising "establishes the possibility of an alternative theory of bodily agency, one that refutes the body's mere instrumentality and suggests alternative formulations of individual and collective agency."⁸⁴

As an interaction that is open-ended, responsive, sensual, and easily repeatable, Contact Improvisation offers a practical method to research across and between creative practices, specifically performance and moving image, and contemporary philosophy, specifically New Materialism and Posthumanism. Through improvised iterations, I can test out and make sense of the often abstract and challenging concepts that New Materialist and Posthuman philosophies propose to destabilise our anthropocentric culture. For example, I can safely explore what it means to lose my sense of self to/within another material and companion species. I can intentionally recede from creative decisions and a fixed perspective to see what materialises. This is the practical virtue of creative practice research. Teacher and contact improviser Karl Frost's "Body Research" identifies some of the fundamental skills, principles, techniques and questions for Contact Improvisation such as weight exchange, counterbalance, off-balance, rolling point of contact and continuity of motion and momentum.⁸⁵ Frost proposes that

. . . the root of contact is a study of physics of bodies moving through contact. We create for ourselves precarious situations and unusual tasks relative to another body and then see how we solve the problems and how our bodies self-organize to survive. This is the root curiosity.⁸⁶

⁸³ Yohalem, "Displacing Vision," 47.

⁸⁴ Foster, "Improvisation in Dance and Mind," 402. Please note that as the title of Foster's chapter and the publication both include "Taken by Surprise," I have chosen the shortened version above to differentiate between them.

⁸⁵ Karl Frost, "Fundamentals of Contact Improvisation," Body Research, accessed January 2022, <http://www.bodyresearch.org/contact-improvisation/fundamentals-of-contact-improvisation/>

⁸⁶ Frost, "Fundamentals of Contact Improvisation."

My research is supported by Frost's argument that Contact Improvisation can be used as a method to practically explore the principles of physics (matter and the forces that act upon it) even as I extend it to include material agency amongst companion species. This quality of interaction is what Karen Barad has called agential realism, suggesting that agency doesn't exist within bodies but is fluid, emerging at the intersection and through intra-actions with other bodies.⁸⁷

On an agential realist account, matter does not refer to a fixed substance; rather, *matter is substance in its intra-active becoming - not a thing, but a doing, a congealing of agency. Matter is a stabilizing and destabilizing process of iterative intra-activity* (emphasis in original).⁸⁸

Practice

The value of practice is that it continually involves process. Performers and artists *practice* their work – thus the term is both noun and verb. This is also noted by Susan Foster, who stresses that a verb is a middle voice and “verbs are the closest of all linguistic elements to dancing. . . .The subject does not act nor is the subject acted upon.”⁸⁹ Following Foster, doing allows me a potential space to avoid binaries or settling on fixed positions, being open to what arises.

Performance is constantly evolving; it is not a static thing. This is particularly acute in the performance industry where most of the work is ephemeral; it only lives for a couple of hours/days before it dissipates. Aware of this, and paradoxically, many artists have sought to give performance a second life through its documentation. I can relate to this and one of my approaches has been to maintain a close relation to the camera. This relationship and the potential to collaborate with the camera will be central to Chapter 4.

Practice is performative; it is en-acted or an action. I believe that creative practice can bring philosophy to life; to animate it; to draw it into conversation with the world. I also believe the inverse to be true— creative art has every capacity to lead to philosophical inquiry; they feed on each other. As this doctoral research progressed, the distinctions between life, performance and art collapsed, especially within the wheatfield. This blurring of boundaries is an area art critic and scholar Martin Patrick notes in *Across the Art/Life Divide: Performance, Subjectivity, and Social Practice in Contemporary Art*: “‘Live art’ became an elastic term not only signifying ‘live’ (as in live performance), but art as a mode of *living* experience, subsequently framed, refined and (re-)produced for the art

⁸⁷ The differences between interactions and Barad's intra-actions were discussed in more depth in Chapter 1 on material agency.

⁸⁸ Barad, “Posthumanist Performativity”, 232-233. Barad also continues to emphasise that materiality itself (i.e. as well as bodies) is discursive.

⁸⁹ Foster, “Improvisation in Dance and Mind,” 401-2.

context—to *live* art (emphasis in original).⁹⁰

Practicing this research has led to a relationship with theory known as praxis, where theory and practice are productively entangled. Time and space are key ingredients to this. As art historian, critic and curator of performance art Roselee Goldberg observes in "Space as Praxis", "[s]pace becomes the medium for practice and actual experience. ... 'theory'—whether 'concepts,' 'drawing,' or 'documentation' — remains essentially two-dimensional, while 'practice performance' implies a physical context, a space in which to experience the *materialization* of that theory (emphasis in original).⁹¹

The importance of space within my practice will become apparent as the different contact improvisations move from the black box, to the gallery, kitchen and end up outside in the wheatfield.

⁹⁰ Martin Patrick, *Across the Art/Life Divide. Performance, Subjectivity, and Social Practice in Contemporary Art*. (Bristol: Intellect, 2017), 10.

⁹¹ Roselee Goldberg, "Space as Praxis," 130.

In this article Goldberg draws upon Bauhaus artist and theatre designer, Oskar Schlemmer, and his ideas of painting as theory and theatre work as practice. Goldberg also considers the Anglo- Saxon framework which created and maintained binary distinctions between the intellect and body. "Theory pertained to Apollo, the god of intellect, while practice was symbolized by the wild festivities of Dionysus". Roselee Goldberg, "Space as Praxis." *Studio International*, September 1975, 130.



Figure 2. Madaleine Trigg, *Sutre*, Performance, Battersea Arts Centre (BAC), London, UK, May 2010 (photograph by Jemima Yong).

Chapter 2: Wearing, materials, bodies

This chapter offers a view into my practice prior to beginning this doctoral study in 2018 and how this work both initiated and shaped this research project. In certain cases, the performances I created in the year preceding this PhD were radically expanded, reconfigured and enacted in the years to follow. This admission underlines the fact that creative works do not evolve into existence from nowhere and that active re-working of earlier projects is integral to my process and creative arts practice in general. In retrospect, I realise how vital these performances were in preparing a space for this doctoral study, sharpening its scope and focus, effectively "setting the ground."

Starting with *Sutre* (2009–2016) and *Felt Me* (2013, 2019), two "costume as performance" works, I consider how my previous practice centred upon modelling and displaying materials through wearing them.⁹² Staging my female body, I was following a legacy of performance artists and explicit bodies that specifically sought to re-present the image and issues of the female body by revealing the contradictions between representations and lived experiences of this body.⁹³ Following my discussion of a performance in a dough dress for the Women of the World (WOW) festival (2018), I consider some of my early experiments with dough conducted within a black box studio. These works evidence my background in theatre and how these conventions, as a space for viewing and representations, also echo the camera and embody the Cartesian dilemma by creating spaces that separate body and mind.⁹⁴ Through practical engagement with dough and subsequent reflection on relevant artists working with this material, I realized that my practice needed to shift from wearing materials to interacting with them. It subsequently involved my active search for ways to re-model relations between human and non-human bodies.

⁹² Although I am predominantly a performer, my solo practice has focused upon intersections with materials and costumes. My solo *Sutre* was exhibited at the *Extreme Costume Exhibition* (2011 Prague Quadrennial) and was written about in Barbora Přihodová's "Costume and The Performing body" for *The Disappearing Stage: Reflections on the 2011 Prague Quadrennial*. In *The Routledge Companion to Scenography* (ed Arnold Aronsson) I am cited as being one of the artists in the costume as performance field. Burnett, Kate. "Modern British Theatre Design: UK Design for performance since 1975." In *The Routledge Companion to Scenography*, edited by Arnold Aronson, 497. Oxon, Routledge: 2017.

I have presented my practice and research at *Critical Costume* (2013, 2015, 2018). This had led to my practice being written about by the founders of this research network, Rachel Hann, Sidsel Bech and Sofia Pantouvaki. Refer to: Hann, Rachel. "Debating critical costume: negotiating ideologies of appearance, performance and disciplinarity." *Studies in Theatre and Performance* 39, no. 1 (2019): 6. <https://doi.org/10.1080/14682761.2017.1333831>. And Sofia Pantouvaki, Ingvill Fossheim and Susanna Suurla, "Thinking with Costume and Material: A Critical Approach to (new) Costume Ecologies." In *Theatre and Performance Design* 7, no.3-4, (2021), 200. <https://doi.org/10.1080/23322551.2021.2002056>

⁹³ Rebecca Schneider discusses the history, legacy and approaches of feminist performance artists in re-presenting their bodies through performance and "*the body as stage*," (Emphasis in original) at length in her monograph, *The Explicit Body in Performance*. Rebecca Schneider, *The Explicit Body in Performance*, (London: Routledge, 1997), 6-7.

⁹⁴ Significantly, camera means "a vaulted room" in Latin. Essentially the camera, and its precedent the camera obscura, echoed how the eye works, with light coming in through a small aperture, the iris. See: Dee Lawler, "Back to the Beginning – Camera Obscura," *What the Microscope Saw – Science for Everyone*, August 16, 2022. <http://www.whatthemicroscopesaw.co.uk/back-to-the-beginning-camera-obscura/> This example and conflation of the eye with the camera (obscura) was used by Descartes to distinguish between the material world and the mind. I discuss this in further detail in chapter 4.

Sutre

As long as I can remember while making my own solo work, I have staged my female body within performances based on an approach indebted to an impressive lineage of radical, feminist performance artists, who, according to performance art theorist Rebecca Schneider, sought to reveal and re-author their representations through the "site/sight" of their body, a theory linked to the root of the word "explicit": explicare, "to unfold."⁹⁵ Following writer and practitioner Josephine Machon, I also consider my body the "cite" of performance due to its potential in affecting the corporeal memory of both performing and perceiving bodies.⁹⁶ In my early works, the act of wearing materials drew attention to the materials' transformation over time and in relation to my female body. Conceptually I worked with the dual meaning of "wear" as in to wear on the body, as well as be worn down by the elements, such as rain. This was particularly apparent in the performance *Sutre*, a white dress made of a water-soluble fabric adorned with red embroidery, which dissolved as it met drops of liquid that fell from above to reveal the naked body underneath.⁹⁷ The surfaces of skin and textile became ambiguous, especially as the red embroidery grafted itself to my naked body. The red vein-like markings suggested the convergence of an interior and exterior human body. Each dress only lasted for the duration of the performance.

⁹⁵ Schneider, *Explicit Body*, 22-36 and 2.

⁹⁶ Josephine Machon. *(Syn)aesthetics. Redefining Visceral Performance*, (Basingstoke, Hampshire: Palgrave Macmillan, 2009), 23.

⁹⁷ *Sutre*, performed, directed and produced by Madaleine Trigg, National Theatre Studios, London, April 18, 2009. *Sutre* was first performed at the SPILL Festival's National Platform and the documentation of this live performance can be accessed via the Live Art Development Agency (LADA) archive: <https://www.thisisliveart.co.uk/resources/>



Figure 3. Photograph of Madaleine Trigg's *Sutre*, London, UK, 2010.

Felt Me

Felt Me was performed in 2013 and then again in 2019, when I invited the audience to fabricate 2kg of raw white wool into a felt dress directly onto my body. Using one of the oldest man-made material processes, hands and bodies worked together, circling and agitating the wool with the hot soapy water.⁹⁸ The work generated an accessible and productive space; it capitalised on felting as a haptic-centric craft in contrast to fashion, which emphasises draping, pattern cutting and (de-)construction of materials. While the experience for me, the wearer, and that of the people felting was probably very different, it brought us closer as the dress' strength increased due to the speed and degree of the material's handling. What lingers from the iterations of this performance is the affect/ effect of collaboration.⁹⁹ I realised that collaboration was an interaction not exclusive to human beings, gumans; it showed the potential to focus on human and more-than-human relationships.



Figure 4. Photograph of Madaleine Trigg's *Felt Me*, Freising, Germany, 2013

⁹⁸ *Felt Me* was a site-responsive performance created during a 3 week residency at Europäisches Künstlerhaus Oberbayern, affectionately known as Schafhof. Schafhof is literally translated to "sheep house," as the building was previously a barn. However, there were no longer any sheep on the property and the felt industry in Freising had faltered. I was interested in reinvigorating a relationship to wool/felt within this community and was taught how to felt by a local artist. It was during this workshop that I realised that, although we were felting onto a table, this principle and process could be applied to the body. I was also attracted to felting as it was a traditional technique and textile that is made through touch.

⁹⁹ Embracing both affects and effects here is a strategy to emphasise the complexity of experience that felt engenders. Both me and the audience were emotionally affected and "touched" by the work. Also the effects of the collaboration persisted, through the changes of the material from wool to felt. This interplay echoes that of felt, which is the past tense of to feel and also the material.



Top: Figure 5. Photograph of Madaleine Trigg's *Felt Me*, Freising, Germany, 2013
Bottom: Figure 6. Photograph of installation of Madeleine Trigg's *Felt Me* dress, Nelson, New Zealand, 2019.

Dough Dress

Dough Dress was the first time I had ever performed with dough. This fifteen-minute performance was delivered for *The Wickedly Wild Women Cabaret*, which affected the conception, execution and experience of the performance: highly stylized, a seductive yet grotesque, cannibalistic image of a woman prepared to eat her own body.¹⁰⁰ I actively performed to the audience, using the dough dress as a prop. However, I was vulnerable. I couldn't move. The audience surrounded me. As a "background" or side attraction, the performance occurred as the audience filtered into the room. As such, the work wasn't experienced as a narrative in which actions develop from beginning to end; it was more akin to encountering a live image.

There I sat in a dough dress, which was so heavy I couldn't leave the platform. I anxiously shaped and modelled this flesh-like material while consuming chunks of the dough. Much to my annoyance, the dough slumped with respect to gravity and tested my modesty. At the end of the performance, I was reliant upon two assistants to drag me off stage, out of the audience's sight. This performance disturbed my understanding of conventional subject/object relations, whereby I'm used to orchestrating/composing the actions with the materials following/ respecting/ abiding by my intentions. I was surprised. The collaboration was not as convivial as previous works, something I did not anticipate. Were my movements being responsive to or being dictated by the dough? Had I lost my free-will? I wondered who or what was in control of the performance. I suspected that the dough was asserting its own agency.



Figure 7. Photograph of Madeleine Trigg's *Dough Dress*, London, UK, 2018.

¹⁰⁰ The *Wickedly Wild Cabaret* was curated by Doris LaTrine aka Liselle Terret for the Women of the World Festival (WOW). *The Wickedly Wild Women Cabaret* was a showcase for feminist cabaret and performance artists to present works. WOW was conceived, curated and produced by Jude Kelly CBE. Kelly founded WOW to celebrate the achievements of women and girls and confront global gender injustice.



Figure 8. Photograph of Madaleine Trigg kneading, London, UK, 2018.

Knead

This series of three improvisations, collectively titled *Knead*, were conducted in a black box studio, with stage lighting directed from the side to capture the texture of the material and emphasise the sculptural potential and effects of light upon our bodies.¹⁰¹ My collaborator at the time, Simon Donger, draped the dough onto my body, lit and filmed these improvisations. It was also necessary to have another body in the space for safety reasons, as will become apparent in the following reflections.

In this scene, I kneaded the dough while naked. My whole body was engaged in moving this large, thick, amorphous body of material. My actions were limited to laborious shifts to rotate or rise out of the dough. I felt the dough rising in response to the heat of the lamps.

It is important to note that in these improvisations, Donger directed me to try certain movements, which is contrary to the muscle memory and embodied knowledge that contact improvisations afford. The work was made first and foremost for the camera and then after editing, for an audience as a film.¹⁰²

Viewing the film now, I am struck by how much influence the camera and tripod had in reiterating the static and singular perspectival view that is so characteristic of the theatre's proscenium arch. The technology was far from neutral. It is also significant to note that there was a male gaze behind the camera choosing what to focus upon, and when to zoom in and out.

¹⁰¹ The number of improvisations refer to the different experiments we did, although each one was iterated at least twice. There was a fourth improvisation in this series, whereby the projection of me kneading the material was projected back onto my body and this performance is discussed in chapter four.

¹⁰² *Knead* was first shown publicly as a flash talk for the *Critical Costume* conference. Madaleine Trigg: "*Knead*," (artist talk presented at the *Critical Costume* conference, Guildford School of Acting, Surrey, September 13, 2018), <https://www.criticalcostume.com/cc2018.html>



Figures 9-10. Photographs of Madaleine Trigg kneading, London, UK, 2018.

Kneading dough is a "negentropic niche," an alchemical process.¹⁰³ In contrast to other materials' propensity towards entropy, dough uniquely becomes increasingly ordered (even more organised than the outside space) and produces heat. These negentropic qualities characterise life, where less "ordered" matter such as food are converted into more organised and coherent structures, like cells, tissues, organs and bodies. As the dough gets warmer, it goes through a process called "proofing"—a final fermentation, second rise, or blooming—the dough's final rise that happens after shaping and just before baking.¹⁰⁴ I was mesmerized by the sight of seeing the dough move on its own accord and without my prompting. Such proofing proved that it is a living body; this material has the potential to act, a key factor in my subsequent performances.

In a second iteration of *Knead*, a thin layer of dough is wrapped around my neck and upper torso like a scarf. Slowly I rotated on the spot, the spotlight sculpting the pale skins of the dough and my body. The circular motion of my movement is interrupted by the uneven weight of the dough. I waver. The weight of the dough pulls and stretches into thin sections that become uneven and more transparent to the light. As the material gives and the dough tears, gaps reveal the fragility of the material and my bare skin. I wobble even more in the dough that drops to my feet; I nearly fall over; walking in small circles becomes slower, more laboured and precarious.



Figure 11. Madaleine Trigg and Simon Donger, *Knead*, Contact improvisation/studio explorations, RCSSD, London, UK, August 2018.

¹⁰³ Steven Connor, *The Book of Skin*, (London: Reaktion Books, 2004), 225.

¹⁰⁴ For more on the various stages of proofing see: Dominique Ansel, "Baking 101: What Is Proofing? Learn How to Proof Breads and Other Baked Goods," Masterclass, last updated August 3, 2021. <https://www.masterclass.com/articles/baking-101-what-is-proofing-learn-how-to-proof-breads-and-other-baked-goods#what-is-proofing>



Figures 12-13. Film stills from Madaleine Trigg and Simon Donger's *Knead*, London, UK, 2018.



Figures 14-16. Film stills from Madaleine Trigg and Simon Donger's *Knead*, London, UK, 2018.

All the *Knead* improvisations started with a concept of "skins" as a form of clothing which was familiar due to my interests in costume and fashion. Once again, I was made to experience first-hand the power of another body, a material other-than-human body, to overpower me; to restrict or stifle my will to move. I encountered the dough directly, rather than directing it or being directed by another body/someone else. It is a reminder of the risks, bravery and vulnerability that improvisation involves, which ultimately means leaving oneself open to the possibility and contingency of whatever happens.

In the third improvisation of *Knead*, I lay on the black concrete ground and Simon placed a large sheet of dough completely over my body, covering it, like a bed sheet. Having just come from another improvisation, the dough had already been worked.



Figure 17: Film still from Madaleine Trigg and Simon Donger's *Knead*, London, UK, 2018.

The feeling of that moment is burned into my memory: shrouded, sealed, covered, comforted yet suffocated. The dough was flexing its muscles. Mine were different muscles that were trying to resist and push against the weight to move. Twisting movements helped. Kneading was happening underneath. This other body on top of me only got stronger as the fermentation/kneading process developed more gluten. We were an ambiguous form. Its yeasts woke up; it expanded. I considered giving up. Not enough energy. Far from effortless or efficient, it was stopping me. I failed to listen and instead resisted it. It asserted an agency greater than my own.

For me, performing with materials as other live things creates a sensual, visceral language that literally gets underneath our skin. I first understood this feeling while reading contemporary performance scholar Josephine Machon as a primary reference

for a visual essay I wrote, "(Ad)dressing the Female Body," which "'presents a body of work that uses a 'language of flesh' and fabric to make explicit the relationship between the body, image and our increasingly material world."¹⁰⁵ Machon suggests that "[t]his fusing of sense (semantic 'meaning making') with *sense* (feeling, both sensation and emotion) establishes a double-edged rendering of making-sense/*sense*-making and foregrounds its fused somatic/semantic nature (emphasis in original)" which is vital in understanding the (syn-)aesthetic potential and strategies of performance.¹⁰⁶

Often led by intuition, emotions and subjective experience, I struggled to find the words to express and justify my instinct that the embodied knowledge within my practice had an intelligence that matched (and was even superior to) academic theory. Machon's text/work paradoxically liberated me and gave me confidence through her advocacy of "corporeal memory" and "embodied knowledge,"¹⁰⁷ "the intuitive human sense/*sense* of the unrepresentable and the inarticulable (emphasis in original)," a performance style that made the "intangible tangible."¹⁰⁸ For Machon, corporeal memory and embodied knowledge

provide an intuitive knowledge that refers human perception back to its own primordial, or *chthonic* (from the Greek, 'of, or to, the earth') impulse. What I intend by "corporeal memory" is that the sensate external body both produces and appreciates its own "language" in performance. The "language" of the performing body alongside the visceral impact of any other sensual element of the performance work is experienced by the audience through the traces of this language in our own flesh; both the external tactile flesh and the internal viscera. This "internal" encompasses the emotional *and* the physiological or sensational capabilities of the physical body. Work invested with such a quality has the potential to appeal to an equivalent chthonic sensibility within audience reception that allows for the slippage between the human faculties of intellectual and instinctual perception (emphasis in original).¹⁰⁹

I cite Machon extensively not only for her perceptive articulation and rendering of the (cap)abilities of the body to act as a language but also as she also conveys the importance of the *chthonic*-as such, there is a clear connection for me to Donna Haraway's 2016 publication, *Staying with the Trouble: Making Kin in the Chthulucene*.

¹⁰⁵ Madaleine Trigg, "(Ad)dressing the Female Body," *Scene 2*, no. 1-2 (2014): 127. https://doi.org/10.1386/scene.2.1-2.127_1

¹⁰⁶ Josephine Machon, (Syn)aesthetics. *Redefining Visceral Performance*, (Basingstoke, Hampshire: Palgrave Macmillan, 2009), 14. Machon notes that her emphasis of the duality of the word sense is deliberate and fundamental to her argument. This allows human "perception as sensation, that is corporeally mediated, and perception as cognition, intellectually mediated (accepting that the latter also involves cultural and social mediation) (see Rodaway, 1994: 11)." Machon. *(Syn)aesthetics*, 200.

For a brief overview of Machon's argument see: Josephine Machon, "(Syn)aesthetics and Disturbance - A Preliminary Overview," *Body, Space & Technology 1*, no. 2 (January 2001) <http://doi.org/10.16995/bst.268>

¹⁰⁷ Machon. *(Syn)aesthetics*, 5.

¹⁰⁸ Machon. *(Syn)aesthetics*, 20.

¹⁰⁹ Machon. *(Syn)aesthetics*, 5-6.

I'm deliberately undisciplined within my practice. This is a virtue, not a weakness, as I intuitively understand and trust that I will make certain material choices that reveal themselves and correspondingly the intelligence of the material. This is the material thinking that artist and author Paul Carter speaks of.¹¹⁰ "Material thinking occurs in the making of works of art," where what matters materialises and creative decisions are made in collaboration and negotiation between material and maker.¹¹¹ Material thinking demonstrates the value and acuity of artworks and creative-practice-as-research in general. This is because these discourses are four dimensional. "They are 'articulate' precisely because they are articulated—jointed or joined together—in a variety of ways and dimensions."¹¹² Drawing from different disciplines is also valuable as I do not have a pre-formed idea or experience of how to act with(in) that material or process/technique. Instead, I am drawn to it and curious about its potential, and as such, I engage with it on its own terms.

While I admire Josephine Machon's advocacy for a sensual, multi-modal and multi-disciplinary engagement with a variety of fluid forms of communication during performance, I am acutely aware of the anthropocentric focus of Machon's research. While tracing how affects work within these performances, her analysis stays with *Homo sapiens*. Drawing upon the neuropsychologist Alexander Luria, Machon proposes that within (syn)aesthetic performances, "images begin to guide one's thinking, rather than thought itself being the dominant element."¹¹³ However, in performance, images are three-dimensional, live, temporal material embodiments. If we are being affected by these "living images" then how are they affected by our presence? In essence, how do material bodies affect each other and what is the nature of their interrelations?

Reflecting on where my practice was then and what it is now as this research ends, my practice no longer indicates an interest in the "meaning" that emerges for an audience. Instead, it searches for what a sensual engagement with other bodies teaches us about relations with others. I'm sensing the world to make sense of it. I intuitively knew that this performative sensitivity was a potent opportunity to wonder about the agency of non-human bodies. My existing preoccupations led me to consider what might occur when applying this approach of wearing materials towards other types of material and material bodies.

¹¹⁰ Paul Carter, *Material Thinking*. (Melbourne: Melbourne University Press, 2004).

¹¹¹ Carter, *Material Thinking*, xi.

¹¹² Carter, *Material Thinking*, xii.

¹¹³ Alexander Luria, *The Mind of a Mnemonist*, trans Lynn Solotaroff, (London: Jonathan Cape Ltd, 1969) 116, quoted in Josephine Machon, *(Syn)aesthetics. Redefining Visceral Performance*, (Basingstoke, Hampshire: Palgrave Macmillan, 2009), 18.

Chapter 3: Context

The series of experiments and reflections discussed in Chapter 2 formed the basis of a preliminary PhD proposal and project. I became convinced that searching for non-anthropocentric ways to perform with others was significant and worth pursuing further. More specifically, I realised how potent dough was to work with as it is a material that is obviously alive. Because of the similarity between these materials and gumans, dough has the potential to clearly communicate the vivacity and dynamism of these companion species with other gumans.

One of the remarkable attributes of dough is that it goes through multiple transitions and transformations within its own life cycle. Starting off as a seed, wheat grows in the earth before being harvested, milled, and ground into flour. Mixing flour and water together creates dough; it also can make a (sourdough) “starter” or “mother.” This is a natural leaven, a “sponge,” that makes dough rise.¹¹⁴ Although bakers' yeasts (*Saccharomyces cerevisiae*) have been commercially cultivated and can be purchased, many people are returning to this hand-made method, which uses yeasts from the air and environment. Dough is then baked into bread which is consumed by gumans and companion species alike (such as birds and bacteria) and transformed into energy, which creates life and movement.

Wheat, flour, dough and bread appealed to me as they were ubiquitous materials that many gumans already have a pre-established relationship with. Historically, the acts of growing, kneading and moulding these materials were predominantly hand-made processes, which means that gumans already have an intimate, embodied experience with them. This creates a common language that is tactile, tangible and meaningful but, most importantly, not limited to guman-centric forms of communication such as writing and speaking. There is the potential for a sensual, multimodal relationship with these materials. That said, the bread industry has evolved away from this intimate relationship to the body and home as it has become mechanised. American author Michael Pollan laments in *Cooked: A Natural History of Transformation* that as the food system has become increasingly industrialised— from the field to the pre-sliced loaf in our supermarkets—bread can now “be manufactured on an assembly line in three or four hours without ever being touched by human hands.”¹¹⁵ Conversely, this research aims to re-establish and re-invigorate this contact. Bread is a staple food for many cultures and the choices that are made as to how it is grown, processed, interacted with, and consumed are important. It profoundly affects the health, length and capacities of guman lives.

¹¹⁴ Nicholas P. Money, *The Rise of Yeast: How the Sugar Fungus Shaped Civilisation*. (Oxford: Oxford University Press, 2018), 61.

¹¹⁵ Michael Pollan, *Cooked. A Natural History of Transformation*, (New York: The Penguin Press, 2013), 258.

This chapter considers artists, like me, that work with wheat, flour, dough and bread. I gather kin that contextualise this Posthuman performance practice and consider how their (performance) art works relate to the body, movement and New Materialist and Posthuman concerns. Specifically, to consider the dynamic qualities of materials and the active reworking of anthropocentric relations between humans and companion species. Historical, political and biological annotations are interspersed throughout to enable a richer understanding of the complexity of the cultural functions that these materials fulfil and the chemical transformations that occur. These observations, embodied sensations and material effects were distilled and extrapolated to form the research questions that permeate this doctoral project and were articulated in the introduction. They also led to a speculative fabulation, the contact improvisation *Rising*, which embodies some of the initial tensions and discoveries realised in the early creative works. This chapter doesn't follow a linear trajectory through wheat, flour, dough and bread; instead, I move amongst these phases to reaffirm the significance of an ecological cycle.

Figure 18: Photographs from Berni Searle's *Still*, Cape Town, South Africa, 2001.

Prior to coming to New Zealand, I encountered eight large hanging photographs from South African artist Berni Searle at the 2018 Frieze Art Fair. Searle's *Still* is part of the *Social Work* section of this renowned yet corporate event, an exhibition which was curated to celebrate feminist artists active in the 1980s-90s with the aim of challenging stereotypical cultural representations of women.¹¹⁶ As a series of photographic stills from a video *Snow White* that was part of a body of work, "Colour Me," created seventeen years earlier, *Still* depicts Searle's black, naked, flour-covered body kneading dough in a conventional manner.¹¹⁷ The material agency of dough isn't apparent; these frozen frames deny us the temporal and sensual experience of the material changing as it proofs. However, this work does draw attention to the female labour involved in making dough

¹¹⁶ Louisa Buck, "Social work: eight dissenting female artists feature in Frieze London's new section," *The Art Newspaper*, October 5, 2018, <https://www.theartnewspaper.com/2018/10/04/social-work-eight-dissenting-female-artists-feature-in-frieze-londons-new-section>

¹¹⁷ *Still* was originally exhibited in 2001 as an installation for the The Granary, Cape Town. *Still* was part of the group exhibition *Juncture* and Searle was represented by Michael Stevenson Gallery. "Revisiting the Fiercely Productive Practices of Marginalised Women Artists," *Frieze Week*, October 1, 2018, <https://www.frieze.com/article/revisiting-fiercely-productive-practices-marginalized-women-artists>

and baking bread and emphasises the issues of class and race that have been historically associated—if overlooked— with flour.



Figure 19: Guerrilla Girls, *We Sell White Bread*, 1986/7, New York, USA, 1986-1987.

Known worldwide for provocative interventions that emphasise inequities, the Guerrilla Girls' work *We Sell White Bread* draws attention to how women and non-white bodies in particular are the invisible labour behind a predominantly patriarchal industry.¹¹⁸ Although women have been baking bread domestically for millennia, as soon as bread was taken out of the home/kitchen and into the factory, men started profiting from the industrialisation of this common everyday foodstuff. Produced in 1987, *We Sell White Bread* focuses on the role of white men in this equation through a series of posters and stickers placed in gallery windows in New York. The Guerrilla Girls drew attention to the issue of lack of representation from white and non-white women in art contexts by stamping the words "We Sell White Bread" onto sliced bread and placing it next to a set of "ingredients," which included all the white male artists exhibited by the galleries. As the "conscience of the art world" the Guerrilla Girls anonymously, but not naively, posed as animals, drawing attention to the issues of representation of female and non-white bodies.¹¹⁹ This iconic work emphasises the perceived lack of agency of materials by lumping animals, women's bodies and bread together, as they are often considered passive products to be profited from and consumed by a patriarchal society.

Although anthropologists argue whether there is a racist inclination to the preference of white over brown bread, there were clearly economic, social and cultural considerations that have informed people's tastes. For example, the ancient Roman poet Juvenal wrote: "[T]o know the color of one's bread" as a means of expressing one's social standing.¹²⁰ The colour of bread that one ate depended on your income; considered to be more refined in

¹¹⁸ Brodbeck, Katherine. "We Sell White Bread." DMA. Dallas Museum of Art. Accessed August 17, 2022. <https://collections.dma.org/artwork/5347461>

¹¹⁹ Elizabeth Manchester, "Guerrilla Girls. *We Sell White Bread*. 1987," Tate, last updated February 2005, <https://www.tate.org.uk/art/artworks/guerrilla-girls-we-sell-white-bread-p78800>

¹²⁰ Spelling of color in original. Pollan, *Cooked*, 256.

substance and also for a more refined palette, white bread required more processing and thus was more expensive. Brown bread was coarser, which made it more difficult to chew and digest. Brown bread also tended to be more bitter and denser than white bread which is sweeter and lighter without the bran.¹²¹

On a microscopic level, milled bran has sharp shards that act like millions of tiny knives, which penetrate the strands of gluten and prevent it from holding air and rising.¹²² It is for this reason that some gardeners sprinkle wheat bran on the soil surrounding plants to kill slugs.¹²³ However, this propensity and preference for white bread is flawed. Flour is whitened by removing the coat of bran and the germ (embryo)—the most nutritious parts of the seed—from the grain. Flour is whitened further by exposing it to chlorine gas to bleach it.¹²⁴ Part of the reason that the germ is removed, turning whole-grain flour into white flour, is that it becomes rancid a couple of weeks after being milled. As Michael Pollan observes, “[p]art of what makes the germ so nutritious—its unsaturated omega-3 fats—also makes it unstable, and prone to oxidation.”¹²⁵ In essence, the germ is removed so that flour can be transported and stored for longer, making it a more lucrative commodity.

My focus on the predilection for white versus brown bread is precisely because it emphasises the folly of humans. How can humans believe that we are more intelligent than our companion species and nature when we have interfered with food to make it unhealthier for us? The progress associated with industrial mass manufacturing of white flour through roller mills and other technologies has led to nutritional deficiency and the exponential growth of “the Western diseases.”¹²⁶ Heart disease, cancer, diabetes and strokes are the terrible and undeniably real consequences of the availability of cheap, “refined” white flour.¹²⁷ Flour’s qualities reveal its material agency and its intimate relationship to the life of humans. Returning to the germ, Pollan draws upon a 2003 study by epidemiologists David Jacobs and Lyn Steffen who write that:

... the health benefits of whole grains cannot be completely explained in terms of the nutrients we know these grains contain: the dietary fibre, vitamin E, folic acid, phytic acid, iron, zinc, manganese, and magnesium. Either there are synergies at work among these nutrients, or there is some

¹²¹ Pollan, *Cooked*, 256. To ensure that all the bran/germ is removed from the grain, wheat has been bred so that the seeds are harder and it is easier to separate the germ.

¹²² Pollan, *Cooked*, 256.

¹²³ Pollan, *Cooked*, 256.

¹²⁴ Pollan, *Cooked*, 253.

¹²⁵ Pollan, *Cooked*, 256.

¹²⁶ Pollan, *Cooked*, 259.

¹²⁷ Pollan, *Cooked*, 259. Wonder Bread and other mass produced breads use “enriched” flour which adds B vitamins back into the bread to combat diseases such as pellagra and beriberi. Dan Myers, “5 Things you didn’t Know about Wonder Bread,” *ABC News*, accessed June 2022. <https://abcnews.go.com/Lifestyle/things-didnt-bread/story?id=29424069>

Pellagra is a disease caused by low levels of niacin, also known as vitamin B-3. It’s marked by dementia, diarrhoea, and dermatitis. “Pellagra,” Healthline, accessed July 2022. <https://www.healthline.com/health/pellagra>

X-factor in whole grains that scientists have yet to identify. We are talking, after all, about a seed: a package that contains everything needed to create a new life. Such a recipe still exceeds science's powers of comprehension and technology's power of creation.¹²⁸

Just because humans don't recognise the benefits of certain materials, does not mean that they don't exist. Jane Bennett discusses the dynamic role food plays for humans in her chapter *Edible matter*.¹²⁹ In particular, Bennett discusses scientific studies that have shown the beneficial interactions that omega-3 fats (contained in the whole grain germ) have on human behaviours. Interestingly these "fatty acids" can make "prisoners less prone to violent acts, inattentive schoolchildren better able to focus, and bipolar persons less depressed."¹³⁰ This is a clear indication that materials have agency and what food we eat matters. Not only does food compose bodies, it also profoundly affects the qualities of our actions.

Figure 20. Martha Rosler, *Kitchen Economics: The Wonder of (white) Bread*, 1975.

This research project is also informed by the work of American feminist and conceptual artist Martha Rosler, who drew attention to the issues of commercialising bread manufacturing, namely the chemical additives, in her text work *Kitchen Economics: The Wonder of (white) Bread* (1975). This work included the comparative cost to bakers of a one-pound loaf from 1972 and 1974, alongside a transcription of a (fictional?) dialogue between grandmother and granddaughter that lists all the additional ingredients that

¹²⁸ Pollan, *Cooked*, 262. Pollan paraphrases the findings from Jacobs and Steffen's scientific study. For further information see: David R. Jacobs and Lyn M Steffen, "Nutrients, Foods, and Dietary Patterns as Exposures in Research: A Framework for Food Synergy," *American Journal of Clinical Nutrition* 78, no. 3 (September 2003): 508S-513S, <https://doi-org.ezproxy.massey.ac.nz/10.1093/ajcn/78.3.508S>

¹²⁹ Bennett, *Vibrant Matter*, 39-51.

¹³⁰ Bennett, *Vibrant Matter*, 41.

adulterate (Wonder) bread to maximise profit.¹³¹ Bread can be made from just four ingredients: flour, water, yeast and salt. If a sourdough starter is being used, only three ingredients are needed. Conversely, manufactured breads can have over thirty-one ingredients.¹³² Rosler's *Kitchen Economics: The Wonder of (white) Bread* makes these facts public.

Figure 21. Martha Rosler's *Kitchen Economics: The Wonder of (white) Bread*, 1975.

Chemicals and other ingredients are introduced to extend the flour and to artificially quicken the proofing process.¹³³ Dough needs time for chemical and biological reactions to take place inside it.¹³⁴ The microbes within the dough are busy. The yeasts are eating the carbohydrates in the flour, "burping out" and excreting carbon dioxide that is caught

¹³¹ Martha Rosler, *Martha Rosler: Positions in the Life World*, ed Catherine de Zegher, (Birmingham: Ikon Gallery and Generali Foundation, 1998), 198-199.

¹³² The following are some sobering articles, which discuss in more detail the numerous ingredients in bread and the affects they have on the human body: Rachel Clemons, "Supermarket and Bakery Bread," Choice, last updated July 12, 2017, <https://www.choice.com.au/food-and-drink/bread-cereal-and-grains/bread/articles/bread-guide>

For a breakdown of the ingredients of even "healthy" manufactured breads and discussion of some ingredients that are also banned, see: Andrea B Donsky, "Scary Commercial Bread Ingredients You Should Watch Out for," Naturallysavvy, accessed August 18, 2022. <https://naturallysavvy.com/eat/scary-ingredients-used-in-bread-manufacturing/>

¹³³ Money, *The Rise of Yeast*, 58-60.

¹³⁴ Money, *The Rise of Yeast*, 58-60.

in the gluten matrix and makes the dough expand. These yeasts are resourceful. If they run out of food, they switch to fermentation to continue living, which creates the “mother” and explains the sour taste of the starter.¹³⁵ When flour and water are mixed, gluten, the “muscle” of the material, is formed. Gluten is found in the endosperm.¹³⁶ The endosperm is a type of tissue that is produced in the wheat seeds and nourishes the plant embryos during germination. The endosperm is ground up into the flour when the wheat is milled.¹³⁷ Gluten is created from two proteins in the flour, gliadin and glutenin, that when mixed create threads, networks of gluten. Gliadin contributes to the extensibility of the dough, whereas glutenin provides the elasticity.¹³⁸ “As in the fibers of muscles, these qualities exist in productive tension,” allowing the dough to be shaped, stretched and returned to its original form.¹³⁹ Early edible grasses such as Einkorn did not contain sufficient quantities of these proteins.¹⁴⁰

It was only through centuries of seeds cross breeding that this grain mutated into the wheat we now eat. Gluten doesn't exist naturally, but instead, forms uniquely through the contact between flour and water. The process of kneading triggers the interaction between flour and water. Without the combination of these materials to make “the extensible and elastic gluten to trap the carbon dioxide, bread would never rise.”¹⁴¹ Hastening the proofing process equates to an increase in profit. In a capitalist society where time equals money, allowing the dough to “rest” is a waste of time. This is ironic for several reasons. First, although humans believe the dough to be “resting,” inside the invisible chemical and biological reactions are vigorously working. Also, this “waste” of time is necessary for human health:

Fermenting dough for six hours as opposed to 30 minutes removes around 80% of a potentially carcinogenic substance called acrylamide found in bread crusts, and long yeast fermentations conserve the highest levels of B vitamins in dough.¹⁴²

¹³⁵ Lactobacillus bacteria in sourdough starters produce lactic acid (instead of CO₂ from the yeast). The sour taste attributed to sourdough starters and bread is due to the acetic acid that some of the lactic acid bacteria produce. Money, *The Rise of Yeast*, 61.

¹³⁶ Alina Bradford, “What is Gluten?” Livescience, last updated November 18, 2017. <https://www.livescience.com/53265-what-is-gluten.html>

¹³⁷ Pollan, *Cooked*, 257.

¹³⁸ Pollan, *Cooked*, 223. Spelling of fibers in original.

¹³⁹ Pollan, *Cooked*, 223.

¹⁴⁰ Pollan, *Cooked*, 225. Einkorn was mainly eaten as a porridge or brewed for beer as it didn't have enough glutenin to trap fermentation gases.

¹⁴¹ Pollan, *Cooked*, 224.

¹⁴² Andrew Whitley, “Against the Grain,” *The Guardian*, last updated April 16, 2008. <https://www.theguardian.com/lifeandstyle/2008/apr/16/recipes.foodanddrink>

Whitley has also published a book, *Bread Matters* and has an accompanying website of the same name: Andrew Whitley, *Bread Matters: The State of Modern Bread and a Definitive Guide to Baking Your Own*, (Kansas City, Missouri: Andrew McMeel Publishing, 2009). Andrew Whitley, “Bread Matters,” accessed August 18, 2022. <https://www.breadmatters.com>

Man-made processes, such as The Chorleywood bread process (CBP), have sought to mechanise the bread-making process.¹⁴³ From 2009, 80% of the bread made in the UK and New Zealand used this process.¹⁴⁴ With the addition of dough conditioners (man-made compounds such as L-Cysteine), the proteins are broken down more quickly, condensing the whole bread making process down to 3 ½ hours from start to finish, compared to the normal overnight proofing.¹⁴⁵

The dough conditioner, L-cysteine, is created by boiling the raw material (hair) in concentrated hydrochloric acid and activated carbon and taking it through the process of electrolysis.¹⁴⁶ Ten years ago, the majority of L-cysteine was made from "human hair found on the floors of Chinese barbershops," whereas today, eighty percent of L-cysteine is derived from Chinese duck feathers.¹⁴⁷ L-cysteine softens the gluten, relaxes and conditions the dough, which makes the dough easier to handle and reduces mixing and fermentation.¹⁴⁸ As such, this chemical compound eases the labour of the human body by minimising the kneading. All these innovations in the name of progress are geared towards maximising corporate profit.

Gumans have had to be resourceful with bread's ingredients in more inhumane situations. For example, during World War II, the occupants of a Dutch Indonesian labour camp were forced to come up with an alternative solution for yeast when their captors stopped providing it.¹⁴⁹

¹⁴³ "Chorleywood: The Bread that Changed Britain," *BBC News*. Last updated June 7, 2011. <https://www.bbc.com/news/magazine-13670278>

¹⁴⁴ "Chorleywood Bread Process," Bread Info, last updated April 20, 2018. <https://breadinfo.blogspot.com/2018/04/chorleywood-bread-process.html>

For more detailed information on the process please see:

Gary Tucker, "Chorleywood Bread Process – How it's Changed Industry," Campden BRI. Food and Drink Innovation, last Updated October 25, 2019. <https://www.campdenbri.co.uk/blogs/chorleywood-bread-process.php>

For the history of the Chorleywood Bread process: Brenda Bell and Les Mead, "Baking and the Chorleywood Connection. The British Baking Industries Research Association, at Chorleywood 1949-1996," 3 Rivers Museum, last updated April 22, 2021. <https://trmt.org.uk/blog/baking-and-the-chorleywood-connection>

¹⁴⁵ Money, *The Rise of Yeast*, 58-60.

¹⁴⁶ One of the drawbacks of this approach is the need for huge amounts of concentrated sulfuric acid and water. "L-Cysteine." Bakerpedia. Accessed February 12, 2022. <https://bakerpedia.com/ingredients/L-cysteine/#:~:text=The%20traditional%20production%20process%20for,this%20is%20followed%20by%20electrolysis.&text=One%20of%20the%20drawbacks%20of,concentrated%20sulfuric%20acid%20and%20water>

¹⁴⁷ Jeanne Yacoubou, "Everything You Ever Wanted to Know About L-Cysteine But Were Afraid to Ask," *The Vegetarian Resource Group*, Vegetarian journal, issue 1, last updated 2008. <https://www.vrg.org/journal/vj2008issue1/vj2008issue1cysteine.htm>

Although goose feathers, swine bristles, and hooves have also been historically used to make this compound/chemical. There is also a well-established fermentation process using plant starch as raw material. See also: Bakerpedia, "L-Cysteine."

¹⁴⁸ Bakerpedia, "L-Cysteine."

¹⁴⁹ Thank you to Win Van Wetering for sharing his story with me. This first-hand account of how yeast was made from urine during captivity is also corroborated on the following website: "Urine Bread," Weir Universe, last updated February 29, 2012. https://www.weirduniverse.net/blog/comments/urine_bread/
https://www.weirduniverse.net/blog/comments/urine_bread/

Nicknamed the "chief urinist," one inmate worked out that they could make dough rise from heating urine.¹⁵⁰

[The] secret is ammonium carbonate, formed when the urea in stale urine combines with water. It can be distilled, as the Dutch internees found, in a simple cooking pot. Ammonium carbonate decomposes to form ammonia and carbon dioxide, and it's these gases that cause the pockets or bubbles of air that make the dough rise. When the dough is then baked, the air pockets set, giving the bread its soft and spongy texture.¹⁵¹

For some, these ingredients may be considered disgusting; I consider this an example of material alchemy more precious than gold. How wonderful that a "waste" product was transformed into food. This discovery kept thousands of humans alive.¹⁵²

Consuming bread is a conventional and common way of relating to these materials and numerous artists have made bread within gallery contexts. For example, Irish artist Laura Wilson revitalises Veda Bread, a historic bread that was known as "the soldier's friend" during the First World War because of its nutritional value and long shelf life.¹⁵³ It was the only bread that wasn't stale when it arrived to them.¹⁵⁴ More recently, Zoe Thompson Moore made bread for selected gallery events at Enjoy Gallery (Wellington). Running from May 2019 to August 2020 her project *The Making of Bread, Etc* sought to emphasise the (female) labour involved in bread making as well as cultivate convivial conversations

¹⁵⁰ Also in Pieter Wiederhold's book, *The Soul Conquers*, he reports that several large drums were placed around the camp, carrying a sign which said: "Do your Duty. Think of the yeast factory. By 8:00 AM we must have at least two full drums or there will be no bread tomorrow."

Pieter R. Wiederhold, *The Soul Conquers. A Riveting Tale of a Young Boy's Journey through Japanese Concentration Camps to a New Life in the US*, (Xlibris, 2006), quoted in Weird Universe, "Urine Bread."

¹⁵¹ Sally Magnusson, *Life of Pee: The Story of How Urine Got Everywhere*, Aurum Press, 2010, quoted in Weird Universe, "Urine Bread."

¹⁵² Leslie Andus was also credited with making discoveries that nutritionally fortified food during imprisonment and this is discussed further in the book, *Biology Behind Barbed Wires*.

Alexander Mikaberidze, ed. *Behind Barbed Wire. An Encyclopedia of Concentration and Prisoner-of-War Camps*, (Santa Barbara, California: ABC-CLIO, 2019).

Conversely there are examples during the Second World War of ill treatment through yeast. Whereas initially the Nazi Schutzstaffel (SS) were interested in using yeast to make protein rich food for their frontline troops, this changed to experimentations with food for the Jewish occupants of the concentration camps. "Eduard Wirths, chief SS doctor at Auschwitz, fed starving prisoners a mixture of fodder yeast and nettles, and Ernst-Günther Schenck, inspector of nutrition for the SS, investigated the effects of a sausage made from yeast at Mauthausen-Gusen. Hundreds of prisoners starved to death, the Nazis photographed their wasting bodies for their archives, and many survivors of the experiment were gassed. Money, *The Rise of Yeast*, 68-69.

¹⁵³ Laura Wilson's project, *Trained on Veda*, aims to provide an alternative to the standardisation of industrial bread production and revitalise a historic bread product through a network of bakeries and galleries. Veda bread was on display in the exhibition, *FOOD: Bigger than the Plate*, at the Victoria and Albert Museum (V&A), London, where Wilson also performed a new work, *Holding Shift* during one of the V&A Friday lates. For an interview with Wilson and further information please refer to: Rosenthal Sloan, May. "Shapeshifting Dough? An Interview with Artist Laura Wilson." Victoria and Albert Museum. Last updated June 26, 2019. <https://www.vam.ac.uk/blog/museum-life/shapeshifting-dough-an-interview-with-artist-laura-wilson>

¹⁵⁴ Rosenthal Sloan, "Shapeshifting Dough?"

and relations between people during the sharing and eating of this bread.¹⁵⁵ In my research, the emphasis rests primarily on the making and tending of the dough and bread because it is more difficult to communicate the performances of the materials when it is eaten. This is not to say that the interactions are not occurring, as coeliacs/ celiacs can attest through the effects of the disease.¹⁵⁶ Gluten affects the gut, inflaming it, causing bloating, wind and diarrhoea amongst other complaints.¹⁵⁷ Gluten can be felt deeply indeed.

Bread also has had intoxicating effects on human bodies, causing hallucinations and delirium. A weed called darnel (*Lolium temulentum*) has a seed that is similar to wheat. This is sometimes mistakenly planted amongst wheat and while darnel isn't toxic, it hosts a fusarium fungus called ergot in its stem and seeds.¹⁵⁸ Ergot produces lysergic acid diethylamide (LSD) which causes people to get "high" after consuming the bread.¹⁵⁹ In Sarah Laskow's article, "Wheat's evil twin has been intoxicating humans for centuries", she discusses how the effects of darnel in bread have been recorded in the Bible ("Parable of Tares") and Shakespeare in King Lear's crown of weeds.¹⁶⁰ Interestingly darnel has also been used by women to slow their menstrual bleeding and expel the placenta after childbirth.¹⁶¹ Ergot also lives on rye and historically ergotism (a reaction to ergot contaminated rye and wheat breads) has been blamed for having a role in the Salem witch hunt (1692).¹⁶² Bread clearly affects human behaviour and fluctuates from being sustenance, to a medicine and poison.

¹⁵⁵ The project was also accompanied by the following essay: Sarah Hudson and Zoe Thompson-Moore, "The Making of Bread, etc," Enjoy, last updated April 23, 2020. https://enjoy.org.nz/media/uploads/2020_04/01_Sarah_Hudson_and_Zoe_Thompson-Moore_The_making_of_bread_etc.pdf

¹⁵⁶ "What is Coeliac Disease?" Coeliac New Zealand, last accessed August 18, 2022. <https://coeliac.org.nz/what-is-coeliac-disease/>

¹⁵⁷ "What is Coeliac Disease?"

¹⁵⁸ Rob Dunn, *Never Home Alone. From Microbes to Millipedes, Camel Crickets, and Honeybees, The Natural History of Where We Live*. (New York: Basic Books, 2018), 107.

¹⁵⁹ Dunn discusses how the Russian botanist Nikolai Vavilov travelled to Persia to help solve a "military mystery" where soldiers were getting high. They were accidentally eating bread infected with darnel/ergot. Dunn, *Never out of Season*, 107.

¹⁶⁰ Sarah, Laskow, "Wheat's Evil Twin has been Intoxicating Humans for Centuries," Atlas Obscura. Accessed June 2020. <https://www.atlasobscura.com/articles/wheats-evil-twin-has-been-intoxicating-humans-for-centuries>

¹⁶¹ Laskow, "Wheat's Evil Twin."

¹⁶² "Ergot-Uses, Side-Effects and More." Web MD, Accessed June 2020. <https://www.webmd.com/vitamins/ai/ingredientmono-431/ergot>



Top: Figure 22. Photograph of Ann Hamilton's *malediction*, New York, USA, 1991-1992.
 Bottom: Figure 23. Photograph of details of Ann Hamilton's *malediction*, New York, USA, 1991-1992.

Visual and installation artist Ann Hamilton's durational performance of *malediction* led me to decide that my research was to be less focused upon the material's consumption than its making.¹⁶³ On the anniversary of the attack on Pearl Harbour, between 7 and 23 December 1991, Hamilton sat in a gallery with her back to the spectators while she laboriously masticated chunks of dough to then form each one as a mould of her upper mouth cavity. In this performance, Hamilton halts before consuming the material and instead makes a cast of the action of biting. The moulds of this hollow space were laid on top of each other in a casket that was used to carry bodies to the morgue. She used a sculptural process (casting) focussed on making the process of transition visible rather

¹⁶³ For more information on *malediction* please visit: Ann Hamilton, "malediction," Ann Hamilton Studio, last accessed August 18, 2022. <http://www.annhamiltonstudio.com/projects/malediction.html>
 Ann Hamilton has also worked with flour in her *body object series #16 (Flour)*, 1993, a photograph which features a person breathing out flour. Although there is a relationship between flour and body here, I don't discuss it in depth as the title of the work suggests a continuation of the body/object division. Although it could be argued that as breath is so important to life, Hamilton is emphasising the importance of flour to living. "Ann Hamilton. *Body object series #16, flour*, 1993." National Gallery of Art. Accessed August 18, 2022. <https://www.nga.gov/collection/art-object-page.136261.html>

than on the object or artefact. Over the weeks and months to follow, the material continued to transform, expand, grow mould and decay. Although Hamilton arrested the movement of the human mouth, she didn't stop the life of the material nor its movements. She sat silently as Walt Whitman's *Song of Myself and The Body Electric* are softly played. Sounding like one reading to oneself, the text is received as a tone rather than individual words. Are these moulds a silent scream that casts a spell, such as a malediction, a phrase that is uttered with the intention of creating a curse. There is an ambiguity as to who Hamilton is inciting.

Hamilton's performance participates in what writer and Associate Professor of Art and Design Christopher Braddock terms, a "contagious animism."¹⁶⁴ Braddock proposes that this ritualised performance creates "a contagious transformation of objects such that they becomes a new body that hosts, for example, disease-spirits... it can be argued that objects *perform* the person; that is, they become contaminated to the point that they *become* the thing (emphasis in original)."¹⁶⁵ Braddock's discussion is a useful articulation of the liveliness of materials, and yet, as mentioned previously, animism is problematic because it is an anthropocentric concept where the human imbues and embodies the "object." Dough doesn't need to be animated; it is already alive. This is evidenced by the yeasts that inhabit the dough and the myriad of other qualities the dough exudes. In fact, the *Saccharomyces cerevisiae* yeasts that live in dough also occupy the human body, dispelling mass differences between the two bodies. I will return to this in more detail at the end of this chapter.

This relation between bread, body and ritual does evoke the Christian act of transubstantiation, which I bring into this conversation as many cultures have religious ceremonies and celebrations with bread at its centre.¹⁶⁶ Transubstantiation, in which bread and wine is transformed into the body (and blood) of Christ is significant as this is considered by believers to involve physical and material manifestations rather than symbolic gestures.¹⁶⁷

¹⁶⁴ Braddock discusses *malediction* in Chapter two, "Contagious Participation: Ann Hamilton" of his monograph. Christopher Braddock, *Performing Contagious Bodies. Ritual Participation in Contemporary Art*, (Basingstoke, Hampshire: Palgrave Macmillan, 2013) 60-82.

¹⁶⁵ Braddock, *Performing Contagious Bodies*, 67.

¹⁶⁶ "Bread, Religions and Tradition." Loulis Museum. Accessed August 18, 2022. <https://www.loulismuseum.gr/en/thematics/bread-religions-and-tradition>

For some fascinating bread based birth rituals in Turkic cultures see: Hakan Doğan, "A Bread for the First Steps," Turquazz, last updated March 31, 2022.

<https://www.turquazz.com/a-bread-for-the-first-steps-ceremonious-bread-traditions/>

¹⁶⁷ FR William Saunders, "Transubstantiation," CERC Catholic Education Resource Center, last updated 2005. <https://www.catholiceducation.org/en/culture/catholic-contributions/transubstantiation.html>

Figure 24. Photograph of Agnes Dene's *Wheatfield-A Confrontation*, New York, USA, 1982.

My research explored ancient agricultural rituals with bread and wheat, in addition to how these have been embodied by contemporary artists.¹⁶⁸ Agnes Denes' work, *Wheatfield—A Confrontation* was created in the summer of 1982 when Denes planted and harvested two acres of wheat on the Battery Park landfill in Manhattan, New York.¹⁶⁹ This pioneering public art-work and political intervention created a jarring juxtaposition by growing a golden field of wheat two blocks from Wall Street and the World Trade Center in New York's financial district.¹⁷⁰ Denes' artwork emphasises issues of commerce, world trade and economics by making visible the different types of labour that occur throughout cities and countries. In particular, this artwork demonstrates the effects of globalisation and how physically distanced humans are from producing their own food.¹⁷¹ Denes harvested over 1000 pounds of grain from the wheatfield and addressed the issues at the core of the work in an exhibition called "The International Art Show for the End of World Hunger," which travelled to twenty-eight cities around the world.¹⁷² During these exhibitions, wheat seeds were given away so people could plant them and grow their own food. This act draws attention to the cultural, socio-economic importance and agency of wheat. The seed can be sown, which makes more wheat, or it can be ground and turned into flour and food.¹⁷³

¹⁶⁸ An excellent account of these historical agricultural rituals and how to grow ancient wheats is Eli Rogosa's book.

Eli Rogosa, *Restoring Heritage Grains: The Culture, Biodiversity, Resilience, and Cuisine of Ancient Wheats* (Chelsea Green Publishing, 2016).

¹⁶⁹ Agnes Denes, "Wheatfield - A Confrontation: Battery Park Landfill, Downtown Manhattan," accessed October 27 2021, <http://www.agnesdenesstudio.com/works7.html>

¹⁷⁰ This wheatfield was in prime real estate worth approximately \$4.5 billion. Denes, "Wheatfield - A Confrontation."

¹⁷¹ This artwork is particularly prescient in light of recent events where the war in Ukrainian has led to a global grain shortage and is illuminating food precarity and issues of World hunger.

¹⁷² This was organized by the Minnesota Museum of Art (1987-90).

¹⁷³ According to Alicia Thompson it takes about ½ cup of grains to makes 1 cup of flour. This is approximately a compact 5 square feet garden patch. For more information on growing wheat: Alicia, Thompson, "Growing Wheat: Bread from the Backyard," Epic Gardening, last updated October 8, 2021. <https://www.epicgardening.com/growing-wheat/>

For further information on grinding flour: "Flour," How Products are Made, accessed August 18, 2022. <http://www.madehow.com/Volume-3/Flour.html>

It was Denes' work that consolidated my intention to grow my own wheatfield, the final project within my PhD. I had to sign a contract which stated that I was growing the wheat for research and would not profit from it, especially as the wheat came from a seedbank that held multiple varieties of ancient wheats.¹⁷⁴ This foregrounded to me the politics of (wheat) seeds. Seeds are big business. As wheat is such a staple food and grown on a massive scale, there are vested interests involved in genetically engineering seeds that can tolerate pests, adverse weather and generate large yields.¹⁷⁵ Not only is land privatised for profit, increasingly, nature has this same fate.¹⁷⁶



Figure 25. Photograph of Java Dance Companies' *Rise*, BATS Theatre, Wellington, New Zealand, 2011.

This research was initially catalysed by a dough dress and exploring the possible range of movements within this material. However, there are other artists who have also danced with dough. In 2011, the New Zealand dance company Java created *Rise*, a complex 70-minute choreography with flour, water, golden syrup and numerous dancers.¹⁷⁷

¹⁷⁴ See the appendix for a copy of the contract that I signed.

¹⁷⁵ I could write another chapter on the politics of seeds and history of seed banks, including the pioneering Russian Botanist Nikolai Vavilov. Fortunately, Vavilov has been covered in two excellent chapters, "Prospecting for Seeds" and "The Siege" in Rob Dunn's *Never out of Season*, 103-131. Businesses such as Monsanto have controversially tried to manufacture and patent the technology to make "sterile seeds," infamously dubbed the "terminator" seed. For some these seeds would alleviate the risk of genetically modified crops spreading, however there is also the argument that this technology will lead to further privatisation and monopolisation of seeds and capitalisation of food production. Apparently these plans have been dropped by Monsanto, although there are concerns that this corporation will keep its promise, which some believe was a move to improve their public image. For more information: "Genetic Seed Sterilization is 'Holy Grail' for Ag Biotechnology Firms: New Patents for 'Suicide Seeds' Threatens Farmers and Food Security Warns RAFL." Students for Responsible Research. Accessed July 2022. <https://nature.berkeley.edu/srr/Alliance/novartis/sterile.htm>

¹⁷⁶ Indian scholar, environmental activist and ecofeminist Vandana Shiva has written extensively on the seedy politics of this and global issues of food sovereignty. In particular, Shiva discusses the issue of disappearing knowledge on Earthworms and how this lack of research will affect biodiversity, the future health of soil and life (and death) on this planet.

¹⁷⁷ For a review of Java Dance Companies *Rise*, please see: John Smythe, "An Exhilarating Celebration of Flour Power," *TheatreReview*, reviewed October 23, 2011. <https://www.theatrereview.org.nz/reviews/review.php?id=4309>



Figures 26 - 27. Photographs of Laura Wilson's *Fold and Stretch*, SPACE, London, UK, 2016.

In 2016, Irish fine artist Laura Wilson created a 24-minute performance, *Fold and Stretch*. This work for Site Gallery (Sheffield) was created in collaboration with baker Martha Brown, choreographer Lucy Suggate, 180kg of dough and three dancers. These dance works emphasise the human actions of working with dough, moving, moulding, stretching, folding. I offer them here as examples that contextualise and contrast to the contact improvisations that arise later. These works are conceived, choreographed, set, rehearsed and replayed to a human audience. As such, these works tend to illustrate rather than embody the multiple, mutually responsive and interactive collaborations I made in co-production with the companion species I worked with.

Mika Rottenberg's film installation *Dough* is more relevant to my research. Despite the work being directed, the way the dough moves through space is composed to emphasise interconnections between the bodies of human and companion species. This is evident both in the filmic space, where the women work with the dough and there are interactions between bodily fluids (such as tears) which affect the movements of the dough rising and in the physical space, whereby the audience are given agency to move in the installation and choose what part of the film they focus on (and for how long).

Additionally, Rottenberg's *Dough* emphasises labour and the politics of the capitalisation of bodies (both female and material) by a predominantly patriarchal society, through the claustrophobic and surveying stance that systematically organises these productive bodies. I discuss Rottenberg's *Dough* in more detail in Chapter 4.

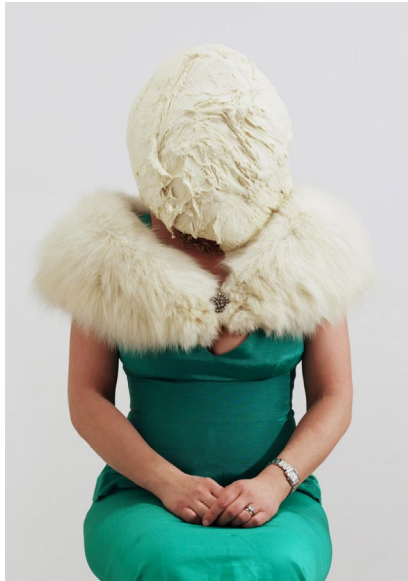


Figure 28. Film Still from Mika Rottenberg's film installation *Dough*, Guggenheim, New York, USA, 2006.

Danish artist Søren Dahlgaard dwells on material transformations and the tensions between subject/object. He has been working with dough since 1998. Made between 2008-15 and including participants from fourteen counties, Dahlgaard's *Dough Portraits* depict a ten-kilogram lump of dough placed on the sitter's head.¹⁷⁸ The photograph was taken as the dough obscured the face. Dahlgaard's work has a critical relationship to the (self-)portrait and its anthropocentric role in segregating, promoting and re-presenting the human body in art practices. However, Dahlgaard considers this work to be a sculpture; he is more interested in how materials are activated through the body, collaboration and play.¹⁷⁹ As the dough covers the face, the identity of the sitter is obscured; the only clue viewers have to the personality of the sitter is portrayed through the curated choice of clothing. The dough performs a dehumanising gesture to subvert the anthropocentric perspective of the portrait. The subject of this photograph is also subjected to an embodied encounter with dough that reverses typical subject/object relations (the human is acted upon rather than acting to mould the material, although arguably the human is still modelling the dough).

¹⁷⁸ Dahlgaard's *Dough Portraits* also make me think of performance artist Tatsumi Orimoto's "Bread Man." Orimoto has been performing with baguettes on his head to obscure his face since the 1970s and has done over 200 performances worldwide and with others to create flash mobs. I have chosen to focus on Dahlgaard within this discussion as his use of dough emphasises the material agency and possibilities for transformation. Whilst Orimoto does obscure his face, arguably dehumanising him, I propose that his use of baguettes—a moulded and cooked material, limits the Posthuman potential of his performances.

¹⁷⁹ This pre-occupation within Dahlgaard's art practice is evident within his captivating and playful practice-led doctoral thesis, *Sculpture as Activating Object*. Søren Dahlgaard, *Sculpture as Activating Object*. PhD diss., University of Melbourne, 2019. <https://minerva-access.unimelb.edu.au/items/f14bc09b-3cfc-5572-9231-46b6bbf45f4d>



Left: Figure 29. Photograph of Sarra, 37 from Søren Dahlgaard's *Dough Portraits*, London, UK, 2010.

Right: Figure 30. Photograph of Frederik, 18 from Søren Dahlgaard's *Dough Portraits*, SMK – The National Art Gallery, Denmark, 2008.

More importantly though, this work emphasises transformations. As art historian Rune Gade suggests in *Sculpture as Play*, these Dough Portraits are not "about it being a portrayal at all, it is *the experience of being transformed* that lies at the heart of the dough portrait. . . one gets an intense experience of loss of self. . . (emphasis in original)."¹⁸⁰ This experience of losing a sense of self is particularly relevant to a Posthuman performance practice that aims to physically and visually de-centre the significance of humans. However, the photographic medium limits the potential for us to witness the material transitions and transformations within and between bodies. The photograph, as a static image, focuses on re-presentations of this embodied experience rather than its active, live and ongoing interrelations.

¹⁸⁰ Rune Gade, "Sculpture as Play," in *Dough Portraits*, Søren Dahlgaard with contributions by Valentina Borsato, Fabio Cavallucci, Duan Yuting, Rune Gade, Gim Gwang-Cheol, Rafet Jonuzi, Ran Kasmay-Ilan et al. (London: Art Books, 2015), 19.



Figures 31-32. Film stills from Santina Amato's *Untitled Dough Project (Self-Portrait)*, School of Art Institute, Chicago, USA, 2015.

Conversely, Australian artist Santina Amato's 2015 work, *Untitled Dough Project (Self-Portrait)*, offers a perspective that captures the agency of dough to a much higher level of attentiveness. In this dough performance created specifically for video, Amato set up seven cameras to capture her attempt at kneading her body weight in dough.¹⁸¹ Amato kneaded the dough for over an hour and then laid in this mass of dough for another two hours. Captured using time-lapse photography, the agency of the dough is unmistakable as it rises and engulfs her body. Noting the dough's agency and unpredictability, Amato confessed that the performance ceased as her second nostril was about to "be consumed by the dough, preventing her from breathing."¹⁸² Amato's stillness in this durational self-portrait emphasises the movement and liveness of the dough. It also belies the fact that the dough was largely out of Amato's control; she was passive and didn't interact or resist the dough's movement. It was her staying still that allowed the dough's momentum to almost overpower her.

¹⁸¹ This work was created by Santina Amato when she was an MFA Student at the School of Art Institute of Chicago. More recently Amato created *Dis-rupted* (2018), a performance which features a mass of women in red dresses kneading together to create eight hundred pounds of dough in a gallery. Amato has also made a series of ceramic sculptures which are disrupted, moved and broken by the dough as it grows/proofs, *Destruc(creation)* (2018). These works can be found on Santina Amato's website. Santina Amato, "Work," Santina Amato, accessed May 2019, <https://santinaamato.com/untitled-self-portrait-2015>.

¹⁸² Santina Amato, "Untitled (Self-Portrait), 2015."

When I returned to London in the Summer of 2019, ten months into my PhD and nearing confirmation, I went back into the black box with my collaborator Simon Donger. He took on a similar role to the previous summer, focusing on lighting and filming these material explorations.¹⁸³ Whereas in previous contact improvisations I had worn the dough and it had worn me down, I was curious to see what would happen if I laid upon it and tried to rise out of the dough to a standing position. What would moving in and out of the dough reveal to me about its agency?

I had fifteen bags of flour and several buckets of water. I didn't add yeast nor salt to the mix. On the first day I kneaded these ingredients and bundled them into a black bin bag. The following morning the bag was bulging and had burst. The room was warm and the swollen dough was sweaty and sticky. It was difficult for me to smear the dough onto the ground as it kept clinging to my hands. I tried rising out of the dough three times.

What surprised me most was the strength of the dough. As I laid down and rested my head into it, I was struck by the suction. Similar to Amato, the dough started to creep into my mouth and nose. I was worried it would suffocate me.¹⁸⁴ Whereas Amato had stayed still, I struggled to get out of the material. However, it was difficult. I was held by the force of the dough, the "muscle" of the material.¹⁸⁵ Paradoxically by moving against the dough, its material agency was revealed more. Partially this was because the dough had time to develop its gluten networks but also my movements were helping the gluten to form, making the material stronger and more sticky.

¹⁸³ Donger and I have worked together on several projects and have a convivial collaborative relationship. It is a dialogic and open process, where contributions, suggestions and experimentation are valued. During the improvisations for *Knead* in August 2018 Donger directed me to try certain movements. Conversely, during these contact improvisations I had a clearer understanding of what I wanted to explore with the dough. My intentions and attention were more focused towards the dough than Donger.

¹⁸⁴ The impact of this embodied experience was corroborated by Donger too. In a debrief, Donger told me that during these contact improvisations he was tense and came closer to me in case he needed to help me out of the dough. During my career I have risk assessed multiple performances but I couldn't have anticipated how the dough reacted. In retrospect I realised just how important it was for my safety that there was another person in the room during this work.

¹⁸⁵ Pollan, *Cooked*, 223.



Figures 33-35. Film stills from Madaleine Trigg and Simon Donger's *Rising*, RCSSD, London, UK, 2019.

Normally standing takes a matter of seconds but in *Rising* it took from three to ten minutes, depending on which iteration I was performing. Despite laying on top of the dough, a dominating position, the dough unexpectedly reversed this relationship by resisting my body's movements and making them more laborious. Standing is a significant gesture as in evolutionary terms, is it supposed to distinguish man from animals, the first hominoids from other apes.¹⁸⁶ Ironically, it was dough, a material that gives humans the energy to move, that prevented me from standing. Whereas human bodies have been socially and culturally trained to adopt and embody gestures that assume a superiority and power over other animals and materials, here the dough brought me back to the ground, de-stabilising these anthropocentric hierarchies.¹⁸⁷ Prior to the performance, I had anticipated capturing an imprint or cast of my body in the dough; instead, it clung to my skin. Visually it became imperceptible to distinguish where my body began and ended in relation to the dough. In *Rising* (or trying to rise), I became stuck to myself in a glutenous grip.

At the same time, I became conscious of the fact that I was partially moving for the sake of the camera's perspective, which undermined the genuine purpose of this improvisation. Our actions felt illustrative and premeditated, even if the struggle to stand up in the dough was real. I knew at that point that the next works I created in this research project needed to shed that inhibiting facet of performing that shuns spontaneity in an anxiety to shape and deliver an image. Afterwards it took over an hour to clean the dough from my body. Clumps of dried dough that had congealed in my hair needed to be cut out. Bruises blemished my skin for days. I had not expected that this encounter would be so physically demanding and emotionally draining.

Unlike previous improvisations I was more affected by contingencies and unable to predict how the material would act. It became a riskier process. Would I be able to stand or would I slip, fall and be completely consumed by the material? How would I ask the dough to stop? Where would these improvisations take us?

In "Concrete is as Concrete Doesn't," philosopher and social theorist Brian Massumi notes that there "is an abstractness pertaining to the transitional immediacy of a real relation—that of a body to its own *indeterminacy* (emphasis in original)."¹⁸⁸ This observation is relevant for a deeper understanding of transitions in moving bodies, but also the process of improvisations.

¹⁸⁶ Erin Wayman, "Becoming Human: The Evolution of Walking Upright," *Smithsonian Magazine*, last updated August 6, 2012. <https://www.smithsonianmag.com/science-nature/becoming-human-the-evolution-of-walking-upright-13837658/>

¹⁸⁷ George Vigarello, "The Upward Training of the Body from the Age of Chivalry to Courtly Civility," in Michel Feher (ed.), *Fragments for a History of the Human Body*, Volume Two (New York: Zone, 1990), 168–76.

¹⁸⁸ Brian Massumi, *Parables for the virtual: Movement, affect, sensation* (Duke University Press, 2002), 5. For Massumi, indeterminacy involves a body's "openness to an elsewhere and otherwise than it is, in any here and now."

The charge of indeterminacy carried by a body is inseparable from it. It strictly coincides with it, to the extent that the body is in passage or in process (to the extent that it is dynamic and alive). But the charge is not itself corporeal. Far from regaining a concreteness, to think the body in movement thus means accepting the paradox that there is an incorporeal dimension of the body. Of it, but not it. Real, material, but incorporeal. Inseparable, coincident, but disjunct.¹⁸⁹

Although Massumi is discussing human bodies, this discussion of the indeterminacy of bodies can also be applied to interrelations between humans and companion species. Complicating our understanding of embodiment and the "concrete" within material-discursive relations is productive as it emphasises that moving bodies are not fixed; they are constantly in transformation. This is what became evident through these improvisations and recalls Barad's assertion that agency is not owned/possessed by particular bodies but arises through their contact.¹⁹⁰ It is the intra-actions, the congealing of agencies that creates bodies. And that is not fixed but dynamic. Bodies are constantly re-configuring themselves and in transformation. Bodily boundaries are constantly in flux.

Further research revealed to me that, on a biological level, the bodily boundaries between me and the dough were physically dissolving during *Rising*. This knowledge further reinforced my feeling that this was a circumstance where the dough and I formed as "messmates."¹⁹¹ A 2017 study by Rob Dunn and Anne Madden, experts in the evolution and ecologies of yeasts, offers scientific proof of this phenomenon.¹⁹² They mailed identical sourdough starter kits across the world to fifteen bakers and swabbed their sourdough starters and hands to discover that all of the fungi on the bakers' hands were yeasts (such as *Saccharomyces cerevisiae*) found in sourdough starters. As such, Dunn's "suspicion is that because the bakers spend so much time with their hands in flour (and starters), their hands become colonized by the bacteria and fungi they work around."¹⁹³ Tantalised by this hypothesis, I realised that the dough was literally colonising my body as the microbes settled onto my skin. This could mean that I was potentially becoming more *Saccharomyces cerevisiae* than *Homo sapiens* because of the porosity between multiple bodies. This possibility affected and reorientated my sense of self.

Other examples of this permeability were found when Dunn and Madden found that on average twenty-five percent, and up to eighty percent, of all the bacteria on the bakers' hands were lactobacillus. Lactobacilli are normally found in the gut and healthy vaginal flora, not the hands, which emphasises that the movement of these microbial bodies and that their affects reach beyond our skin, affecting the whole of our bodies. In baking,

¹⁸⁹ Massumi, *Parables for the virtual*, 5.

¹⁹⁰ Barad, "Posthumanist Performativity," 230-238.

¹⁹¹ Haraway, *When Species Meet*, 4.

¹⁹² Rob Dunn, *Never Home Alone*, 245-253.

¹⁹³ Dunn, *Never Home Alone*, 251.

Lactobacilli are important because they "contribute to the improvement of the volume, texture and sensory quality of the bread. . . and to the improvement of bread's physical and microbiological shelf-life" and "possess an outstanding potential in decreasing the celiac disease-inducing effects of gluten."¹⁹⁴

These complex entanglements extend to the environment. Dunn and Madden discovered that different microbes were also present in different geographical regions.¹⁹⁵ For example, one fungus was confined almost exclusively to Australia, which could mean that Australian breads have a unique taste.¹⁹⁶ This signals an interplay between environment, human and non-human bodies that is subtly being played out when I eat bread. The air around me is flavouring my food and, as the microbes on my body are mobile, I'm also contributing to the environment/atmosphere around me.¹⁹⁷ The interrelations between bodies and matter evidenced here disturb Cartesian dichotomies and the idea that one's identity, and one's sense of self are fixed.

As my performance practice has evolved, it has become less concerned with the transformation of the material on the body but instead how human and non-human bodies transform each other. Rather than re-staging and re-enacting performances as representations, I wondered what would happen if I embraced an embodied relationship with these companion species as a live encounter. Curious whether these relations could be re-modelled if my anthropocentric habits were inverted, I was energized. What would we discover together?

¹⁹⁶ Dunn, *Never Home Alone*, 249.

¹⁹⁷ For more information on the fascinating relationship between bodies and environments please see Dunn's discussion on the Korean concept of "Hand-Taste". Focussing on Kimchi, this example shows how other cultures already acknowledge the relationship between bacteria, fermentation and the flavouring of food through hand-made processes. Dunn, *Never Home Alone*, 233-238. I also consider "hand taste" in relation to the contact improvisation *Rising* in my upcoming chapter, "Kneading Bodies." Madaleine Trigg, "Kneading Bodies," in *Posthumanism in Practice*, ed. Christine Daigle and Matthew Hayler. Bloomsbury, 2023. <https://www.bloomsbury.com/au/posthumanism-in-practice-9781350293816/>

¹⁹⁴ Petra Gereková, Zuzana Petrušáková, and Ernest Sturdik. "Importance of lactobacilli for bread-making industry," *Acta Chimica Slovaca* 4, no. 2 (2011): 129-130.

¹⁹⁵ Dunn, *Never Home Alone*, 249.

Chapter 4: Unsettling Visions, Collaborations with the Camera

This chapter considers how the camera (as simultaneously a recording device and another material body) participates in the practice of kneading, as a way of destabilising the anthropocentric and established perspective of this technology. It concentrates on three contact improvisations, *Body-Made-Bread*, *Cocklebreadcrumbs* and *Co-Kneading*, which embraced the camera as a body that re-considered and re-configured its role within performance. Focusing on this technology, I carry out contact improvisations with the camera as a tool to get closer to the material, view it from a variety of angles and to explore more sensual perspectives. As such, the camera is practically and philosophically invited into the kneading process to reveal intersections between humans and our companion species, as well as the technologies which shape the representations of those bodies.

In *Body-Made-Bread*, I explored whether my yeasts and bodily fluids could make bread. I was interested in the potential of bodily fluids as raw materials and curious as to how our microbial messmates destabilize any sense of a sovereign self-hood. What emerged was a visual language that began to create ambiguities between human and non-human bodies, kneading subject and object positions together.

In *Cocklebreadcrumbs*, I re-enacted an old English ritual of kneading bread with my bottom. Kneading dough with other body parts, the camera also became enfolded into the action. Rather than being hand-made, this work was body-made/making bodies. As I was unaware of what the camera was capturing, I ceded control over how the performance was represented in this collaborative act of kneading. The distance between the materials and camera also collapsed and this proximity shifts us into a heightened sensual encounter with the work.

This chapter concludes with *Co-kneading*, where a woman and man make bread in-between their bodies, as a sexual act evocation. Here the creation of dough rather than the human re-productive act is the focus of the action. This gesture undermines and complicates the anthropocentric tendency to view re-production, life, as a predominantly human affair. Instead, it emphasises the making of materials and how bodies are enfolded into and negotiate one another.

This series of experiments focused on the use of the camera. They tried to disrupt an anthropocentric perspective as well as the camera's inherent perspectival view. In *Rising*, I had brought the camera down from eye level to the floor, the level of many materials. Here, I explored how to destabilise my view of the materials including how to get closer to them.

These experiments were a departure from the staged nature of my previous performance practice complete with its explicit use of theatrical traditions such as the black box and static side on, proscenium arch perspectives of filming, which maintains a distance between body and image. In earlier contact improvisations, I positioned myself firmly in the frame, centre-stage and in the spotlight. The challenge became how to document the work in ways that positioned my own body/self in relation to other materials: How can I put another material first, in the foreground and ahead of me? Or better still, how can I question the human (mis-)conception of superiority by not being present in the view at all?

Departing from my habitual environment, the black box studio, I hadn't realised how much I had relied on artificial lighting as a presence in my practice. Until this point, I had often been naked within my performance works because I wished my body to be seen as a material rather than a specific, identifiable character. Stage lighting offered me substantial control over what is revealed; darkness acted as my safety blanket. By contrast, I lost this ability within the stark, white spaces of the gallery where it became more difficult to manipulate lighting; instead, everything seemed fully exposed. I was on display as an exhibit, artwork or a specimen. In this alien (to me) environment, I tried to find alternative ways to regain some influence over how I was perceived. I appreciate that this was contrary to my research project aims; however, I wasn't brave enough yet to fully let go. Working with the camera helped as I could later edit out material that was too difficult for me to watch. This approach allowed me to intervene in the representation of my own body.

Perhaps, in the first phases of this research, I also formed a closer relation to the camera because I felt alone. I was in a different country, a new fine art context and yet to find collaborators. I wanted to work with the camera to gain more agency, yet surprisingly, it also liberated the relationship between the camera, material and moving image. The camera moved from being a mediator to an actor, a collaborator and co-creator.

Deliberately evading fixed perspectives, these three contact improvisations highlight alternative approaches to (documenting) performance. Previously my films served as performance documentation, representations of an event that already occurred that could be disseminated to others. However, recording previous improvisations also generated opportunities. For example, during *Knead*, Simon Donger and I decided to project the film of me kneading dough back onto my body. The projection both covered and revealed my body. As such, the projection acted as a second skin, clothing my figure with the body of another material—light. I was wearing the projection, just as I had worn the lengths of dough. This created a doubling, or confusion, between skins and screens.



Figures 36-37. Film stills from Madaleine Trigg and Simon Donger's *Knead*, London, UK, 2018.

I decided not to pursue this direction within my PhD research because I wanted to work directly with "actual" materials rather than images and projections of the dough. Although *Knead* achieved the aim of foregrounding the material, it also kept me confined within the realm of representation. I was uncomfortable with my body becoming a screen because of the way it celebrated the superficial surface of my body shifting from being the subject to becoming the object, ultimately resuscitating the subject/object dichotomy from which I wanted to escape. However, *Knead* as an experiment indicated a physical and temporal blurring of boundaries between skins, bodies and spaces that has proved useful for this research project. The projections demonstrated the notion that multiple bodies and spaces are constantly interacting with each other, just as temporal modes folded into each other, among the initial kneading event, the subsequent projection/improvisation, and the final edited video.

Mixing different temporalities together, this work articulated practical reasons why kneading is such a useful metaphor and method. Kneading escapes binaries of inside/outside and productively counters a Western, linear conception of time which is conceptually linked to progress and productivity. French philosopher Michel Serres used kneading and the theory of "baker's logic" to enrich his account of the complexity of relations between bodies, time and space. Philosopher Steven Connor summarises Serres' view that kneading dough functions as "an image of the complex overlaying of time in history, an image not of time moving on and dissipating, but of endlessly regathering itself."¹⁹⁸ This material structure favours connections and accumulations, whilst simultaneously disrupting the dichotomy between past and present. If human understanding of temporality is flawed, so too are other philosophical perspectives that depend on it.

More significantly, kneading these virtual and physical materials together, allowing past and present materials to collide, demonstrated the multitude of possibilities that can arise through improvisations. We were genuinely surprised by the performance material that was generated. This unpredictability was exciting, generative and had a life of its own. Synchronous moments between bodies and materials emerged that hadn't been pre-empted. The interrelations between material bodies were allowed their agency, despite some of the material being pre-recorded and re-used.

In the discussion of creative works that follows, the contact improvisations that occurred with the camera are not meant to be simply video representation/documentation but as embodiments of the (performance) artworks. They literally became the "bodies of work." These films focus on intimate, tangible interactions with dough and bodies, where the camera isn't placed at a distance but is invited into the action. These improvisations fold

¹⁹⁸ Steven Connor, "Michel Serres's Milieux," Steven Connor, accessed 31 March 2021. <http://stevenconnor.com/milieux/>

the technology into the work, treating the camera as another non-guman body that is moving with, collaborating and becoming-with others.

This is a significant shift from treating the camera as solely a recording device, a surrogate viewer that captures and re-presents actions. Historically film (and its corresponding theory), as the physical material body that images are captured upon and the surfaces that images are projected back onto, is frequently treated as a skin.¹⁹⁹ However in my project, the film/camera is treated as another non-guman body interacting, an integral part of the action. This interplay was facilitated by using smaller cameras which allowed the camera closer to the materials and bodies. The shift from film being a non-guman skin to non-guman body was accidentally, and ironically, achieved through a lack of vision. As the dough and bodies came too close and covered the lens of the camera, it emphasised the eye of the device. Sometimes the camera was partially blocked due to the proximity of the other material bodies. Constantly focusing in and out, the movement of the lens reminds the viewer of the agency of the technology, how it is active in mediating the image.

¹⁹⁹ Traditionally films and its theories focus on the visualisation and representations of guman bodies. Thus it is a heavily anthropocentric medium. Even if other senses are discussed, it is only in relation to the guman. For example Laura U. Marks in *Touch* discusses the value of the haptic and how some images/visions create slippages which remind the viewer of their body. This visceral, affective experience forgets the importance of interactions with/between materials.

Body-Made-Bread:

Recipe:

*Spit into a large, glass bowl to produce enough fluid.
Mix your saliva into the flour, using the sweat from your hands as salt.
Using your fingers, carefully extract yeast from your vagina.
Add to the dough and knead.²⁰⁰*



Figures 38-41. Film stills from Madaleine Trigg's *Body-Made-Bread*, Wellington, New Zealand, 2019.

²⁰⁰ Performance score/recipe for *Body-Made-Bread*.

A reflective text on the process of making *Body-Made-Bread*:

The camera is set on the floor, focusing on a bright, white neon strip light on the ceiling. A transparent sheet of acrylic is placed over the camera and set upon two plinths for support. A large glass bowl is placed onto the acrylic surface and wobbles from the impact. I bend down and switch the small viewing screen of the camera to face me. I check that the bowl is in the middle of the frame and press record. I stand up. I gather my saliva in my mouth. Leaning over the bowl, I spit. I spit again and again. And again. The sound echoes in the room and finds its own rhythm through the repetition. I'm surprised at how hard it is to spit continuously. I sometimes steal glances at the small camera screen to check what the saliva looks like from the underside. I'm pleased to see that the curves of the bowl and the interplay with the light creates distortions, fragmenting my body. And as the saliva builds up in the bowl, it begins to obscure my features. It looks like a petri dish with a bacterial community congregating. I spit again. I feel sick. I retch sometimes as I'm squeezing out the saliva. I spit. I'm acutely aware of the saliva trickling down the insides of my mouth. It feels weird to see myself from below and even weirder to see myself spit into my face. Again and again, I spit. It took at least half an hour to make enough saliva. My stomach is sore. Human bodies normally produce 1-2 litres of saliva a day,²⁰¹ however, I'm struggling to make 250 millilitres. When I have enough saliva for the recipe, I tentatively push two fingers inside my vagina. My fingers are cold and it startles me. I scrape my insides using a circling motion so that the discharge covers my two fingers and I smear it onto the side of the bowl. I don't think I have enough yeast, so I repeat. I carry on with the rest of the recipe. Stealing glances into the viewing screen I see the material in front of me blurring my body. Am I object or subject, neither or both?

Body-Made-Bread was born out of curiosity. If I have yeast on/in my body, can I enlist it to make bread rise? If I am making bread from my body, what other materials might work? Using saliva and vaginal yeasts to make bread disturbed the characteristic ingredients of bread-making.²⁰² I also inverted the way I was generally filming, by positioning the camera on the ground looking up. Filming from underneath the materials

²⁰¹ "Saliva: What Does It Do and What Is It Made Of?" Food Fact for Healthy Choices. Accessed November 1, 2021. <https://www.eufic.org/en/healthy-living/article/saliva-more-than-just-water-in-your-mouth>

²⁰² Three months after filming *Body-Made-Bread* I participated in *Beauty Kit Female Farm 3.0 (BKFF)* at Mediamatic, Amsterdam. *BKFF* is a project by artist Isabel Burr-Raty that uses sexual secretions to create cosmetics. As such, I was continuing to explore how the body can be productive outside/in tension with a capitalist system.

began to create playful interaction between bodies, materials and camera to find new perspectives.²⁰³

While in *Knead*, I was working with vast quantities of dough, which clearly resembled a body; in *Body-Made-Bread*, the white gallery space assisted in creating a sterile, pseudoscientific aesthetic that alluded to my methods of handling materials, through experimentation and sampling. Lighting was used to further expose and emphasise the surfaces of these bodies of matter. Whereas in my previous practice, the bodies (re-) emerged from darkness, here, any visual ambiguity results from the bodies and camera converging.

Body-Made-Bread was conceived as a performance to the camera, although on reflection, it became a practice that demonstrated a different way of negotiating relations between humans and materials. *Body-Made-Bread* offered an unusually close view of materials; it exposed details that humans don't normally see such as the camera's view of the material from its underside rather than looking down upon it, destabilising a "normal" camera perspective and the inherent hierarchy within this "worldview." The camera acted as a metaphorical microscope into our messmates to evoke an interest and empathy for these materials as companion species.

I was also curious what I could learn from considering interactions inside my body as contact improvisations with microbial messmates. Typically, interrelations with others occur simultaneously on macro and microscopic levels. With a focus on interior bodily fluids, does this re-alignment productively emphasise the agency of our messmates as important players within us? Extending the concept of touch from focusing on our skin, the outside of bodies, to considering the contact that was occurring inside our bodies, and yet invisible to us, was also important. In some sense, I am in contact with the world and others all the time. This interplay between the inside and outside of bodies further expands an understanding of interactions between human and companion species occurring while testing different scales, species and spectrums of experience and

²⁰³ Although this perspective is less frequently used within filmmaking, my approach was not novel. Hans Namuth filmed Jackson Pollock's painting technique (onto glass) from underneath in the work *Jackson Pollock 51* (5.26-9.30mins). Also, Pablo Picasso's work has been filmed in this way. However I was not familiar with these works when I made *Body-Made-Bread*, I was informed of Namuth's film during my confirmation examination. Please refer to the following excerpts: *Jackson Pollock 51*, directed by Hans Namuth and Paul Flakenberg (1951; USA: Di Pubblico Dominio, 2020), film. <https://www.youtube.com/watch?v=atu4uVT7bV8>
Visite à Picasso/ Bezoek aan Picasso/Visit to Picasso, directed by Paul Haessaert (1949; Vallauris), film. Excerpt: <https://www.youtube.com/watch?v=CkRS3wDg1xU>
A ballet dancer was also filmed from underneath in René Clair's *Entr'acte* (5.25-5.32mins). *Entr'acte*, directed by René Clair (1924; Paris), film. Extract : <https://vimeo.com/488844088>

engaging with the "intimacy of strangers."²⁰⁴

In the process of performing *Body-Made-Bread*, supposedly invisible material properties were also brought to the surface. For example, the material properties of light and glass were displayed in the distortion of my facial features and body. Even though I remain centred in the frame, the interactions with the material's properties are emphasised along with the material's ability to transform the image of my body. Light is an important material as it is fundamental to the ability to see and the source of all life. The sun is essential to photosynthesis, which allows plants to grow and creates humans sources of food, both vegetal and animal. Sunlight also generates vitamin D in humans, which is vital to the healthy functioning of their bodies. Light as a material is composed of other bodies or rather can only be seen (by humans) through/in relation to other materials i.e. the container and other objects within it. Reflections and distortions through water, glass and other transparent materials have also had a rich history within art/culture (for example, Narcissus). This interplay with light has also been philosophically harnessed to support the argument to distrust our senses. For example, in *Phaedo*, Socrates uses the distorted perception of a stick in a glass to distinguish body/senses and mind/intellect, proposing that what we are seeing is not what is "really" there.²⁰⁵

In *Body-Made-Bread* the clear sheet of acrylic, a transparent membrane/barrier that separated the materials and the camera, was made more visible through the contact between bodies and their aftereffects. As I moved, our interactions made the acrylic's materiality more apparent as it wobbled and bent in relation to the momentum of the actions. This work also exposes the distinction between "a real or *literal* and a *phenomenal* or seeming transparency (emphasis in original)" that Colin Rowe and Robert Slutzky distinguish. Rowe and Slutzky draw upon Gyorgy Kepes observations in *Language of Vision* that if "one sees two or more figures overlapping one another. . . one is confronted with a contradiction of spatial dimensions."²⁰⁶ The contradiction proposes the "presence of a new optical quality" which blurs our understanding of the concept of transparency. For Kepes;

[t]he figures are endowed with transparency: that is, they are able to interpenetrate without an optical destruction of each other. Transparency however implies more than an optical characteristic, it implies a broader spatial order. Transparency

²⁰⁴ Haraway, *Staying with the Trouble*, 60. Haraway uses the phrase "intimacy of strangers" from the biologist Lynn Margulis. Margulis proposes that new cells evolved from this intimacy of strangers through the process of symbiogenesis.

Karen Barad also discusses the "strangers within" in relation to touch by asking: "Is touching not by its very nature always already an involution, invitation, invisitation, wanted or unwanted, of the stranger within?" Karen Barad, "On Touching-The Inhuman That Therefore I Am (v1.1)," in *Power of Material/Politics of Materiality*, ed. Susanne Witzgall and Kerstin Stakemeier, (Zürich: Diaphanes, 2014), 153.

²⁰⁵ Moya K Mason, "Socrates, the Senses and Knowledge: Is there any Connection?" www.moyak.com, accessed September 2022. <https://www.moyak.com/papers/socrates-truth.html#7>, 66a in *Socrates Phaedo*.

²⁰⁶ Gyorgy Kepes, *The Language of Vision*. (Chicago: Paul Theobald, 1944), 77 in Colin Rowe and Robert Slutzky, "Transparency: Literal and Phenomenal," in *Transparenz*, ed. Bernhard Hoesli, trans. Jori Walker, (Basel: Birkhäuser, 1997), 22.

means a simultaneous perception of different spatial locations. Space not only recedes but fluctuates in a continuous activity. The position of the transparent figures has equivocal meaning as one sees each figure now as the closer, now as the further one.²⁰⁷

As this notion of transparency unyokes itself from the physical qualities of the material, "the transparent ceases to be that which is perfectly clear and becomes, instead, that which is clearly ambiguous."²⁰⁸ I propose that this physical ambiguity is precisely helpful within *Body-Made-Bread* as it productively blurs visual boundaries between bodies and materials, flattening (or is it stretching?) subject/object distinctions. We are both material bodies. Equally the collapsing of separate physical spaces which is facilitated by the transparent sheet creates a plane of vision that simultaneously overlaps and oscillates yet is singular.

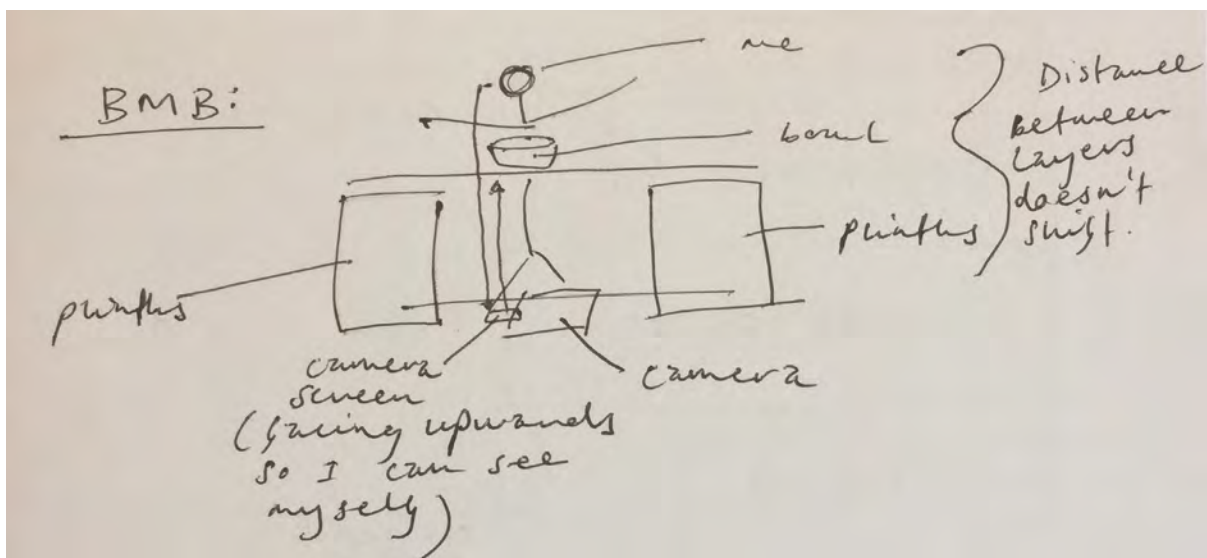


Figure 42. *Body-Made-Bread* set up (Drawing by Madaleine Trigg 2019).

When I spat into the bowl, I saw myself as a reflection in the material's surface and from the perspective of the material and subsequently, that of the viewer. I interacted with the material, and it interacted with me. While spitting into the bowl, I was also spitting at myself. For the audience, the saliva may be confronting and affective as it hurtles towards them, threatening to contaminate them; this view may cause nauseous reactions. This underlines how the unusual perspective of the camera in this work may implicate and affect other human bodies.

By re-positioning the camera, I started to re-configure the relationship between materials, humans and camera—to see anew the interactions that were already

²⁰⁷ Kepes, *The Language of Vision*, 77 in Rowe and Slutzky, "Transparency: Literal and Phenomenal," 22-23.

²⁰⁸ Rowe and Slutzky, "Transparency: Literal and Phenomenal," 23.

occurring. The use of a transparent screen literally foregrounded the materials and allowed me to create layers within a film, which again resists a singular perspective by blurring the fields of vision. Perspectives are shifted as the foreground and background layers merge together, flattening hierarchies. This is an example of how the practice of kneading can be applied to filming: images blend together, creating unforeseen and unplanned relations. As scholar Steven Connor suggests, kneading "is an action that testifies to the skin's power to be turned from a layer, barrier or surface, into a mingled and mingling substance, into flesh and more than flesh, into an ideal compounding of substances."²⁰⁹

I am certainly not the first woman to use yeasts from my vagina to make bread. In 2015 the British blogger Zoe Stavri infamously woke up with a yeast infection and decided to put this to good use as a "mother," a sour dough starter.²¹⁰ Later she also made "crumpets from her crumpet."²¹¹ Stavri, as a self-confessed "another angry woman," provided the recipe, photographs and commentary for others to follow her lead on her blog. The critical response to her work centred upon the sensationalism of eating bread made from (culturally unsavoury) bodily fluids.

Conversely, in *Body-Made-Bread*, I emphasised the process of making from and with the body. The act of mixing is important conceptually as it visually and physically erodes binaries and hierarchies between humans and materials. It also foregrounds the value of practicing and developing, rather than fetishizing the resulting product. This aspect is further highlighted as the performance video is presented as a loop and the bread isn't baked and eaten; the process is never completed nor fully consumed by the human.

Although filming from the "perspective of the material" was a useful exercise, the work was still troubled due to my dominating presence in the frame, even if I am obscured and distorted through the materials. During some moments of the work, it is apparent that I am looking at myself. Directing myself is the antithesis of contact improvisation, but on reflection I realise that this gaze and perspective is simultaneously looking at the material before my body and is a registration of me actively negotiating object/subject positions through the performance.

Although the materials and camera were interacting to (partially) obscure my body and undermine its significance, problematically, like most power structures, the dominance and actions are exerted from the top down. How can I destabilise this power dynamic so that the human body is less central to the frame of the camera? What happens

²⁰⁹ Connor, *The Book of Skin*, 225.

²¹⁰ In 2016 Stavri took a more scientific approach by making a sourdough starter with her vaginal yeasts and a control one. Her commentary is hilarious and well worth a read. Zoe Stavri, "Baking and Eating #Cuntsourdough," *Another Angry Woman*, accessed March 16, 2019.

<https://anotherangrywoman.com/2015/11/25/baking-and-eating-cuntsourdough/>

²¹¹ Zoe Stavri, "Great Pussy Bake Off: the Results," *Another Angry Woman*, last updated August 4, 2016. <https://anotherangrywoman.com/2016/09/05/great-pussy-bake-off-the-results/>

if I remove the invisible membrane of the acrylic and the material collapses into the camera? These ideas were explored in the next works *Cocklebreadcrumbs* and *Co-kneading*.

Lockdown Loaves

During the COVID-19 lockdown period, when the shelves were bare and flour was scarce, I suddenly felt rich. I had plenty of yeast, 20kg of flour in my studio and no children to care for.²¹² It's the first time as an artist that I have been more fortunate than my friends; I've always been looked down on for not having a "proper job," although the reality is that I've always worked hard, often on multiple projects for free. During isolation, I gave away precious parcels so that my friends could bake to keep their boredom at bay; I still had plenty.

Lockdown forced me into a state of domesticity. I hadn't properly lived with anyone for ten years. I was living in suburbia with a new lover, playing house in these strange and unsettling times. Ironically, it was the first time I had ever made bread. Every day during lockdown, I baked a different type, and our menu was documented into the *Lockdown Loaves* collection.²¹³ Confined to the house by the pandemic, the kitchen became the site for the next series of contact improvisations. The feeling of claustrophobia that permeates the work registered my state of mind and the suffocating circumstances of my lack of independence and a sweet romance going sour as the days slowly rolled into each other.

While I had been curious about human entanglements with critters for a while, SARS-CoV-2 put the activities of non-human beings into the headlines. Suddenly everyone was hyper aware of the invisible bodies that were circulating in the air and seeping into our bodies, contaminating them. The lives and deaths of humans and non-humans were intertwined on a global and startling scale, one that my generation hadn't experienced before. Who would have thought that these little critters would stop us socialising, travelling and inhibiting our ability to do whatever we please? This new reality was alien. How could something so small and invisible stop us in our tracks? However, I am all too conscious that messmates already inhabited and contaminated our bodies; Coronavirus was just a new community of them that we were gradually going to become acquainted with, whether we liked it or not. The problem was, we couldn't be certain of the consequences of those interactions.

²¹² I sourced photos of empty flour shelves in shops from friends worldwide to document the global lack of flour and yeast during the pandemic. I had never experienced this level of panic buying nor a consistent absence of certain foods. These are included in the appendix.

²¹³ Please see the appendix for documentation of the *Lockdown Loaves*.

Cocklebread

Have you done what some women are accustomed to do?
They lie face down on the ground, uncover their buttocks, and
tell someone to make bread on their naked buttocks. When
they have cooked it, they give it to their husbands to eat. They
do this to make them more ardent in their love for them.²¹⁴

During lockdown, a virtual conversation with an old friend revealed that there was an ancient European tradition (or was it an “old wives tale?”) where women kneaded bread with their bottoms.²¹⁵ I located historical proof of such unusual kneading practices, and I discovered a rhyme to centre the work on:

My dame is sick, and gone to bed.
And I'll go mould my cocklebread!
Up with my heels and down with my head,
And this is the way to mould cockle-bread.²¹⁶

I created *Cocklebread* on the day before lockdown ended, the day before I left the house of my lover. I worked alone and long into the night. Having learned from *Body-Made-Bread*, I laid the GoPro camera on the floor. Smaller and having a waterproof case, I felt liberated and took more risks with my actions and the materials. I could press my

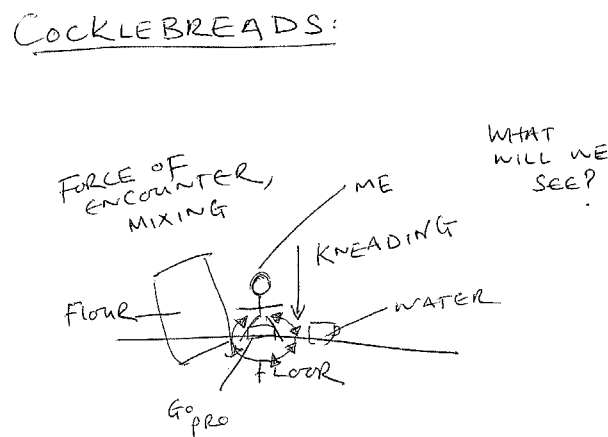


Figure 43. *Cocklebread* set up (Drawing by Madaleine Trigg 2020).

²¹⁴ This text is from one of the best known penitentials by Decretum (c. 950 –1025), who was the Burchard of Worms, the Bishop of the German City of Worms. Kate Lister, “Throwback Thursday: The long and surprising history of women using their genitals in cooking,” *i News*, last updated July 16, 2020. <https://inews.co.uk/essentials/long-surprising-history-women-using-genitals-cooking-77082>

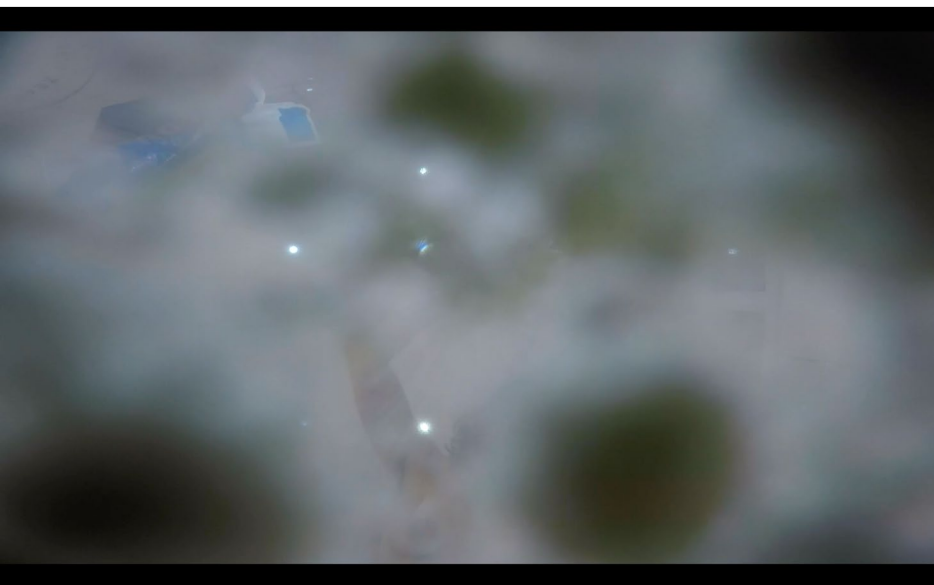
²¹⁵ Thank you to Nicolas Laborie for telling me about this unusual method of kneading and Dr Kate Lister’s research into the “Art of Vulva Kneading” on her “Whores of Yore blog.” Kate Lister, “The Food of Love. Cocklebread and the Art of Vulva Kneading,” Whores of Yore, last updated July 25, 2017. <https://www.thewhoresofyore.com/katersquos-blog/the-food-of-love-cocklebread-and-the-art-of-vulva-kneading>

²¹⁶ Dr Kate Lister attributes this account of kneading dough to John Aubrey (1626-97). Aubrey writes of young women and their “wanton sport,” the “moulding of Cocklebread.” This is an excerpt from his poem. Lister, “Throwback Thursday.”

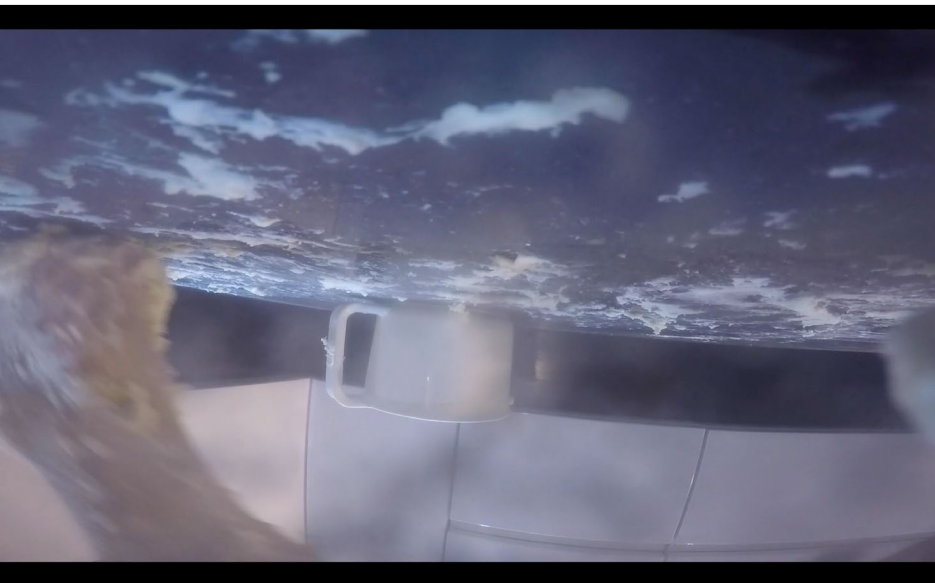
body directly onto the device and wasn't worried about liquids and other materials creating issues with the camera through their contact. The characteristics of the portable camera allowed me to come closer to the lens. Whispering this rhyme directly to the camera, I would start and then stop. I didn't like how I sounded; I became self-conscious. I repeated the text over twenty times as I couldn't get my delivery "right." I became my own camera in my mind, trying to compose and direct the work accordingly. I realised in contemplating how I would be read and represented on the video, I had reverted into performance mode, whereby I was more concerned with how I delivered the text and look on camera than the relationship to the materials. This was problematic as this was the opposite direction that I wanted to pursue. It also differed from the rest of my contact improvisations, which were reiterated once or twice so that the work didn't become "rehearsed" and "set." This issue illuminated how text shapes how I perform and interact with the world. Using English language, I was directing it to another human, even if they weren't there at that time. I was anticipating the audience and eager for the approval of others. However, as I became absorbed in the actions of making Cocklebreadcrumbs, this anxiety receded.

In the contact improvisation *Cocklebreadcrumbs*, the proximity of the materials to the camera shifted this practice into new territory. As I sprinkled the flour onto the floor, the powder settled onto the lens of the camera; the material was literally foregrounded and confused the camera's tendency to auto-focus view. In the moving image work, one witnesses the camera struggling to focus on the material, one sees what the camera was seeing and, instead of it being a stable, distanced lens to capture and represent the world, we see it as an affected eye/I. The footage was blurry and dominated by the material's qualities. Instead of using the camera as a tool to record and capture sharp, detailed representations of objects, this way of working concentrated on how the camera was interacting and negotiating with the material. The camera focused on what was closest to it, but not necessarily what I wanted to capture and re-present to others. As such, the agency of the camera came to the fore and began to disrupt the anthropocentric design of a camera and my desires. The role of the camera in my practice was changing.

It is also important to note that these improvisations were all recorded in one take, so there was not the opportunity for me to see the footage (as in *Body-Made-Bread*) and direct myself. One of the qualities of the older GoPro is the lack of a screen. I reviewed the footage only by transferring it to my laptop. As such I was performing "blind," and relying solely on the camera. I had relinquished a certain amount of control over the documentation of the improvisation. In addition, a few minutes within the footage are completely black. This lack of discernible image directs the viewer potentially more towards the sonic than the visual.



Figures 44-46. Film stills from Madaleine Trigg's *Cocklebreadcrumbs*, Wellington, New Zealand, 2020.



Figures 47-49. Film stills from Madaleine Trigg's *Cocklebricks*, Wellington, New Zealand, 2020.

As I began kneading with my bottom, my body re-emerged into focus. Not the centre of attention, the film recorded an amalgamation of material bodies in which it was physically and visually kneaded together, the perspectives on these bodies queer normative modes of viewing. They shift from being the view of the material on the world, to being enfolded into it.

Engaging in the "Art of Vulva Kneading" was exposing due to the explicit relationship between my body and camera.²¹⁷ Despite performing naked in all these contact improvisations (and many of my prior performances), I found this view of my body to be uncomfortable. Although the camera didn't penetrate me like a scientific instrument²¹⁸ and the proximity and clarity weren't as pronounced as Annie Sprinkle's *A Public Cervix Announcement*,²¹⁹ I was still aware of the "unsavoury" image I was creating. Kneading with my vagina could be considered disgusting. It felt bold, brazen, confrontational and transgressive.

But I was also aware that these feelings had been socially constructed over nearly forty years of being taught how to be a "good girl." If kneading requires moving bodies, does it actually matter what body parts are moving who? This question is especially relevant in a project where I am exploring the intersections between materials and bodies.

Working with the camera in this way is a radical reappraisal of traditions of representation that have been (re-)created through the theatre (as a space which fetishizes viewing)²²⁰ and viewing devices. Although I concede that we are no longer in a theatrical, black box space; the white gallery space and kitchen remain spaces where representations of female bodies have been constructed, and it is precisely by working within other spaces that my own perspective has been productively displaced.

Etymologically the word camera is derived from the camera obscura (literally translated as "dark chamber"). A camera obscura is a dark room, where a pinhole lets in light and an upside-down view of outside seeps in and is projected onto the opposite wall of the room. The camera obscura enacts how the human eye sees and presents a space

²¹⁷ The "Art of Vulva Kneading" is a term coined by Dr Kate Lister, the self-proclaimed "Whore of Yore." Lister, "The Food of Love."

²¹⁸ As technology has developed, cameras are now small enough to penetrate the body, such as in endoscopy procedures. Latest technology has created cameras that can see through the body. "New Camera can See Through Human Body," *BBC News*, last updated September 4, 2017. <https://www.bbc.com/news/uk-scotland-edinburgh-east-fife-41140654>

Cameras can now even be injected into the body. For example, in 2016 using a "femtosecond direct laser writing system," scientists 3D printed a three-part lens, "no bigger than a grain of salt, onto the end of a fiber optic cable the width of two human hairs." Coby McDonald, "This Tiny Camera can be Injected into Your Body," *Popular Science*, last Updated June 29, 2016. <https://www.popsci.com/this-tiny-camera-can-be-injected-into-your-body/>

²¹⁹ In Annie Sprinkle's ground breaking work, *A Public Cervix Announcement*, the audience could view her cervix as the performance. Annie Sprinkle, "A Public Cervix Announcement," *Anniesprinkle.Org*(asm), accessed June 24, 2022. <https://anniesprinkle.org/a-public-cervix-announcement/>

²²⁰ I'm aware that the etymology of auditorium references and privileges other sensory qualities, i.e. hearing/sound but want to emphasize here the role of the "proscenium arch" in staging, framing and focusing our attention on what to watch.

dedicated to viewing. As French philosopher René Descartes reflects in *La Dioptrique* (1637), "the room represents the eye; the hole the pupil, the lens the crystalline humour."²²¹ However, the distance between the inside/outside, "nature" and representation is what is at stake here. The camera obscura modelled the eye, ideologically structured how we see and replicated a pervasive sense of the importance of vision. The distinction between reality and representation which has been adopted and promoted throughout Western philosophy, is a conjecture.

In his book *Techniques of the Observer: On Vision and Modernity in the Nineteenth-Century*, cultural theorist Jonathan Crary traces the development of the visual apparatus that have shaped how we see, but more importantly, Crary draws attention to the movement evident within the camera obscura.²²² The movement of bodies is often ignored when considering how the camera evolved, but this detail significantly disrupts the notion of a camera creating a stable, static a priori representation of the world. Although Crary acknowledges the camera obscura's reputation as an instrument for representation/replication and its importance in the creation of artworks (artists could create "realistic" copies of the outside environment by tracing the (reversed) image that was projected onto a screen/canvas within the camera obscura), he makes an important distinction:

Contemporary accounts of the camera obscura single out as its most impressive feature its representation of movement. . . . Thus the phenomenological differences between the experience of a perspectival construction and the projection of the camera obscura are not even comparable. What is crucial about the camera obscura is its relation of the observer to the undemarcated, undifferentiated expanse of the world outside, and how its apparatus make an orderly cut of that field allowing it to be viewed, without sacrificing the vitality of its being. But the movement and temporality so evident in the camera obscura were always prior to the act of representation; movement and time could be seen and experienced but never represented.²²³

Life cannot be represented, it is living and breathing. As such, modelling perspectives and the practice of photography on the camera obscura was an ideological move, not one based on actuality. Crary's observation as to why this arose is important:

The camera obscura a priori prevents the observer from seeing his or her position as part of the representation. The body then is a problem the camera could never solve except marginalising it into a phantom in order to establish a space of reason.²²⁴

²²¹ René Descartes, *The Philosophical Writings of Descartes*, vol 1, trans. John Cottingham, Robert Stoothoff and Dugald Murdoch. (Cambridge: Cambridge University Press, 1985),166 in Jonathan Crary, *Techniques of the Observer. On Vision and Modernity in the Nineteenth Century*. (Cambridge; Massachusetts: MIT Press, 1990), 47.

²²² Crary, *Techniques of the Observer*, 34.

²²³ Crary, *Techniques of the Observer*, 34.

²²⁴ Crary, *Techniques of the Observer*, 41.

The effects that this has had on how we perceive and interact with the world practically and philosophically have been profound. For Crary, the camera obscura, "performs an operation of individuation. . . It impels a kind of askesis, or withdrawal from the world. . . inseparable from a certain metaphysics of interiority."²²⁵ We are still dealing with this legacy and the dichotomies that it reproduces. The movement and time that is integral to reality and our experience of the world have been ideologically erased to make neat boundaries that demarcate bodies.

Moreover, Crary's observation also alludes to vision as a patriarchal project; women's experience has been bound to the body and accused of lacking the "insight" and capacity for reason that men have been revered for.²²⁶ As such, these technologies of viewing the world have shaped how we interact with it and the "decisive function of the camera was to sunder the act of seeing from the physical body of the observer, to decorporealize vision."²²⁷ Conversely, *Cocklebread* confronts us with the movement of bodies and cameras together, seductively re-corporealizing vision. The camera is not just a tool for humans to use; it is a participant in the action.

A note on consumption

The dough from *Cocklebread* was the only dough to be consumed out of the contact improvisations associated with this research. Contrary to its promise and DeCretum's warnings, the Cocklebread didn't make my lover more ardent. We stopped seeing each other after lockdown. However, the role that bread serves in making bodies is important and it was key in making this work. It literally and metaphorically fuelled these improvisations and attests to the vibrancy of matter. As Jane Bennett has observed, "Food, as a self-altering, dissipative materiality, is also a player. It enters into what we become."²²⁸ I have chosen not to concentrate on bread per se as its effects are, once in my body, less tangible. By consuming the material I am still in a process of trying to possess and digest it. This project was instead about seeing how lively materials are in their multiple manifestations. However, I am curious about how the words consume and consummate seem so close etymologically; is there a way that we can (re-)combine them. Could consuming be an act of love and kinship rather than ownership and how can we honour the prefix con- ("together, with") that joins these two terms?

²²⁵ Crary, *Techniques of the Observer*, 39.

²²⁶ This is my own conclusion from Crary's work in relation to the cultural context of the time. As women were absent from academia and the invention of scientific devices, ways of seeing were designed and constructed by men and used to bolster binaries between men and women.

²²⁷ Crary, *Techniques of the Observer*, 39.

²²⁸ Bennett, *Vibrant Matter*, 51.



Top: Figure 50. Raw Cocklebread. Photograph by Madaleine Trigg, April 26, 2020.
Bottom: Figure 51. Cooked Cocklebread. Photograph by Madaleine Trigg, April 26, 2020.

By embracing the "Art of Vulva kneading" I discovered a more sensual, embodied relationship to the camera.²²⁹ Additionally, the camera becomes a collaborator within *Cocklebrads* as it is enfolded in the action. While I acknowledge that I am still primarily controlling the action, as I'm kneading on top of the camera, I'm also losing control over the documentation as I'm not directing the footage nor aware of what is being captured. I am no longer shaping the artwork, but it is being co-created in the intra-actions between us.

This proximity to the materials and collaboration with the camera recognises the agencies that these bodies always already have but have been suppressed through the structures and technologies of organising our interactions with the world. Inviting the camera into these contact improvisations destabilises a fixed, anthropocentric, controlled perspective in favour of an unpredictable, shifting, enfolded vision, which comes closer to experience (as the camera is embodied in the action). As such, binaries of the observer and observed blur. Significantly the distanced perspectives of staging and re-presenting bodies begin to recede by being kneaded together. We are no longer separated as subject and object. Rather we are becoming the sight/site/cite of the performance.²³⁰ What happens if I extend this and embrace, in-corp-orate other bodies? This question is considered within *Co-Kneading*.

Co-Kneading

Hymen Bread

1 lb. genuine old love

7/8 lb. common sense

3/4 lb. generosity

1/2 lb. toleration

1/2 lb. charity

1 pinch humor

(always to be taken with a grain of salt.)

Good for 365 days in the year.²³¹

Hymen bread was a recipe that I discovered in Mrs. L. O. Kleber's *The Suffrage Cookbook*. Featuring a collection of real and subversive recipes from the 1910's, peppered with "tongue in cheek" versions such as Hymen Bread and Pie for a Suffragist's Doubting

²²⁹ Lister, "The Food of Love."

²³⁰ I am drawing upon Rebecca Schneider and Josephine Machon's terms here, which were discussed in more detail in Chapter 2 with regards to *Sutre*. Schneider, *Explicit Body*, 22-36 and Machon. *(Syn)aesthetics*, 23.

²³¹ Mrs L. O Kleber, ed. *The Suffrage Cook Book*. (Pittsburgh: The Equal Franchise Federation of Western Pennsylvania, 1915), 107. <https://www.gutenberg.org/files/26323/26323-h/26323-h.htm>

Husband,²³² this cookbook was created and distributed to raise money for the women's liberation movement and acted as an inspiring example of how women ingeniously used the representations of femininity levied against them as a political tool. Aware that men were anxious about women leaving their role within the household, these women used the domestic expectations of their gender deliberately to gain social and financial support for the Suffrage movement. I was interested in the potential of this feminist subversive strategy and also reminded of the old adage that binds women and baking together—a “bun in the oven.”²³³ This colloquialism makes a parallel between pregnancy and breadmaking, which I have always found problematic as it reduces women to a “vessel” that incubates the “male seed,” rather than acknowledging the vital (pro-)creative and generative role that women have within reproduction.

In *Sowing the Body: Psychoanalysis and Ancient Representations of Women*, Page DuBois traces the historical legacy of this conflation between the female body as oven suggesting that while it had affinities with the earth/furrow metaphors ascribed to female bodies, it also “determines the situation of woman as space, as a topos, very differently.”²³⁴ In particular, the legacy she describes coincides with an increasing objectification of women's bodies, especially as the oven is sometimes considered “a miniaturized earth, a possession at the service of the master of the house, a portable, mobile bit of property that may resemble the interior space of the household itself.”²³⁵ The main issue is that the image of woman is separated from that of early agricultural societies that considered the female body as a fertile field to be furrowed and equated with spaces constructed by men.²³⁶ This minimized “the possibility of parthenogenesis or autochthony, since in the representation of the woman's body as an oven there is an assumption of passivity, the passivity of a receptacle.”²³⁷

²³² Pie for a Suffragist's Doubting Husband:

1 qt. milk human kindness

8 reasons:

War

White Slavery

Child Labor

8,000,000 Working Women

Bad Roads

Poisonous Water

Impure Food

Mix the crust with tact and velvet gloves, using no sarcasm, especially with the upper crust. Upper crusts must be handled with extreme care for they quickly sour if manipulated roughly.

Kleber, ed. *The Suffrage Cook Book*, 148.

²³³ “A Bun in the Oven,” Literary Devices, accessed July 23, 2022. <https://literarydevices.net/a-bun-in-the-oven/>

²³⁴ Page DuBois, *Sowing the Body. Psychoanalysis and Ancient Representations of Women*. (Chicago: University of Chicago Press, 1988), 110.

²³⁵ DuBois, *Sowing the Body*, 110.

²³⁶ The conception of women as fertile fields to be furrowed is in itself problematic; however, as a metaphor it does allude to women's agency and emphasises a connection between creation and the earth.

²³⁷ DuBois, *Sowing the Body*, 110.

These metaphors have been perpetuated since ancient Greek civilisation and have influenced Western philosophical traditions and secular representations of women.²³⁸ They are insidious as they are part of a culture which reduces and conflates women's bodies to being an object that can be owned. As such, materials, plants, animals and women bodies share this historical subjugation by patriarchal systems. However, without the women's body that houses and nurtures the embryo, the human species would cease to exist. The lack of agency attributed to women's bodies is astonishing considering this simple but significant fact. Conversations led to provocations—what would happen if a couple copulated and created bread rather than babies?²³⁹ Could these historical associations be re-configured through a feminist performance artwork? And does this lead us, following Donna Haraway, to embody her call to “make kin not babies!”²⁴⁰ The opportunity to action this relationship where kin can be companion species arose during lockdown.

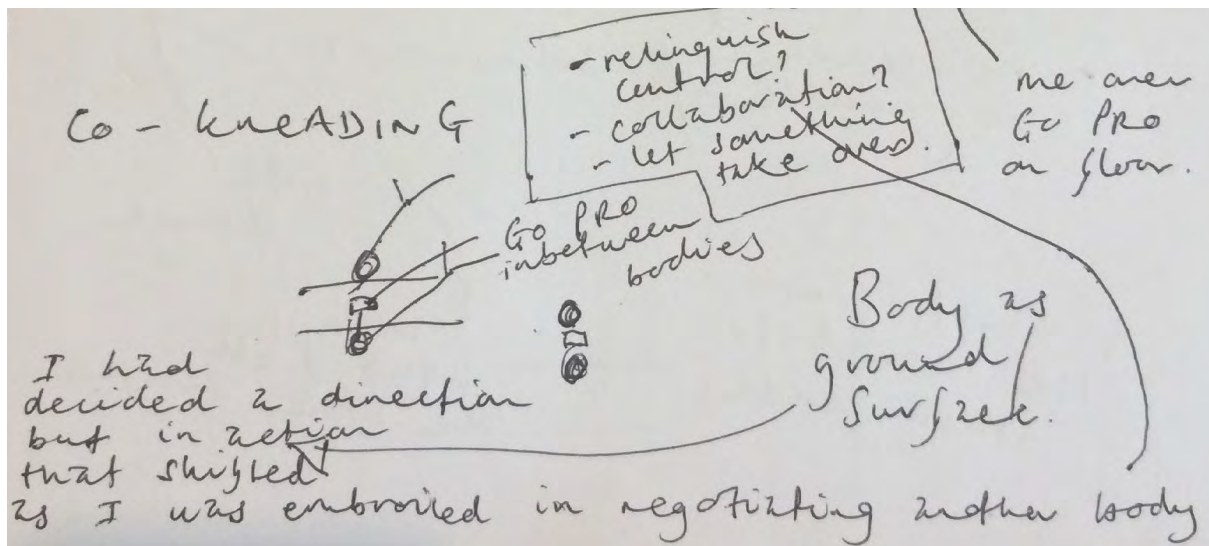


Figure 52. Co-Kneading set up (Drawing by Madaleine Trigg 2020).

In *Co-Kneading*, a woman, man, millions of microbes, and a GoPro camera work together to make bread between their bodies. The close, cropped, claustrophobic view of the camera masks the identity of these bodies, treating them instead as surfaces on which to work. Flakes of yeast are stirred in the belly button. Bodies become bowls, containers for the action and interrelations that begin to emerge. The camera is hand-held, and we can see the breathing of bodies and shaking of hands through the camera's movements.

²³⁸ I draw this conclusion as Ancient Greece was the basis for much philosophical thought and many of the contemporary colloquialisms and myths about female bodies have parallels to the ideas described by Page DuBois in *Sowing the Body*.

²³⁹ Interestingly Jeanne Vaccaro also draws attention to a myth where felt was discovered by a couple copulating on wool. This is an example of a pleasurable and productive form of friction. Jeanne Vaccaro, "Felt Matters," *Women and Performance* 20, no. 3. (2010): 253-266. in Stephanie Springgay, "How to Write as Felt: Touching Transmaterialities and More-Than-Human Intimacies," *Studies in Philosophy and Education* 38. (July 2018): 59. <https://doi.org/10.1007/s11217-018-9624-5>

²⁴⁰ Donna Haraway, "Anthropocene, Capitalocene, Plantationocene, Chthulucene: Making kin," *Environmental Humanities* 6, no. 1 (2015): 161.

Figures 53-54. Film stills from Madaleine Trigg and anonymous collaborator's *Co-Kneading*, Wellington, New Zealand, 2020.

Figures 55-56. Film stills from Madaleine Trigg and anonymous collaborator's *Co-Kneading*, Wellington, New Zealand, 2020.

Figure 57-58. Film still from Madaleine Trigg and anonymous collaborator's *Co-Kneading*, Wellington, New Zealand, 2020.

In the beginning of the film, the (female) body lies passively underneath other bodies. That changes as the bodies come together and begin to work, kneading together to make another body. The camera is no longer handheld but nestled in between the bodies, an integral part of the action. The folds of the bodies became the focal point as they became increasingly enmeshed into the material and actions. It is difficult to discern separate bodies as they are mixed. At moments it feels as though we, as viewers, are inside the dough and then stray body parts shift our attention to remind us that we simultaneously inside/outside and becoming bodies. Sticky, sweaty, slimy bodies sensuously shift and shape each other.

Kneading dough with multiple bodies marked another distinctive stage within this creative practice. When preparing the ingredients, we had handed the camera over to each other and were directing the gaze through a remote device to retain our anonymity. Once we started kneading with multiple bodies, this distance collapsed as we were absorbed in the action. Throughout these contact improvisations I had explored the camera from outside, on the floor, in our hands and now it was between bodies. As such, we were all negotiating each other's bodies and the agencies couldn't be attributed to any one body but all.

Although this footage recalls the ambiguity and confusion of the kneading process within *Cocklebrads*, the issue of hierarchies between bodies is resolved. Rather than focusing on blurring the binaries of subject/object positions, here, the bodies dynamic engagement as a fulsome ecology becomes evident. Other elements are part of the mix such as the light, space, and air as integral ingredients within the work. Materials and elements are not tools for human use but what is binding us together. We are using each other and are *in-formation*.²⁴¹ Knowledge is being created not a priori but through each other. This is a collaboration, co-creation and re-configuration of bodies.

²⁴¹I deliberately use this phrase to emphasise that knowledge is relational and contingent —it evolves in relation to new knowledge and is not static. This also relates to intra-actions as bodies and information is negotiated and is constantly in-formation. Erin Manning too uses this distinction; "we reach toward that which is in-formation or transformation. . . altering us." Erin Manning, *Politics of Touch: Sense, Movement, Sovereignty*, (Minneapolis: University of Minnesota Press, 2007), 85.

As clear vision was obscured during the work, the sounds of the labouring bodies became more pronounced, creating more affective and sensual interrelations within the work and again attempting to resist the camera's role as a device that objectifies and represents others.

Although this work offers a seemingly surreal process of kneading, there is a method to the madness. Using the belly button as a bowl and kneading with other body parts invited different microbial species into the mix. As different regions of the body have diverse species of microbes, the bacteria in the belly button would flavour the dough differently from using other parts of the body. In *I contain Multitudes: The Microbes Within Us and a Grander View of Life*, Ed Yong corroborates this by drawing upon scientific studies that show "microbes in the oily lakes of the face and chest differ from those in the hot and humid jungles of the groin and armpit, or those colonising the dry deserts of the forearms and palms."²⁴² The diversity of the bacterial communities that live on and within human and non-human bodies is bewildering and reflects the interconnectedness of microbes, environments and eco-systems. Not only would the bread taste different, but other companion species would also be contributing to these bodies' compositions.

Rather than homogenise this dough/bread through sterile, industrial processes, *Co-kneading* offers bread that is completely bound up in other bodies. This bread is more than hand-made, it is making bodies. Scholar and curator of contemporary art practices Jeanne Vaccaro considers that the handmade "does not operate by a narrative of discovery. Instead, its movement is about cocreation, about making connections and contexts."²⁴³ I propose that expanding our understanding of the hand-made to body-made offers us an opportunity to engage with a broader ecology that is not (linguistically) limited to touching humans but embraces all living entities. As renowned philosopher and physicist Karen Barad proposes in *On Touching - The Inhuman That Therefore I am*, "[a]ll touching entails an infinite alterity, so that touching the other is touching all others, including the "self," and touching the "self" entails touching the strangers within."²⁴⁴

Before dwelling further with these "strangers within,"²⁴⁵ it is necessary to relate to Barad's distinction between interactions and intra-actions as a way of understanding the correlation and composition of bodies. Essentially interactions imply a unidirectional touch, whereas Barad's intra-actions explore how multiple bodies come into contact and constitute each other in ever evolving re-configurations. In *Posthumanist Performativity*:

²⁴² Ed Yong, *I Contain Multitudes: The Microbes Within Us and a Grander View of Life*, (New York: HarperCollins, 2016), 17.

²⁴³ Jeanne Vaccaro, "Feelings and Fractals : Woolly Ecologies of Transgender Matter," *GLQ: A Journal of Lesbian and Gay Studies* 21, no 2-3. (2015): 281. in Stephanie Springgay, "'How to Write as Felt' Touching Transmaterialities and More-Than-Human Intimacies." *Studies in Philosophy and Education* 38. (July 2018): 66. <https://doi.org/10.1007/s11217-018-9624-5>

²⁴⁴ Karen Barad, "On Touching-The Inhuman That Therefore I Am (v1.1)," in *Power of Material/Politics of Materiality*, ed. Susanne Witzgall and Kerstin Stakemeier (Zürich: Diaphanes, 2014), 160

²⁴⁵ Barad, "On Touching," 160.

Toward an Understanding of How Matter Comes to Matter, Karen Barad draws upon Niels Bohr's "philosophy-physics," a "protoperformative account" of scientific practices, to support her re-conceptions of agency and interrelations between human and matter.²⁴⁶ For Bohr, "theoretical concepts (e.g., 'position' and 'momentum') are not ideational in character but rather *are specific physical arrangements* (emphasis in original)."²⁴⁷ Positions therefore are not concrete concepts but emerge in relation to other bodies/matter in space. As such, Barad explains that for Bohr, our "position" in the world

cannot be attributed to some abstract independently existing "object" but rather is the property of the *phenomenon*—the inseparability of "observed object" and "agencies of observation." Similarly, "momentum" is only meaningful as a material arrangement involving moveable parts (emphasis in original).²⁴⁸

In this contact improvisation, our positions in the world were directly related to the momentum between our bodies, an evolving relationship. Additionally, the "observed object" (dough and bodies) and "agencies of observation" (the camera) can be seen to be confused within this improvisation. Materials and bodies are mixed in this "congealing of agency,"²⁴⁹ we are becoming with each other. As such, phenomena²⁵⁰ within the world are not "things" but "dynamic topological reconfigurings/ entanglements/ relationalities/ (re)articulations."²⁵¹ Bodies then are relational and emerge/become through their intra-actions with others.²⁵²

This physical reality means that *Homo Sapiens* are not separate from other species nor central to the action. Instead humans are part of an ecology that are deeply reliant on others to (re)determine and negotiate the borders (in)between bodies. As such, there needs to be a different level of respect and responsibility to our companion species. In this regard, I realise that responsibility often is considered in relation to someone or for something—it is directed. Instead, I return to Haraway's definition of cultivating "response-

²⁴⁶ Barad, "Posthumanist Performativity," 228-229 (including Barad's footnote 11)

Bohr won a Nobel Prize for his quantum model of the atom. He also felt that philosophy and the sciences were inseparable.

²⁴⁷ Barad, "Posthumanist Performativity," 229 (including footnote 12).

²⁴⁸ Barad, "Posthumanist Performativity," 229.

²⁴⁹ Barad, "Posthumanist Performativity," 232.

²⁵⁰ For Bohr, *phenomena*, "relations without pre-existing relata," constitute the "primary epistemological unit."

Barad, "Posthumanist Performativity," 229.

²⁵¹ Barad, "Posthumanist Performativity," 232.

²⁵² Barad, "Posthumanist Performativity," 234. For Barad, there is no distinction between human and non-human bodies within intra-actions. "All bodies, not merely 'human' bodies, come to matter through the world's iterative intra-activity – its performativity."

abilities" — the "collective knowing and doing, an ecology of practices."²⁵³

These entanglements and "response-abilities" manifest and make sense through *Co-Kneading*, becoming a clearer, embodied method of experimenting with and communicating a complex, theoretical position within the world.²⁵⁴ In 'How to Write as Felt' *Touching Transmaterialities and More-Than-Human Intimacies*, scholar Stephanie Springgay, considers that transcorporeality and trans theories are important as they "suggest a form of movement that is affective and viral," like the activities of our microbial messmates.²⁵⁵

For Springgay, this distinction is important as it "shifts an understanding of bodies/ subjectivities (both human and more-than-human) as discrete entities towards an articulation of phenomena that are produced through relational entanglements, a world-making, where touching touches touch."²⁵⁶ In *Co-Kneading* though, we are not writing felt but improvising with feeling(s). This appreciation for the material felt and the knowledge/practices it embodies can be transferred to other materials and I consider that dough is a rich material for this as it embraces and emphasises our relations with companion species. As such, these contact improvisations perform and embody how "matter comes to matter."²⁵⁷

The Unsettling Eros of Contact Zones: Breaking bread with our messmates

Bio-artist Tarsh Bates' *The Unsettling Eros of Contact Zones* has been influential in developing my own perspectives.²⁵⁸ In this work, Bates mixed *Candida albicans* and *Saccharomyces cerevisiae* yeasts to make baguettes, which she served with Brie, blue cheese, hummus and a "risk management plan" to her audience. Bates' work becomes a playful posthuman provocation, inviting the audience to get closer to our companion

²⁵³ Haraway, *Staying with the Trouble*, 34. Although I am citing Haraway's definition here, this reconfiguration of responsibilities to "response-abilities" has been popular, especially within discourses about Contact Improvisation. In "Framing the Gap: Contact [and] Improvisation" Misri Dey and Malaika Sarco-Thomas cite the use of term "response-abilities" by Nita Little and Ruth Pethybridge, as well as Sarco-Thomas's own work. Misri Dey and Malaika Sarco-Thomas, "Framing the gap: Contact [and] improvisation," *Journal of Dance & Somatic Practices* 6, no. 2 (2014): 119-128. https://doi-org.ezproxy.massey.ac.nz/10.1386/jdsp.6.2.119_2 Sarco-Thomas also uses the word ecology in relation to contact improvisation in her doctoral thesis. Sarco-Thomas, Malaika. "Twig dances: Improvisation performance as ecological practice." (PhD diss., University of Plymouth, 2010) <http://hdl.handle.net/10026.1/936>

²⁵⁴ Haraway, *Staying with the Trouble*, 34.

²⁵⁵ Springgay, "How to Write as Felt," 65. Springgay is a leading scholar of "research-creation" and was introduced in Chapter 1.

²⁵⁶ Springgay, "How to Write as Felt," 65.

²⁵⁷ Barad, "Posthumanist Performativity." In Barad's title of this journal article, she states it moves "Toward an Understanding of How Matter Comes to Matter."

²⁵⁸ Tarsh Bates, "The Unsettling Eros of Contact Zones," Tarsh Bates, accessed August 2019. <https://tarshbates.com/portfolio/t-he-unsettling-eros-of-contact-zones-2015/>

species, to “break bread with our microbial mess-mates.”²⁵⁹ Bates' project drew my attention to the significance and vitality of the bodies inside me as the human body “seethes and pulses with hundreds of other species, fashioned and transfigured by tiny lives and deaths, host to a thriving ecology.”²⁶⁰

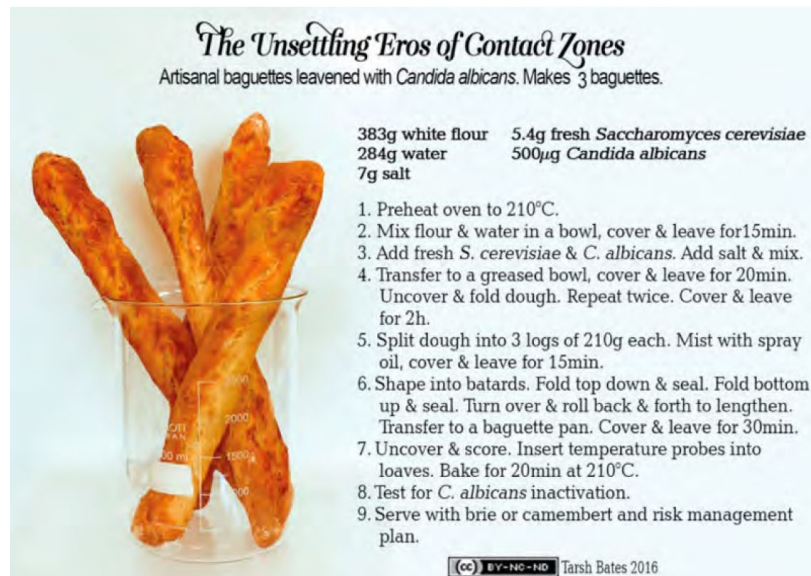


Figure 59. Image/recipe for Tarsh Bates' *The Unsettling Eros of Contact Zones*, Perth, Australia, 2015.

As such, my Posthuman perspective has expanded to a trans*ecological sensitivity due to Bates provocation that “lilf an ecology is the process by which ‘home’ is formed, then surely *Homo sapiens* are home to *Candida albicans*?”²⁶¹ Following the same logic, *Homo sapiens* are also host and home to *Saccharomyces cerevisiae*. Re-considering our bodies as homes to other species makes us the background to them and suggests that gumans can't be separate from “other” bodies if others are already inside us. It also shifts us from considering a home as an anthropocentric construction and brings it back to the importance of bodies not objects. This also creates an equality between genders as the female body is not the only body conflated with the household and issues of domestication. As biologist Merlin Sheldrake points out, guman bodies were domesticated by yeasts just as much as yeasts were domesticated by gumans:

[Y]easts were the primary beneficiary of humans' earliest agricultural efforts. . . humans feed yeast before they feed themselves. The cultural developments associated with agriculture—from fields of crops to cities, accumulation of wealth, grain stores, new diseases—form part of our shared history with yeast. In many ways, you might argue, yeasts have domesticated us.²⁶²

²⁵⁹ Tarsh Bates, “We Have Never Been *Homo Sapiens*: *Candida* *Homo* Naturecultures.” *Platform: Journal of Media and Communication* 6, no. 2 (2015), 28.

https://platformjmc.files.wordpress.com/2015/10/bates_platformvol6-2_2015.pdf

²⁶⁰ Tarsh Bates, “Queer Affordances: The Human as Trans*ecology,” *Angelaki Journal of the Theoretical Humanities* 22, no. 2 (2017), 151. <https://doi.org/10.1080/0969725X.2017.1322830>

²⁶¹ Bates, “We have never been *Homo Sapiens*,” 28.

²⁶² Merlin Sheldrake, *Entangled Life: How Fungi Make Our Worlds, Change Our Minds and Shape Our Futures*, (London: The Bodley Head, 2020), 227.

Understanding and accepting the human body as an ecology is unsettling; it disrupts the safety of being in control (whether that is a perception or reality). Bates emphasises this dilemma by drawing attention to the fact that

[t]his ecology is indifferent to human cognition—reproducing, communicating, sensing, touching, eating, excreting, secreting, exploring, creating, transforming and dying. It is not completely indifferent to human biology, however. Who and what we ingest matters.²⁶³

Contrary to popular (philosophical belief), what I think or say doesn't matter to our understanding of bodies. Actions matter. But recognising that I am actually a "we," how do I know that it's not my messmates that are actually moving me?²⁶⁴

Re-producing different (video) spaces. Ecologies in contact contaminate systems of representation.

This chapter has analysed the role of the camera as collaborator in these contact improvisations and the ways this shifts these performances toward a Posthuman practice. Mika Rottenberg's film installation *Dough* offers further contextualisation of this aim.²⁶⁵

Dough is a surreal seven-minute film that depicts four female bodies working together to make vacuum packed pieces of dough. A large lump of dough inhabits the top of the building. Stuck in various sized rooms, these women use pulleys, conveyor belts and their bodies to move the dough through a DIY production line to make these precious packages. Bodily fluids are also an integral part of this production. For example, a woman on the bottom floor uses a pulley to make a fan spin in front of Queen Racqui. The force from the fan pushes the pollen from some Gerberas into Queen Racqui's face, causing an allergic reaction and tears to fall from her eyes. These tears roll down Queen Racqui's legs, dropping onto a heated tile in the room below. Tall Kat uses the movement of her feet to power a series of hoses that push air onto the dough, and that combined with the steam from the tears, helps the dough to rise. The swollen dough falls off the table, propelled into another room through a pipe, before being vacuum packed into plastic.²⁶⁶

²⁶³ Haraway "Staying with the Trouble," 2 in Tarsh Bates, "The Queer Temporality of CandidaHomo Biotechnocultures," *Australian Feminist Studies* 34, no. 99 (2019): 25
<https://doi.org/10.1080/08164649.2019.1605486>

²⁶⁴ A provisional answer to this question can be found in chapter 5 and the conclusion.

²⁶⁵ An excerpt from Mika Rottenberg's *Dough* film installation can be found here: "Dough, 2005-2006," *The New York Times Style Magazine*, last updated November 2, 2001. <https://www.nytimes.com/video/t-magazine/100000001149614/dough-20052006.html>

²⁶⁶ Is this also a deliberate pun on flour—flower?



Figures 60-61. Film stills from Mika Rottenberg's film installation *Dough*, Guggenheim, New York, USA, 2006.

Rottenberg's *Dough* was an inspiration for my own work with body fluids as their production line alludes to the usefulness of re-purposing bodily fluids. For example, the tears are transformed from being an allergic reaction to being a catalyst for making steam. These inventive actions emphasise the importance of bodies working together and the fluidity of materials that travel through bodies and transform into different states. This is yet another example of the instability of bodies and how they co-constitute and re-configure each other. Bodies work together as ecologies.

For me, Rottenberg's *Dough* also encapsulated the intricacy of interactions at play by visualising how bodies work together. This brings to the fore the dual meaning of labour—as the creative act of growing/developing another (human) body—giving it life and to work. Rottenberg has been explicit that *Dough* was a direct response to Marxist ideas of capital, labour and value through the work of bodies; a position emphasised by the fact that dough is a colloquialism for money in that, historically, wheat was used as a currency and that the terms Lord/Lady are associated with bread.²⁶⁷

²⁶⁷ The two words come from Old English. Lord comes from the Old English *hláford*, a compound of *hláf*, meaning "bread," and *weard*, meaning "guardian," so the head of a household to which it applied meant "guardian of the bread." *Lady* comes from the Old English *hláf*, again meaning "bread," and part of a verb meaning "to knead," together meaning "maker of bread."

Michael Brady, "Words About Words: The Doughy History of Lord and Lady," *The Norwegian American*, last updated December 25, 2020. <https://www.norwegianamerican.com/words-about-words-the-doughy-history-of-lord-and-lady/>

I'm suggesting this connection as Lords used to be owners of agricultural land and thus collected the money off of their workers, which was in the form of wheat.

In addition, James Scott's *Against the Grain* discusses how the growth of grain led to capitalism/taxes as there was a distinct moment of the year when the grain would be harvested and the person who owned the land would have to pay tax by giving a portion of their wheat away.

James C Scott, *Against the Grain: A Deep History of the Earliest States*, (New Haven: Yale University Press, 2017).



Figure 62. Film still from Mika Rottenberg's film installation *Dough*, Guggenheim, New York, USA, 2006.

I was also interested in how the virtual and physical spaces of Rottenberg's work acted as a body that passed materials through them, centring upon what they produce rather than what they consume. As art historian Julia Bryan-Wilson writes, "[Like] the organs of a body, Rottenberg's spaces are dynamic and interconnected as they circulate matter to be processed. They form a system."²⁶⁸ Rottenberg's women work together in dough to propose new (eco-)systems in the making of "bodies of work."²⁶⁹ Rottenberg's clever, creative and critical use of female bodies within this work illuminates how they are bound to and participate within this system of representation and re-productions. Despite Rottenberg's use of women who make money from their body and ingenuity of these methods, these bodies are framed through the creation of products.²⁷⁰ These women are stuck in rooms with specific roles to fulfil. Their agency is limited. As the camera pans, moving and processing these materials, the space echoing a body; they are still being surveyed. I learned from her film and *Co-Kneading* escapes this system of representation by not focusing on visualising the bodies in process but by practicing being the body.

Co-Kneading also considers the pleasure of making for the sake of it—we didn't consume the bread, which gives it a distinct purpose and value. Additionally kneading in this way did not expedite the process, as the methods of mechanisation in manufacture do to maximise profit. As such, we were not trying to use, own or benefit from this process.

²⁶⁸ Julia Bryan-Wilson, "Mika Rottenberg's Video Spaces." In *Mika Rottenberg: The Production of Luck*, ed. Julia Bryan-Wilson, Wayne Koestenbaum and Mika Rottenberg, (Gregory R. Miller & Co. in association with the Rose Art Museum, 2014), 118.

²⁶⁹ I am re-emphasising "bodies of work" here as these women are literally making the "bodies of work" through their bodily fluids.

²⁷⁰ Mika Rottenberg deliberately chooses to collaborate and employ women who make money from their bodies. For example, Queen Racqui makes a living from squashing people and "Tall Kat" (6-foot, 9-inch) sells this unique feature. As such these women can be considered to have more agency as they harness their own body for profits, rather than working for someone else. This also emphasises de-materialized labour, the service economy, that has proliferated in the post-fordist, late capitalism of the Anthropocene.

Instead, we were dwelling in the difficulties of negotiating other bodies, how uncomfortable it is to be exposed with others and stay in the process of making rather than resolving. Through *Co-Kneading* I was letting go of myself, my image and artworks. Whereas previous works had postured towards de-centring my body, *Co-Kneading* was proof of this. Despite being confusing, challenging and unsettling, I was "staying with the trouble."²⁷¹

It is fruitful to contextualise these collaborations with the camera with respect to other artists who have tried to re-configure relations by bringing the technology closer to the body.



Figure 63. Photograph of Gary Hill's film installation *Crux*, New York, USA, 1983-1987.

Gary Hill's *Crux* (1983-1987) is a performance work in which video recordings were made of Hill's movements as he walked through the grounds of a castle.²⁷² Four small cameras with microphones were strapped to the artist's wrists and ankles and a fifth camera/microphone was aimed at his head. The cameras were positioned to face the body, not the "outside," the direction of Hill's journey. The cameras record the jolting movements and sounds of the "performer," including his laboured breathing, which has parallels to the sensuous footage that emerged in *Cocklebrads* and *Co-Kneading* as the visual plane was diminished and the sounds of the scene were emphasised.

Although Hill's video was left virtually unedited, the twenty-six minutes of footage were played back synchronously onto five colour monitors and five speakers. It is the placement of the videos, how they are exhibited, that pivot Hill's work away from the possibility of a Posthuman practice. Displaying the videos like a cross, Hill makes a

²⁷¹ Haraway, *Staying with the Trouble*.

²⁷² Gary Hill, "Crux, 1983-87." Gary Hill, accessed July 2, 2022. https://garyhill.com/work/mixed_media_installation/crux.html

parallel between the artists' body and the crucifixion of Christ, which is underlined by the title *Crux*, the most pressing issue. Despite the footages potential to reveal the body of the camera, the focus is yet again on the human. By contrast, in *Co-Kneading* this is mitigated by the tight cropping which doesn't reveal any signifying features of the human bodies, especially the face. Bodies are seen as surfaces, no more important than the material.

This example is especially pertinent as I write this exegesis, I'm aware of the pressing issue of how to (re)present this work for the doctoral exhibition and examination. How can I share the footage of these contact improvisations and maintain the material vibrancy of the work? Exhibited (art)works tend to be finished and fully resolved—how can I un-do this so that the works are constantly in formation even as they are displayed?²⁷³

Figure 64. Photograph of Dan Graham's *Body Press* (1970-1972)

Dan Graham's *Body Press* (1970-1972) is a more promising example as it focuses on distorting fixed perspectives through a close encounter with the skin of two human bodies.²⁷⁴ This film installation features two silent, synchronized colour 16mm-film projections. The footage was created as two naked filmmakers stood within a completely mirrored cylinder that surrounded them. Keeping the trunks of their bodies in a stationary position, the filmmakers slowly and at a correlated speed, rotated the camera to cover and capture their body's contours. This intimate, sensual footage resonates with my *Co-Kneading*, although there is an absence of sound here and the movements are more

²⁷³ I can't resolve the question yet as to how to do this for my examination exhibition but articulate it to guide the next phase of representing these bodies of works.

²⁷⁴ For a video excerpt of *Body Press* please see: Dan Graham, "Body Press, 1972," Youtube, accessed June 6, 2022. <https://www.youtube.com/watch?v=3ovA7zeviRo>

serene. According to Graham, "[t]o the spectator the camera's optical vantage is the skin. . . . At the same time, kinaesthetically, the handling of the camera can be 'felt,' by the spectator, as surface tension, as the hidden side of the camera presses and slides against the skin it covers at a particular moment."²⁷⁵

This emphasis on skin and what is felt is paramount in *Co-Kneading*, however, in *Body Press* there are moments when the faces of the performers are visible, which disrupts the ambiguity of the spectator's focus, shifting it back to the human. In *Body Press*, the movement is also choreographed tightly, the movements controlled by the human, which lacks the spontaneity and opportunity for chance encounters that the contact improvisations in *Co-Kneading* produced. As such, *Body Press* doesn't fully visualise the push and pull of encounters between multiple bodies, the tension that occurs when bodies press into each other and work each other out.

Continuing to focus on the labour of bodies, the next chapter highlights how humans and their companion species grow together. I wanted to gain some first-hand understanding of where dough and flour came from. Thus, I decided to journey to the beginning of the process and began cultivating a wheatfield. This "fieldwork" explores bodies as ecologies on a grander scale by embracing the exterior environment and surrounding elements.

²⁷⁵ Dan Graham, "Body Press," Medien Kunst Netz, accessed June 6, 2022. <http://www.medienkunstnetz.de/works/body-press/>

Chapter 5: Within the Wheatfield

In May 2020 New Zealand came out of the SARS-CoV-2 induced lockdown. After two months of being socially isolated and housebound, I was free to roam again. But the situation back home in England was far worse and I watched in horror from afar as the performance industry I loved was decimated. I was struck by survivor's guilt. I too had felt the futility and vanity of being a performer when I was stuck in my room. It hadn't mattered as much as I was already performing with yeasts, flour and dough. But I was mourning my old life. I knew that when I returned home, there would be nothing left. And although I had always prided myself on being a "social butterfly," solitude suited me. I had gotten into the habit of avoiding people rather than hugging them. Re-entering the world felt strange. I still had the pause button on. My heart was broken, and tears welled up and washed over me. I went for long walks. I was mute. Too overwhelmed for words, I worked.

I live in Petone, the place where the English originally settled. The land I grew the wheat on was in Alicetown, a 20-minute walk from where I am staying. I borrowed it from a guman friend for the summer. The site was technically owned by the railway company but had been turned into a dumping ground. Cleaning up the rubbish, we reclaimed this land by attending to it. The soil was dry and hard with lots of rocks and glass in it. It was challenging to turn the earth and there were no worms wiggling inside. I didn't try to own this land, control and coerce it by making it productive. Rather than extract from it, I worked to nourish it. This was even more laborious as I did everything by hand so as not to disturb the microbial bodies in the soil nor poison them with chemicals to enhance the yield of the crop.

Digging, hoeing, sowing, watering, weeding. I worked alone. The hard work helped to heal the pain. But it hurt too. Blisters, bruises, bad back; I worked through these effects while feeling the sunshine. The wind rustled my hair and the smell of soil got under my skin.

I was motivated to grow this grain as I wanted to physically engage in the whole life cycle of the material. How much time does it take to make bread from the beginning? How much land does it take to make a loaf of bread? This latter question posed by my supervisor Julieanna Preston truly resonated. In retrospect, I'm glad I didn't know how much work is involved as maybe I wouldn't have started growing the wheat. The price of flour is criminal considering how much work and time it takes to grow this grain.²⁷⁶ But what would I discover by literally working within this field of inquiry?

For nine-months (August 2020–April 2021), I worked steadily and silently with the wheat.

²⁷⁶ I write this chapter as the war in Ukraine rages on and the newspapers are full of stories of how to get the grain out of the country. What I understood when working in the wheatfield, now has a widespread resonance. The effects of globalization—distancing communities from sustainable growing practices, precarity of food and threat of starvation—are the chilling consequences of this endeavour.

Four varieties of wheat from the 1800s—Velvet New Zealand, Turvey, White Lammas and Australian Talavera—were my companions. The seeds were gifts from Mark Christensen and David Hughes from the Heritage Food Crops Research Trust, although they originally hailed from a seedbank in Australia. I deliberately choose these companion species as they had diverse heritages. I was curious to see the various characteristics of the heads of wheat and how the different lineages, previous interconnections between people and places over time, would materialize.

Other species surrounded me too. I didn't need to talk, I expressed myself through touch. The movements were simultaneously mind-numbing and meditative; I understand now why farmers would have songs to keep them company as they worked the land; there is a rhythm to the process. What mattered most were my actions. I felt the seasons strongly. It was weird to grow a wheatfield in a suburban environment, but then nature is all inclusive, not simply siloed to the "country."

And then, as I prepared this exegesis, I needed to "write about" these embodied agricultural encounters. Rosi Braidotti, a Distinguished Professor and influential scholar who has been thinking and writing about Posthumanism intensely, recognises this dilemma.

Thinking and writing, like breathing, are not held into the mould of linearity, or the confines of the printed page, but move outwards, out of bounds, in webs of encounters with ideas, others, texts. The linguistic signifier is merely one of the points in a chain of effects, not its centre or its endgame. The source of intellectual inspiration comes from the never-ending flow of connections between the texts and their multiple "outsides." Creativity constantly reconnects to the virtual totality of a block of past experiences, memories and affects, which, in a monistic philosophy of becoming, get recompressed as action or praxis in the present. This approach to critical thinking is an exercise in synchronisation, which sustains activity "here and now" by making concrete or actual the virtual intensity. This intensity is simultaneously after and before us, both past and future, in a flow or process of mutation, differentiation or becoming. It is the "matter-realist" core of critical thought.²⁷⁷

I struggled to find words that adequately captured the vivacity, dynamism and complexity of the many interactions at play within the wheatfield. Words, especially words without images, sounds and tactility failed to hold onto the temporally and spatially bound interactions of sensate bodies. How might a plain piece of paper inscribed with text adequately communicate this durational, non-linguistic wheatfield encounter with companion species? How does one critically reflect on a creative work that abandons the primacy of humankind, including the authority and assumed truth associated with written language, especially academic writing within a PhD? Description

²⁷⁷ Rosi Braidotti, *The Posthuman* (Cambridge: Polity, 2013), 166.

or representation of these experiences kept proving insufficient, inadequate and inappropriate.

My response to the conundrum outlined above has been to create a series of five full-bleed landscape-oriented plates that (re-)score the durational performance.²⁷⁸ These plates "serve up" a wide range of data, information, textures, images, reflections, and films in a manner that operates with their status as material entities. Created in a collage-like manner in collaboration with a photocopier, the materials do a process of critical reflection much more akin to Contact Improvisation with its emphasis on relationality, tactility and change over time. These plates are the final "speculative fabulations" in this research, a call for a re-worlding by Haraway in which we "recompose the terms of living and dying together."²⁷⁹ Although fond of telling stories, Haraway underlines the urgency for "joining and inventing practices for making kin non-biogenetically, so that multispecies environmental justice can become the means and not just the end toward partial healing and flourishing on a damaged planet."²⁸⁰ Re-working relations with wheat is a project that foregrounds moments of entanglement between bodies and agential forces of all kinds: rakes, rain, cameras, birds, bees, wind, the female body, seeds, seasons, soil, and sun.

The borders of the field, like that of a page, are man-made marks of delineation that aid surveying and possession of materials. A page is flat. Words on a white page are ordered into neat rows and full of colonial conventions (reading left to right, similar spacing, structured formats, using the "right" words from established (English) vocabularies and lofty academic phrases). Fields have depth and are full of multi-dimensional and multi-species engagements. However, working on this field of inquiry has produced productive parallels which muddy discrete distinctions among art, life and academia. Producing these plates required me to dig into my journals and unearth the concerns that formed the foundation for this Posthuman practice. Working on a white page paralyzed me; it was pregnant with unrealistic expectations to create something original. Instead, I was more comfortable working with material that already existed. I realised that this was my natural habitat, responding to and collaborating with others.

Like the wheatfield, I didn't invent the land, it was already there. My work is messy because it's with the materials. The wheatfield revelled in and revealed this. Layering the pages created different topographies and typographies that ebbed and flowed; dug into, re-populated, erased. Other things emerged that hadn't been planted but popped up,

²⁷⁸ This re-searching into a different way of expressing, scoring and doing this chapter is beholden to performer, architect, supervisor and Professor Julieanna Preston who had the good sense to ask me to persist in this struggle with language and was the driving (and patient) force for me to find other ways to reflect upon my time in the (wheat)field.

²⁷⁹ Donna Haraway, "It Matters What Stories Tell Stories; It Matters Whose Stories Tell Stories," *a/b: Auto/Biography Studies*, 34, no. 3 (October 2019): 570. <https://doi.org/10.1080/08989575.2019.1664163570>

²⁸⁰ Donna Haraway, "Staying with the Trouble for Multispecies Environmental Justice," *Dialogues in Human Geography* 8, no.1 (February 2018): 103. <https://doi.org/10.1177/2043820617739208>

nevertheless. It acted like an ecology, with a life of its own that I was working with. Through this process I couldn't control what came into the field, what forces exerted itself on the wheat, my body, companion species and the page. As Mirko Nikolić notes in *Minoritarian Ecologies: Performance Before a More-Than-Human World*:

Assemblages are fields that are brimming with fluctuating intensities, with very fuzzy borders, just like clouds. Inconsistency and in/determinacy are being experimented with through freedom, but since they are so open it is quite hard to notice them, and to maintain them without turning them into something else.²⁸¹

The *Within the Wheatfield* video (edited from footage throughout the process) provisionally addresses this by taking this "window" of opportunity to share the workings of companion species with others. I was attending to rather than maintaining them. I was letting them be...

<https://windowgallery.co.nz/exhibitions/within-the-wheatfield>

At the beginning of this durational performance, I naively thought that growing wheat was just a process to see where flour came from. In reality, it was the richest experience of the research and where I absorbed the most. But this knowledge didn't come through speaking, writing or drawing; it was communicated through and with an entanglement of bodies in an expansive ecology. Having my hands in the humus was a deeply humbling experience, that sca(r)red me in addition to enchanting me with the diversity of entanglements that were always already occurring. Communicating through these bodies was expansive rather than being limited through a lack of language. I learnt much more through listening and being-with others than reading.

²⁸¹ Mirko Nikolić, "Minoritarian Ecologies: Performance Before a More-Than-Human World." (PhD diss., University of Westminster, 2017), 146. http://minoritarianecologi.es/?page_id=35

Chapter 5:
Within the Wheatfield
(Fieldwork: August 2020 -
May 2021)

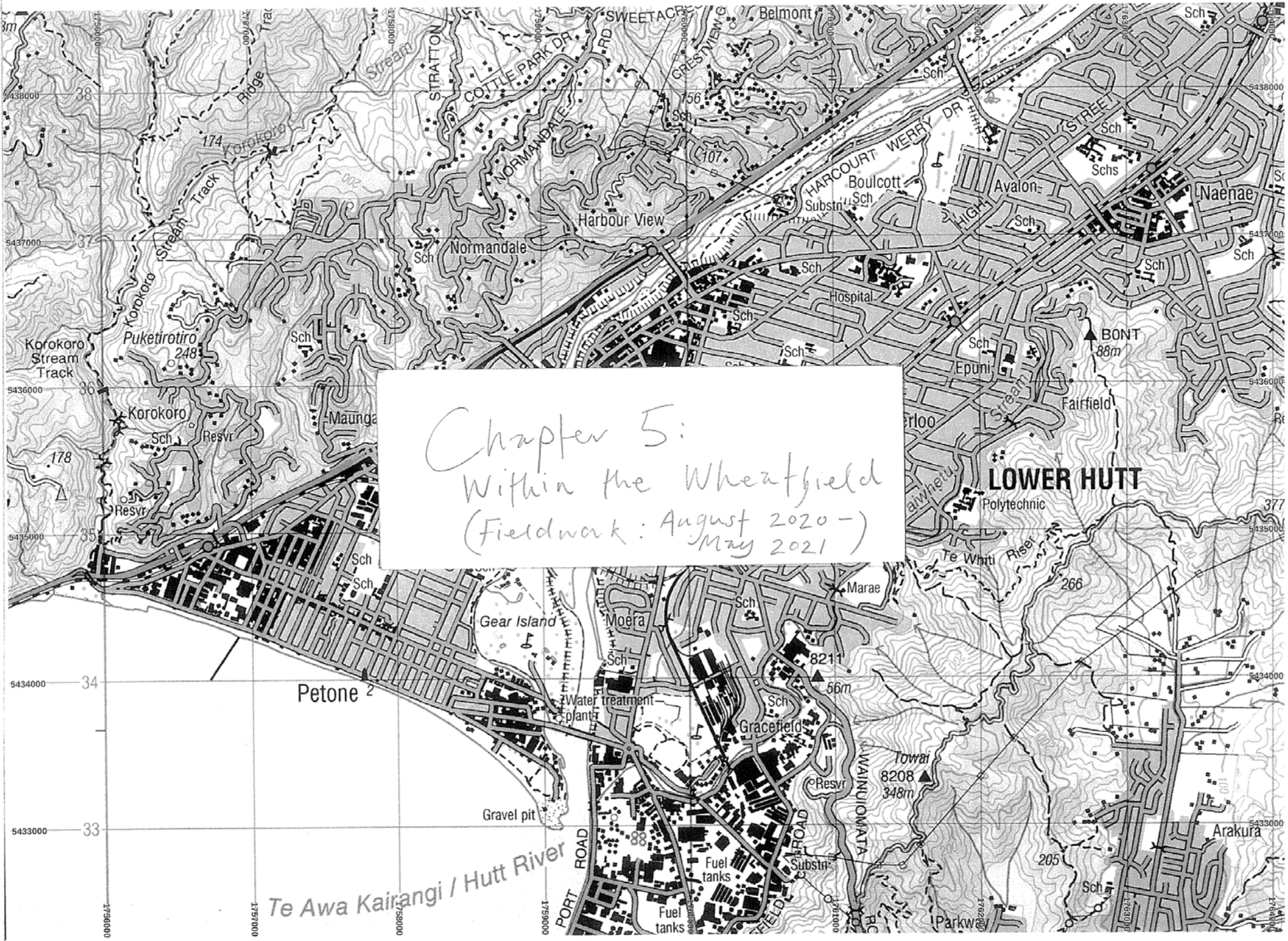




Plate 1

I spent most of my time in the field digging into the earth and pulling weeds out. I had previously thought that a hole was a lack, a void, something that needed to be filled up. Through this process, I realised that I wasn't excavating or breaking up the ground; I was turning it. This gesture was about making space for something else to come in and grow, rather than removing earth and (organic) matter. It is an act that is open to creating space for others to join. In digging, the soil is not lost or gained but rather displaced and redistributed. Matter is constantly changing. Turning the earth was kneading soil, allowing air in, the microbial bodies to do their work. This porosity of material also reminded me of our skins and cell membranes. The skins of bodies then are not on the surface but deep inside each other. I felt this connection between bodies deeply when the soil was embedded in my fingernails and wounds; the musty scent lingered in my nostrils. I was in the world but not at the centre of it; the world was seeping into me. I am dispersed and diluted in the expanse of the earth.

In *The World's Fragile Skin*, French philosopher Jean-Luc Nancy suggests that "[t]he skin is not the site of a calculation nor a measurement: it is a site of passage, transit and transport, traffic and transaction. It rubs against and irritates, mixes and distinguishes, comes up against or flatters it."²⁸² The human ego has flattened the soil and notions of land being a living entity, but this matter rubs up against that. The soil is both a skin and a body as it acts as the transport system and host for the millions of microbial bodies that inhabit it. Plants assemble these microbial communities within their roots, the rhizosphere and the plant's body (including its ears and limbs) as these fungi and bacteria are complex communication systems that play a pivotal role in the nutrition and productivity of the plant.²⁸³ The majority of communication within the world occurs through matter not language. The earth is the foundation of that communication hub.

Based on my experience while performing this work, I confirm, that it is as Nancy writes:

In the end, the world is a co-belonging-neither animal, nor machine—of all that resonates with all, like a breath, like the moulting of a snake or a thermonuclear fusion reaction.

It is a spinning, an interminable tangling whose destination is none other than the maelstrom in which the very idea of the world escapes in order to re-emerge, no matter where, by the will of (*au gré de*) the co-belonging without cohesion. Because it is not a skin, this expansion—this expansion of space-time, this upwelling of crystals and gas is far more

²⁸² Jean-Luc Nancy, trans Marie Chabbert, and Nikolaas Deketelaere, "The World's Fragile Skin," *Angelaki* 26, no. 3-4. (2021): 14. <https://doi.org/10.1080/0969725X.2021.1936807>

²⁸³ Shuaimin Chen, Tatoba R. Waghmode, Ruiibo Sun, Eiko E. Kuramae, Chunsheng Hu and Binbin Liu, "Root-associated microbiomes of wheat under the combined effect of plant development and nitrogen fertilization," *Microbiome* 7, no. 136 (2019): 2. <https://doi.org/10.1186/s40168-019-0750-2>

fragile than skins, skins that are always already fragile
because *everything* there touches upon the extremities
(emphasis in original).²⁸⁴

The world is a body we share; this is why humans need to take our response-abilities seriously. The chemical contamination of soils through pesticides and pollution is a very grave matter indeed. We are not just poisoning the world but our multispecies companions and ourselves. Surely if humans don't have the capacity to care for other species, there is still an instinct of self-preservation intact that we can hold onto? I despair at the vanity and vacuity of our capitalist society and following Donna Haraway, aim for "the modest possibilities of partial recuperation and getting on together" rather than spectacular transformations.²⁸⁵

While weeding the wheatfield, I discovered other ways of improvising with and re-positioning bodies that included de-centring my presence within the camera's framing. Carrying the tripod to the field became cumbersome so I stopped bringing it and, as a result, the camera moved closer to the ground to find a steady state, which simultaneously expanded the field of view and allowed other elements to come into focus. The camera recorded the interplay between the light, lens and movement of my hands/body with the plants. The so-called eye of the camera shifted its depth of field and range of focus in response to different elements interacting with each other. The imagery assumed a kind of abstraction that didn't distinguish between the movements of the plant and human. It just recorded its view as part of the world of the ground rather than to survey it from a bird's eye view perspective.

The camera recorded my hands coming increasingly into vivid focus including their role in the destruction of the weeds. Here, the camera prompted my guilty conscience as the agent that decided what was to grow and what was not to grow. The camera also captured the plants at ground level portrayed as "curtains" in a perspective akin to the "proscenium arch," the very approach I was adamantly trying to get away from. This human construct was corrected by simply turning the camera to "look" at the sky. I realised that this perspective offered a Posthuman "field of vision," as it acts like a field. For example, companion species come into view and the (actions within the) scene are not set, scored or rehearsed. This is an improvisation where companion species enter organically, rather than being placed or planted into the frame.

²⁸⁴ Nancy, "The World's Fragile Skin," 15.

²⁸⁵ Haraway, *Staying with the Trouble*, 10.

Plate 2

What does it mean to plant? I planted my body on the ground, but it didn't take root. The seeds did though. And the plant grew, so it's not planted because it moves. Plants are often treated as lesser beings as they are set in one place. The ability to move and communicate are fetishized as qualities of "intelligent" beings. And plants are. Although planted, they grow and perform which are fundamental forms of movement, indicating life.²⁸⁶ Plants collaborate with and hijack other species, such as birds, bees and the wind. They have stealth-perhaps more than humans. Seeds also mime. They mimic other seeds to trick farmers into planting them.²⁸⁷ Additionally plants converse with other species to collaborate with them, bacteria buddies that work at the roots to organise nutrients to nourish them.²⁸⁸ Plants are very agile indeed.

These observations are useful as they remind us that the complexity of interactions which occurs between bodies are not always visible (to the human eye) or even on the same temporal and perceptual scale. Just because I can't see the activities occurring underground; doesn't mean that they are not happening nor any less important. This fetishization of the visual stunts the nuances of human knowledge.

This observation relates to the camera as it acknowledges the (de)limitations of technology. As cameras are designed by humans and an instrument of measurement, documentation etc, these devices are restricted by human agendas, knowledge and perceptual fields, a point I learned first-hand in the wheatfield and intellectually from Barad's critique of how apparatus shape human knowledge systems.²⁸⁹ A good example of this is the late, Nobel Prize winning Professor Luc Montagnier's research into the memory of water. This research is hotly contested because its implications contradict current understandings of science and physics. However, in a 2014 documentary, Montagnier demonstrates that water memory is detectable through signals at

²⁸⁶ Prudence Gibson and Catriona Sandilands, "Introduction. Plant Performance," *Performance Philosophy* 6, no. 2 (2021): 2. <https://doi.org/10.21476/PP2021.62372>

²⁸⁷ Rob Dunn discusses how seeds, especially wheat seeds, have mimicked each other at length in his monograph, *Never Out of Season*. In particular, he suggests that "[s]uch similarity was not a matter of chance; it had evolved in response to the advantages conferred on any crop able to persuade a farmer to unwittingly plant it along with his chosen seeds." Dunn continues: "Any weed that can mimic a crop seed has the potential to get planted by farmers in field after field: natural selection strongly favors good mimics. The first step in such mimicry is often crude-the evolution of a larger seed size (which makes seeds more likely to end up on the right side of the sieve as they are sorted). But such mimicry can also be extreme. The plant false flax (*Camelina Sativa*) has even evolved into two different varieties, one a mimic of the oilseed variety of flax, another of the variety of flax used in making textiles. In some cases, these mimics become, over time, domesticated themselves. The oilseed version of the false flax, for example, is a minor crop. More significantly, rye appears to have originally been a mimic of wheat. It grew among its stems and was only later (and perhaps begrudgingly) domesticated, an insight Vavilov formed on his 1916 expedition." Rob Dunn, *Never Out of Season: How Having the Food We Want When We Want It Threatens Our Food Supply and Our Future*, (New York: Little, Brown and Company, 2017), 285-286.

²⁸⁸ Davide Bulgarelli, Klaus Schlaeppi, Stijn Spaepen, Emiel Ver Loren Van Themaat, and Paul Schulze-Lefert, "Structure and Functions of the Bacterial Microbiota of Plants," *Annual Review of Plant Biology* 64 (2013): 808. <https://doi-org.ezproxy.massey.ac.nz/10.1146/annurev-arplant-050312-120106>

²⁸⁹ Barad, "Posthumanist Performativity," 231.

frequencies like those of audible sound waves (20 - 20,000 Hz).²⁹⁰ Guman knowledge is shaped by pre-existing information and the devices we use to measure and record them. Rather than using vision to understand the structure and capabilities of water, it was by exploring sound that our understanding of this element is enhanced. What happens if we are open to experimenting with different methods of evaluating our encounters with our messmates? How can we re-search other ways of sensing others?²⁹¹ What other ways can we listen to and relate to our companion species?

Spending so much time in close contact with the soil, it found its way into my orifices, my mouth, nose, fingertips and underneath my wounded skin. The smell of the soil was particularly intoxicating. Most bacteria communicate through chemical excretions and smells. Were these microbial bodies communicating with me more as I lay horizontally on the ground? Scientific studies have shown that olfactory processes play a major part in guman's social behaviour, influencing their sexual arousal, memory recall and purchasing behaviour.²⁹² Even more profound is the discovery that microorganisms have been shown to influence decision-making in animals through these olfactory systems.²⁹³ Several scientific studies suggest that our messmates constitute a "microbiota-gut-brain-axis" within guman bodies.²⁹⁴ As such, these bacteria work *via their hosts* to make humans act in certain ways.²⁹⁵ For example, studies into the behaviour of *Drosophila melanogaster* (fruit flies) indicate that bacteria manipulated and modulated their hosts' behaviour by olfactory pathways, attracting them to compounds of *Saccharomyces cerevisiae* and *Lactobacillus plantarum*.²⁹⁶ If microbes can change animals' behaviour, what role do they have in how a human body moves? This questions even the role of human agency within encounters, shattering any pretension that the human body is separate, superior and self-determining.

²⁹⁰ Youtube, "Water Memory (2014 Documentary about Nobel Prize Laureate Luc Montagnier)," last updated January 29, 2016. <https://www.youtube.com/watch?v=R8VyUsVOico>

²⁹¹ How can we visualise other spectrums of experience and materials in different ways? For example, chromatography are images which capture the chemicals/nutrients that soils are composed of. Ehrenfried Pfeiffer's Round Filter Chromatography is a "pictorial method for *portraying* biological processes (emphasis in original)." Chromatography was first developed by Russian botanist Mikhail Tsvet in his publications from 1903-1906 and was reinvigorated by Ehrenfried Pfeiffer in the 1950s. Chromatograms are made with silver nitrate impregnated filter paper. Organic substances, such as soil and compost are mixed with sodium hydroxide and this mixture is poured into a petri dish and drawn up through a wick to the silver nitrate filter paper to create the chromatogram.

Bruno Follador and Ehrenfried Pfeiffer, "Portraying Soils and Compost: Color, Form, and Pattern," *Context* 34 (2015): 7-8. <https://static1.squarespace.com/static/5d41f82684370e0001f5df35/t/5f3bf4f235ad4132c0458a87/1597764862281/Portraying+Soils+and+Compost.pdf>

²⁹² Jake M Robinson and Ross Cameron, "The Holobiont Blindspot: Relating Host-Microbiome Interactions to Cognitive Biases and the Concept of the 'Umwelt,'" *Frontiers in Psychology* 11, (November 2020) 3. <https://doi.org/10.3389/fpsyg.2020.591071>

²⁹³ Robinson and Cameron. "The *Holobiont Blindspot*," 3.

²⁹⁴ Robinson and Cameron. "The *Holobiont Blindspot*," 2.

²⁹⁵ Yong, *I Contain Multitudes*, 54

²⁹⁶ Robinson and Cameron, "The *Holobiont Blindspot*," 3.

In 1991, germinal biologist Lynn Margulis proposed the term holobiont as a recognition of the fact that organisms are hosts to symbionts.²⁹⁷ Gumans are eco-systems not individuals. As I am hosting millions of microbial bodies, were these bacteria communicating to each other and I was just the container, the medium for their exchanges? To return to Margulis, "[b]eneath our superficial differences we are, all of us, walking communities of bacteria. The world shimmers, a pointillist landscape made of tiny, living beings."²⁹⁸ Therefore, should I have presented a selection of scents, rather than this research printed on pages? Would this be a more appropriate, holistic communicative device for this research? At least I would be acknowledging and trying to communicate with the other organisms inside gumans that matter.

²⁹⁷ Jean-Christophe Simon, Julian R. Marchesi, Christophe Mougél and Marc-André Selosse. "Host-Microbiota Interactions: From Holobiont Theory to Analysis." *Microbiome* 7, no. 5 (2019): 1. <https://microbiomejournal.biomedcentral.com/track/pdf/10.1186/s40168-019-0619-4.pdf>

²⁹⁸ Lynn Margulis and Dorion Sagan. *Microcosmos: Four Billion Years of Microbial Evolution*. (Berkeley, New Jersey: University of California Press, 1986), 191 in Robinson and Cameron, "The Holobiont Blindspot," 6.

Plate 3

Lumens are camera-less photographs known as "contact prints" as the image that develops is formed through the contact of the chemicals between the plant, surface and type of paper, intensity of the light, heat and amount of time it is exposed.²⁹⁹ As I weeded the wheatfield, I made lumens of the weeds. I placed the weeds gently onto a piece of light sensitive photographic paper and removed them when I had finished working in the field. They comprise an indexical image created through the contact between bodies, rather than a re-presentation of the plant. They embody the invisible (the chemical and elemental interactions) and fleeting friction that plants have with their environment—how they are weathered. Allowing the materials to remain the subject of the work foregrounded them within the work.

I consider lumens as another example of contact improvisation and collaboration between material and immaterial (humidity, light, temperature) non-guman bodies, in which movement eludes guman vision and the image discounts the guman body. My role here is paradoxically just to "re-plant" (place) the weeds that I have just taken from the ground. These works re-configure conventional relations between camera, actions and bodies as the material (the paper) becomes the "camera,"—the instrument for capturing is made visible, has become unpredictable and prone to randomly failing or succeeding as they are outside of guman control.

Lumens bring us back to the etymological roots of numerous words, particularly photography's "writing with light."³⁰⁰ Photosynthesis is plants feeding on light, however conversely, lumens are paper feeding on plants. Lumens are un-fixed, like photosynthesis they are a process/phenomenon. Whereas photographs are normally developed in a darkroom with photographic chemistry, lumens attest to a lively, non-human relationship as they need to be exposed outside and to sunlight to appear as much as to disappear.

²⁹⁹ Often photographers put glass over their lumen print to intensify the contact between the plant and paper to create a clear, crisp image. I didn't use glass as I wanted to see how the elements, such as wind and rain, affected the resulting image. I didn't want to treat the lumen as a specimen.

³⁰⁰ Mark Smith, "Writing with Light and its Meaning in Photography," *Apogee Photo Magazine*, last updated June 28, 2016. <https://www.apogeephoto.com/photography-writing-with-light/>

Plate 4

The birds harvested the wheat. The human wasn't present and the work wasn't documented. As such this work was a radical re-orientation of relations between body, camera and actions. It was the most important example of Posthuman practice within this PhD research, but it can't be shown or shared. That said, the activities of these companion species were palpable.

I had foolishly believed that I could harvest the wheat when I was ready. It depends on the weather (to ripen and to avoid rot), time and the relationship to companion species. The birds got there first as they knew the wheat was ready. The flock felt it.

I failed. Although I was understandably upset and ashamed that I had spent nine-months working for no wheat; this was a poetically Posthuman ending that firmly put me and my ego in place. My mortification also exposes the paradoxical persistence of wanting to control others, even in a Posthuman project. However, the project was not a failure for the birds; it was a triumph. They were fed with organic, heritage wheat that wasn't adulterated with chemicals. I hope it was tasty, fed their family and helped them fly to the next destination.

I realise that rather than waiting for me to be ready to harvest the wheat, I should have been more sensitive to and aware of climatic conditions. I should have felt the wheat grain for it to tell me when it was ready to be picked.

I also understand why farmers have scarecrows.

Growth—of the wheat, my practice, research and knowledge, is not a linear process that I can regulate, precisely because of the non-human interactions/elements which happen in different tempos and rhythms in relation to others. This is a cyclical, weaving and wandering process that embraces destruction as well as life. To grow the wheat, I weeded out other plant species, killing them. Perhaps it is fitting then (if not fate), that the birds ate my wheat, crushing my ego and causing hunger. Matter too is simultaneously living and dying. Trees and plants can have dead limbs but are still alive. "Dead" plant matter decays and ferments to regenerate, creating heat and compost, new soil which also sustains different companion species: feeding plants, people and animals. Although humans try to separate out states of matter, they are phases which pass through each other. Binaries do not exist in nature, but ecologies are needed to survive and thrive.

Proposing that growing and attending to a wheatfield is a performance is a provocative statement that productively expands our understanding of what a Posthuman performance practice can be. I would never have thought nor envisaged when I started this PhD that I would leave the black box studio for a field and spend nine-months

farming. Although I have improvised for much of my professional career, even this trajectory surprised me. However, it is precisely through this radical re-orientation of my practice that I have gained embodied experiences that can contribute to expanding our understanding of the potential of Posthuman performance practices.

Coming to a closure: A composted conclusion

In this creative-practice-led doctoral research, I have engaged in a series of contact improvisations with yeasts, wheat, flour and dough to explore interrelations between humans and companion species. I created several speculative fabulations that traced the life cycle of this common but invaluable material to consider how my creative performance practice relates to and performs in response to non-human bodies and notions of New Materialism and Posthumanism. I return to the core question which propelled this research: What can practising Posthumanism do? I became curious as to how a creative practice inquiry rooted in Contact Improvisation might search for tangible evidence of those philosophies through engaging directly with a material, sensual and temporal world.

Partnering with dough, collaborating with the camera and working with(-in) the wheatfield simultaneously performs and exemplifies the discoveries I made during this journey. This process helped me to reflect upon and articulate the distinctions and convergences between interactions and intra-actions within performance practices. But what are the response-abilities that emerge through this unearthing? My understanding of performance has been stretched and expanded into new territories and I wish to concisely elaborate here on the ways this research impacts, augments and disrupts this and other fields of knowledge and enquiry. Specifically, I will be considering what I have learnt from experiencing and embodying material interactions/encounters and how this performance practice intersects with New Materialist and Posthuman philosophies.

First and foremost, I acknowledge the irony and seeming futility of trying to neatly conclude a project which is concerned with intra-actions. The complexities of intra-actions are far-reaching, and I am cognisant that a full understanding of matter/bodies is impossible. Being modest about human capabilities is perhaps one of the most important principles that has emerged. Humans cannot know everything, particularly as most intra-actions that matter exist outside of the field of human perception, a paradox that physicists should acknowledge.

However, through this performance-led PhD research, I have tested this restriction by practising other ways to develop a more attentive understanding of our relations to the material world. Rather than deferring to devices to measure, sense and gain a better understanding of the (supposedly) imperceptible, I have gone back to the body. As a performer I was familiar with using my body to communicate to an audience, whereas here I have focused on being-with others. Listening and responding to others through these contact improvisations, my body has been used as an instrument not to distance itself from the world, but to get closer to it. Attuning myself differently through this PhD process has stretched my sense-abilities. It has enacted different methods of perception that are not reliant on vision. I haven't needed to see the yeasts and my microbial

messmates to convincingly collaborate with them. This has been a key discovery, which I had intuited but now is grounded in performance practice.

This conclusion then is, in effect, compost. These reflections have been generated by mixing my performance practice, artworks, and theories from numerous scholars and artists. Fermenting for four years, these materials have been turned regularly, dwelling within, and warming together. This process of (de-)composition has rotted away at many principles that I had previously held dear within performance. However, the very act of being with and among these companion species through this doctoral research has significantly regenerated my practice. I tease out these discoveries in this concluding manifesto, a set of guiding principles for a Posthuman performance practice.

1) Be humble.

Gumans are never superior or entirely separate from non-guman beings. This became evident through recent scientific research that has focused on the importance of the messmates within us. Embracing guman insignificance is vital in helping us heal the artificial, frequently presumed, divide between guman and non-gumans. This observation is also the crux of what is at stake for gumans if they fully embrace Posthuman perspectives. It requires me to relinquish my ego, my ambition to be *the* artist, and to embrace the realisation that our messmates and materials make the work as much as I do. This is unsettling as it debunks the much-coveted myth of the individual "genius" artist, in favour of the intelligence, creativity and unpredictability of non-guman entities. All life is a collaboration, and all beings are creative—although I prefer the term (re-)generative. All bodies are also homes for other beings that pass through them and this impermanence is a positive quality rather than a disadvantage.

2) Embrace non-guman actors within performance practice.

Through this research I have expanded my understanding of performers, actors, collaborators and partners to include non-guman bodies. Enfolding yeasts, flour, dough, wheat, water, light, birds, bugs, the camera and so on into these contact improvisations, has enriched my understanding of bodies. All bodies are seen to be actors and players, expanding the term from an anthropocentric angle to return to the root: action, to act, to move. These are qualities that all bodies—messmates, materials, even movement—have. Expanding definitions and incorporating others into the frame is crucial. Partnering with dough moved me physically as well as philosophically into new grounds and fields of inquiry.

3) Perform with space.

Not only are plants and animals actors, space matters. The space within the contact improvisations mattered as much as the materials. The work created was affected by it. Intuitively throughout my career I have worked using a site-

responsive approach as a guide, whereas here I worked with the space as *another body*. It is an integral part of the "body of work." The soil is a stage. However, more accurately, space and performance occurs in stages. It is not a platform but a phase for other bodies and life. Additionally light is not only useful for illuminating bodies, but also the source of all energy and thus life. Considering space and elements such as light, water and so on as bodies, emphasises the significant fact that we are entangled in an ecology of bodies that are practising together.

4) Collaborate with the camera.

Inviting the camera into the frame and improvisation offers different, surprising and fruitful ways of experiencing the intra-actions between bodies. Collapsing the role of the camera from documenter to collaborator offers a rich, more sensual perspective on the intra-actions between bodies. Rather than being a device to record, the collaboration with a camera allows uncontrived and unconsidered positions to emerge. These unexpected perspectives are a virtue as they offer the possibility to experience and see something unexpected. This unyokes the camera from its anthropocentric design to embrace Posthuman possibilities of co-production with technologies. Tantalisingly, what occurs if this approach is applied to other apparatus? What other sensations, materialisations and realizations would emerge?

5) Perceive things from multiple positions.

Unfortunately, anthropocentric perspectives have trained us to believe and think comparatively rigidly that there is only one "correct" perspective or way of approaching things. Perspectives are situated and shape how we interact with the world. Positions are more apt as they acknowledge that knowledge depends on where you "stand on the matter." "Bodies of knowledge" grow and evolve. Considering these fields from different positions, as a multiplicity, enriches our understanding of the numerous actors at play. Like movement, positions are not stable but made in relation to others.

6) More practice, less composing.

In my previous career, I would conceive, compose and reiterate to "perfect" a work. My performance practice has shifted due to this research toward embracing practice rather than composition. Practice indicates a commitment to trying again, but differently. Embracing transformation rather than seeking similarities is central to this approach. Iterations are there to discover, not to consolidate, reduce, essentialise, predict. Repetition is never the same, which opens a field of possibilities, rather than re-enacting what is already known. This unpredictability is central to what it means to be alive. Considering what things are composed of, and then how they are composed together can be generative in gaining a deeper appreciation of the bodies that surround us.

7) Care.

Contact Improvisation offers the potential for bodies to move and respond of their own accord. This response-ability recognises the complexity of caring for others. The anthropocentric assumption that humans are in control and central to the world is destabilised when caring for other bodies, particularly the recognition of our messmates. Taking response-abilities seriously, requires us to act differently towards humans and our companion species.

8) Fluctuate within duration.

While performances tend to have set timings and durations, this contrasts to how intra-actions work. While they may start each other off in a process, and cascade; when is an action ever really finished? They are continual, although perhaps they are passing the baton so one aspect or another is more prevalent at any one time. However, if conventional performance practices adopt this principle, when would we invite audiences? And do audiences even matter?

9) Perform to non-human audiences.

Why have humans limited our understanding of audiences to other humans? Does considering yeasts, physical forces, plants and animals productively expand our understanding of what an audience is and create response-abilities towards others? I was performing to plants, the sun, the rake etc within the wheatfield. What happens if we consider the audience in theatres as also being the fresnels, the (raked) seating, the curtains, the props and so on?

Does this re-configuration require us to consider more carefully our messages and how we interact with others? In addition, the term audience privileges what we hear. Are there new terminologies needing to be invoked to better capture the multi-sensory ways that we experience actions and performances, inclusive of the diversity of "umwelts"³⁰¹ and the full spectrum of experience? How can we incorporate smells and other senses more fully into performances to communicate with our companion species—our microbes, dogs, plants and so on?

10) Everything is sticky and kneaded together.

Art historian Chris Thompson proposes that for Gilles Deleuze and Félix Guattari, felt was "the nomad art par excellence, an art of the haptic."³⁰² Felt was a useful

³⁰¹ Jakob von Uexküll coined the concept of Umwelt to account for the subjectivity and subjective experience of all species. Von Uexküll argued that "all animals – no matter how simple or complex – had to be understood as subjects and the worlds they lived in as constituted and made meaningful through their specific ways of perceiving and acting upon their worlds, their Umwelt (German, plural Umwel- ten; literally translated: 'surrounding world')."

Sara Asu Schroer, "Jakob von Uexküll: The Concept of Umwelt and its Potentials for an Anthropology Beyond the Human," *Ethnos* 86, no. 1 (2021): 132. <https://doi.org/10.1080/00141844.2019.1606841>

³⁰² Chris Thompson, *Felt: Fluxus, Joseph Beuys, and the Dalai Lama*. (Minneapolis: University of Minnesota Press, 2011), 44. This is Thompson's position of Deleuze and Guattari's relationship to felt in their collaborative book *A Thousand Plateaus*.

material to consider interrelations between bodies as it is an alternative to the model of the network, utilises improvisation and can withstand pressures from different forces. "Felt's anarchic form is not reducible to the regularity of the net, grid, or mesh, and the more it is pulled, tweaked, torn, and agitated, the greater its structural integrity."³⁰³ However I propose that dough is a more fitting embodiment, example and metaphor for material agency, interspecies relations and ecologies. Ecologies are bodies that act and are active together, re-configuring and growing rather than becoming a fixed text(ile)/material.

I have also been musing on Haraway's mantra of "staying with the trouble." Trouble stirs things up, mixes them together and although this agitation is productive (especially in dealing with the precarity of the Anthropocene), I would like to consider the word sticky. When mixing flour and water with hands (and other bodies parts) to make dough, one of the overriding sensations is the stickiness. This is the reason why I related to Barad's "congealing of agency,"³⁰⁴ as the material comes together. The dough clings to bodies. It's stuck. And although it can be washed away, often dough and yeasts are tenacious as they hide in crevices and creases of bodies. I am stuck with other bodies, and they are stuck to/with me. I carry them, they hold onto me or am I holding onto them? Rather than resisting this, what occurs if I embrace being stuck with others and consider more fully how to move with them as an integral part of my body that I don't want to get rid of but enfold further into my life?

11) Re-thinking how we think about other bodies.

Throughout this practice-led research my perception and knowledge of bodies has been challenged. I hope that I have risen to the challenge of being open to these new discoveries and ideas, responding, embracing them, and incorporating them into my practice. A significant shift occurred for me in the realisation that my body was composed of equal rations of human DNA and microbial bodies. Recognising the significance of these bacterial bodies fundamentally challenges human ideas of individuality, self-determinism and even "[t]he way we think about *how* we think may need to be revisited (emphasis in original)."³⁰⁵ As microbial biologist Jake Robinson and plant physiologist Ross Cameron expand upon when discussing *umwelts* and the *Holobiont Blindspot*, humans potentially have a cognitive bias by not fully accounting for the role of the microbiome in human behaviour.

"[T]hinking" is not simply a brain-centric process—microorganisms may play a role in a complex suite of interactions between the brain, body and environment. Indeed, the *Holobiont Blindspot* and the *Umwelt* are also relevant through the

³⁰³ Thompson, *Felt*, abstract.

³⁰⁴ Barad, "Posthumanist Performativity," 232.

³⁰⁵ Robinson and Cameron. "The *Holobiont Blindspot*," 5.

lens of biological individuality. If the *Umwelt* refers to an organism's perceptual world, and the individuality of an organism is in question—particularly given that holobionts can be considered to be individuals and eco-systems simultaneously (Suárez and Stencel, 2020)—then is the *Umwelt* the perceptual world of an organism or an eco-system? The *Holobiont Blindspot* questions the very mechanisms and boundaries of the *Umwelt* and even the notions of free will and determinism (emphasis in original).³⁰⁷

Microbes (bacteria and fungi) inhabit all living beings, materials, the environment and the air that we breathe. As well as being vital to the healthy functioning of most organisms, these microbial bodies are also fundamental to the evolution of species. In her research, the influential biologist Lynn Margulis proposed that the “history of the cell is inextricably tied to the history of the Earth's surface”³⁰⁷ as “evolution is not only the change in gene frequencies in populations of organisms but the change in the Earth's environments as well.”³⁰⁸ These microbial bodies are responsible for macroscopic changes in the atmosphere, as well as making miniscule organisms' function more effectively. The process of symbiosis also subverts popular theories of evolution (such as Darwin's “natural selection”), which emphasises competition amongst species for survival. Instead, symbiosis proposes that evolution has been a matter of co-operation and interdependency.

Even more profoundly, bacteria are instrumental in making the weather work. Ice-nucleation bacteria are the microorganisms that are attributed with affecting weather. These bacteria have evolved to produce raindrops as a mechanism to allow them the freedom to move from the air back down to the earth. This evolution demonstrates the agency, agility, intelligence and significance of these microbial bodies. They are not only mobile but affect the movements of the weather, which in turn dictates human behaviours. For example, I tended to weed the wheatfield when it was warm and stayed at home when it was wet. This research demonstrates the complexity of interactions that occur invisibly to humans. This commensal yet complicated relationship also extends to the environment where bacteria can cause diseases on plants but equally, provides the conditions for growth to occur by provoking precipitation.³⁰⁹

Humans are not important to the survival of companion species. As the Anthropocene is making painfully clear, we are at the centre of causing its demise. Microbial bodies are what matter most.

³⁰⁶ Robinson and Cameron. “*The Holobiont Blindspot*,” 5.

³⁰⁷ Lynn Margulis, *Symbiosis in Cell Evolution. Life and its Environment on the Early Earth*, (San Francisco, California: W. H Freeman and Company, 1981), xviii.

³⁰⁸ Margulis, *Symbiosis in Cell Evolution*, xviii.

³⁰⁹ Tom Ireland, “Radical Ideas. Bacteria Controls the Weather,” *BBC Science Focus*, accessed July 10 2022. <https://www.sciencefocus.com/planet-earth/bacteria-controls-the-weather/>

This PhD research project—and the guiding principles that have emerged from it—considers how performance can be catalysed by New Materialist and Posthuman philosophies and equally how these positions and theories can grow through being practiced with and through performance. One of the main tensions that has permeated my doctoral research is how performance and academia—predominantly anthropocentric disciplines—can both embrace the Posthuman promise by de-centring the significance and visibility of the human body. How can hierarchical relations between humans and companion species become de-stabilised? This hierarchical predicament is easier to resolve in words than practice and this is precisely where my doctoral research can contribute to advancing practical possibilities.

Committed to practicing different ways of tackling this conundrum, I have tried, failed, tried again (and again) and uncovered potential pathways. Resisting the allure of a finished, final piece of artwork that would imply resolution, I am staying with the troubles of these new pathways. When I catch myself in the act of composing and re-composing, I take a detour in de-composition, in composting, in re-composing together with companion species.

I seek to invite other bodies, human and non-human to unravel my positions as a form of practicing and researching Posthuman performance. Rosi Braidotti calls for new figurations for Posthuman theory and practice, where a "figuration is the expression of alternative representations of the subject as a dynamic non-unitary entity; it is the dramatization of process of becoming."³¹⁰ While Braidotti proposes "zigzagging" for the "next building block of posthuman critical theory, namely non-linearity,"³¹¹ I have explored kneading as an alternative zigzagging figuration. Braidotti claims that "de-familiarization shifts the relationship to the nonhuman others and requires dis-identification from century-old habits of anthropocentric thought and humanist arrogance."³¹²

I agree with her suggestion, hence I have sought to relate anew to our companion species in a familiar material, the messmates in our daily bread. This is an expansive approach to becoming through contact with yeasts, flour, water, dough and wheat, to embracing all of their bodies. Considering all things as bodies that we are touching, contacting and improvising together with can potentially re-configure our relations and response-abilities to other bodies. In this research, it has worked out that everything is performative and all bodies are performers.

³¹⁰ Braidotti, *The Posthuman*, 164.

³¹¹ Braidotti, *The Posthuman*, 164.

³¹² Braidotti, *The Posthuman*, 168.

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Appendix

Empty Shelves (Panic buying during a pandemic)	153
Lockdown Loaves	171
Contract	191
Lumens	201



Coles, Ballina, NSW, Australia. 23/04/2020 (Photo: Tanya Collyer)



Gaia's parent's local store near Florence, 6/04/2020 (Photo: Gaia)



Coles, Ballina, NSW, Australia. 7/04/2020 (Photo: Tanya Collyer)



Top: Pac N Save, Wellington 13/4/2020 (Photo: Maria)
Below: Countdown, Newtown, Wellington. 9/04/2020 (Photo: Malcolm Doige)



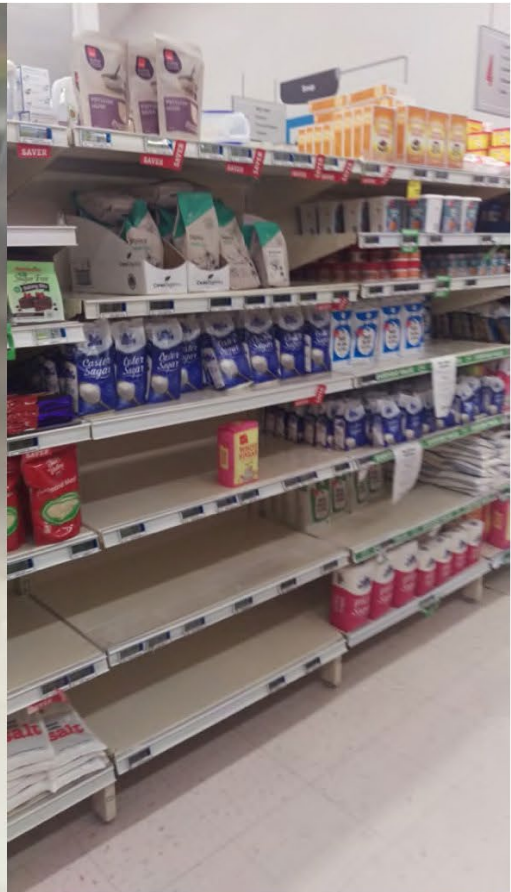
Top: Countdown, Kilbirnie, 18/04/2020 (Photo: Stuart Foster)
Bottom: Left: Countdown, Karori, 5/04/2020 (Photo: Matthijs Siljee)
Right: Countdown, Broadway 9/4/20 (Photo: Barbara Postema)



Countdown, Kilbirnie, 18/04/2020 (Photo: Stuart Foster)

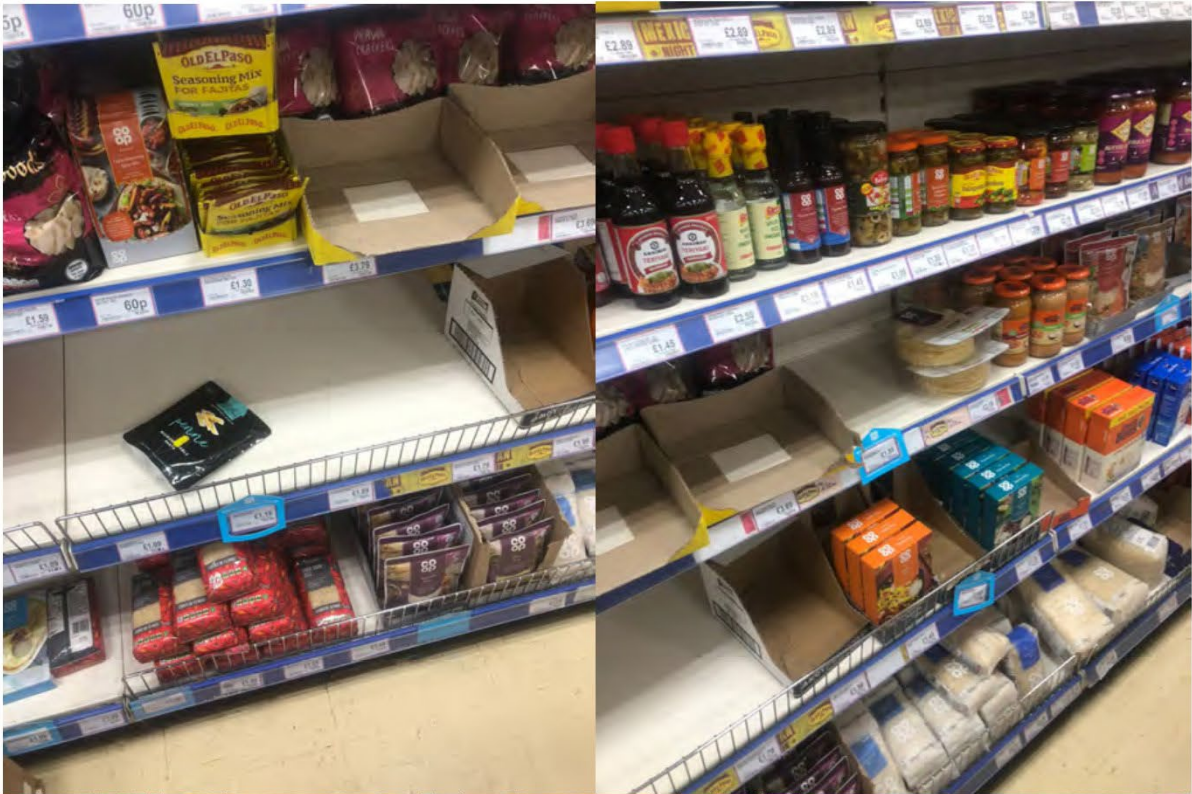


Coles, Eastgate shopping centre, Bondi Junction, Sydney, Australia. 23/04/2020
(Photo: Kathryn Hardy Bernal)



Top: Left: Waitrose, St John Street, London. 13/4/2020 (Photo: Alex Stone)
 Right: New World, Island Bay, Wellington. 9/04/2020, 7.30am (Photo: Magda Karasinska)

Bottom: Sainsburys, London. 28/04/2020 (Photo: Katy Turner)



Top: Tesco, London Docks, London 10/04/2020 (Photo: Clive Lyttle)
Bottom: Aldi, Stretham, London 27/04/2020 (Photo: Scott Schiavone)



Top: Lidl's, Near Brighton, 27/04/2020 (Photo: Liselle Terret)
 Bottom: Gaia's parent's local store near Florence, 6/04/2020 (Photo: Gaia)



Top: Lidl's, Near Brighton, 27/04/2020 (Photo: Liselle Terret)
Bottom: Co-op, West Norwood, London. 13/4/2020 (Photo: Alex Stone)



Portugal, 5/04/2020 (Photo: Sal Cureton)



Top: Lidl's, Near Brighton, 27/04/2020 (Photo: Liselle Terret)



Aldi, Eastgate shopping centre, Bondi Junction, Sydney, Australia. 23/04/2020
(Photo: Kathryn Hardy Bernal)



Berlin. 24/4/2020 (Photo: Yuka Oyama)



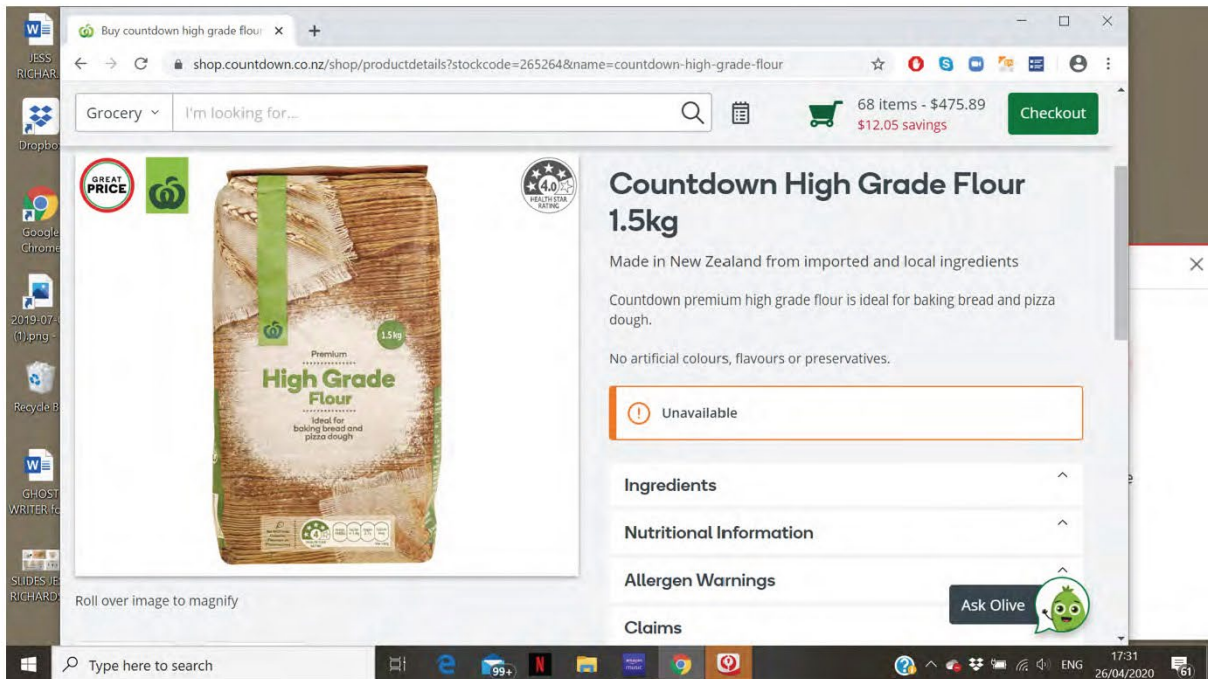
Pac N Save, 23/04/2020 (Photo: Julia Raynor and Mark Rainier)



Jade Bakery, East Dulwich, London. 12/4/2020 (Photo: Alex Stone)



New World Flour, 18/04/2020 (Photo: Polly Griffiths)



Top: Countdown, online 26/04/20 (Photo: Jess Richards)
My brother's food box (Provisions for those considered vulnerable by the NHS)

LOCKDOWN LOAVES

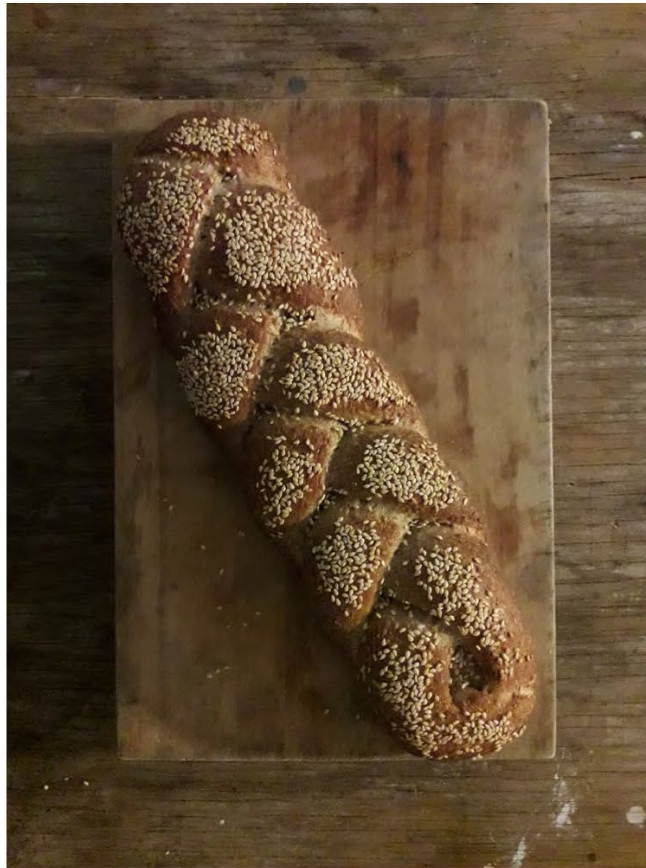




Day 2: 27/03/2020 Hot Cross Bun Bread and Butter Pudding
Day 3: 28/3/2020 My first loaf



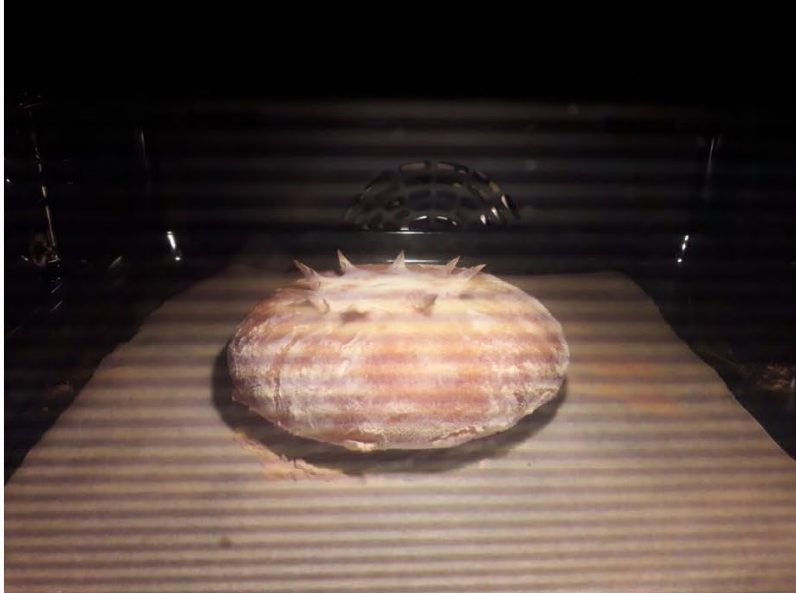
Day 6: 31/3/2020 (My birthday) Olive and Caper Focaccia
Day 7: 1/4/2020 Spelt Bread

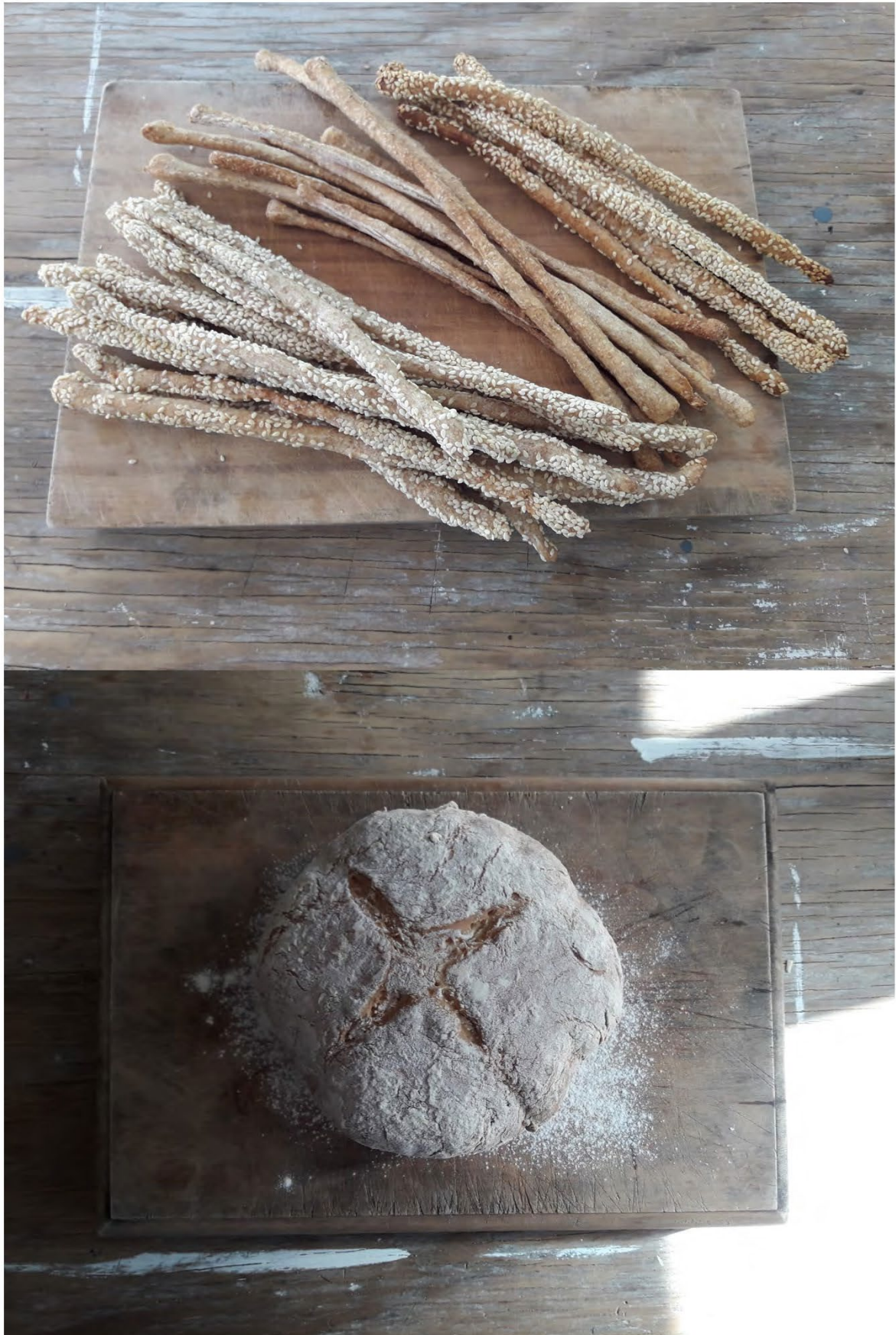


Day 8: 2/4/2020 Whole meal sesame plait
Day 9: 3/4/2020 Pane De Mais (Polenta bread)



Day 11: 5/4/2020 Sourdough bread





Day 11: 5/4/2020 Sourdough whole meal sesame grissini
Day 13: 7/4/2020 Soda Bread 1



Day 12: 6/4/2020 Banana Bread



Day 16: 10/4/2020 Soda Bread 2

Day 18: 12/4/2020 (Easter Sunday) Mannaneesh



Day 18: 12/4/2020 (Easter Sunday) Tsoureki
Day 20: 14/4/2020 Cheese and Onion Bread



Day 22: 16/4/2020 Welsh Cakes



Day 23: 17/4/2020 Doris's 24 hour sourdough recipe Bread
Top: Oat and sesame sourdough Bottom: half white and half whole-meal



Day 23: 17/4/2020 Rosemary and rock salt sourdough crackers



Day 25: 19/4/2020 Sesame burger buns/white baps

Day 27: 21/4/2020 Carrot cake muffins



Day 28: 22/4/2020 Ciabatta, one plain, one rosemary
Day 30: 24/4/2020 Pita Breads



Day 31: 25/4/2020 Armenian Flatbreads



Day 31: 25/4/2020 Dutch Gingerbread



Day 32: 26/4/2020 Moulded Cocklebread



Day 32: 26/4/2020 Cocklebread (after resting)



Day 32: 26/4/2020 Eating Cocklebread

STANDARD MATERIAL TRANSFER AGREEMENT*

PREAMBLE

WHEREAS

The International Treaty on Plant Genetic Resources for Food and Agriculture (hereinafter referred to as “the **Treaty**”)¹ was adopted by the Thirty-first session of the FAO Conference on 3 November 2001 and entered into force on 29 June 2004;

The objectives of the **Treaty** are the conservation and sustainable use of **Plant Genetic Resources for Food and Agriculture** and the fair and equitable sharing of the benefits arising out of their use, in harmony with the Convention on Biological Diversity, for sustainable agriculture and food security;

The Contracting Parties to the **Treaty**, in the exercise of their sovereign rights over their **Plant Genetic Resources for Food and Agriculture**, have established a **Multilateral System** both to facilitate access to **Plant Genetic Resources for Food and Agriculture** and to share, in a fair and equitable way, the benefits arising from the utilization of these resources, on a complementary and mutually reinforcing basis;

Articles 4, 11, 12.4 and 12.5 of the **Treaty** are borne in mind;

The diversity of the legal systems of the Contracting Parties with respect to their national procedural rules governing access to courts and to arbitration, and the obligations arising from international and regional conventions applicable to these procedural rules, are recognized;

Article 12.4 of the **Treaty** provides that facilitated access under the **Multilateral System** shall be provided pursuant to a Standard Material Transfer Agreement, and the **Governing Body** of the **Treaty**, in its Resolution 1/2006 of 16 June 2006, adopted the Standard Material Transfer Agreement.

¹ *Note by the Secretariat*: as suggested by the Legal Working Group during the Contact Group for the Drafting of the Standard Material Transfer Agreement, defined terms have, for clarity, been put in bold throughout.

* In the event that the SMTA is used for the transfer of Plant Genetic Resources for Food and Agriculture other than those listed in *Annex I* of the Treaty:

The references in the SMTA to the "Multilateral System" shall not be interpreted as limiting the application of the SMTA to *Annex I* Plant Genetic Resources for Food and Agriculture, and in the case of Article 6.2 of the SMTA shall mean "under this Agreement";

The reference in Article 6.11 and Annex 3 of the SMTA to "Plant Genetic Resources for Food and Agriculture belonging to the same crop, as set out in *Annex I* to the Treaty" shall be taken to mean "Plant Genetic Resources for Food and Agriculture belonging to the same crop".

ARTICLE 1 — PARTIES TO THE AGREEMENT

1.1 The present Material Transfer Agreement (hereinafter referred to as “**this Agreement**”) is the Standard Material Transfer Agreement referred to in Article 12.4 of the **Treaty**.

1.2 **This Agreement** is:

BETWEEN: Heritage Food Crops Research Trust, of Whanganui, New Zealand (hereinafter referred to as “the **Provider**”),

AND: Madaleine Trigg, of Wellington, New Zealand (hereinafter referred to as “the **Recipient**”).

1.3 The parties to **this Agreement** hereby agree as follows:

ARTICLE 2 — DEFINITIONS

In **this Agreement** the expressions set out below shall have the following meaning:

“*Available without restriction*”: a **Product** is considered to be available without restriction to others for further research and breeding when it is available for research and breeding without any legal or contractual obligations, or technological restrictions, that would preclude using it in the manner specified in the **Treaty**.

“*Genetic material*” means any material of plant origin, including reproductive and vegetative propagating material, containing functional units of heredity.

“*Governing Body*” means the **Governing Body** of the **Treaty**.

“*Multilateral System*” means the **Multilateral System** established under Article 10.2 of the **Treaty**.

“*Plant Genetic Resources for Food and Agriculture*” means any **genetic material** of plant origin of actual or potential value for food and agriculture.

“*Plant Genetic Resources for Food and Agriculture under Development*” means material derived from the **Material**, and hence distinct from it, that is not yet ready for **commercialization** and which the developer intends to further develop or to transfer to another person or entity for further development. The period of development for the **Plant Genetic Resources for Food and Agriculture under Development** shall be deemed to have ceased when those resources are **commercialized** as a **Product**.

“*Product*” means **Plant Genetic Resources for Food and Agriculture** that incorporate² the **Material** or any of its genetic parts or components that are ready for **commercialization**, excluding commodities and other products used for food, feed and processing.

“*Sales*” means the gross income resulting from the **commercialization** of a **Product** or **Products**, by the **Recipient**, its affiliates, contractors, licensees and lessees.

² As evidenced, for example, by pedigree or notation of gene insertion.

“*To commercialize*” means to sell a **Product** or **Products** for monetary consideration on the open market, and “**commercialization**” has a corresponding meaning. **Commercialization** shall not include any form of transfer of **Plant Genetic Resources for Food and Agriculture under Development**.

ARTICLE 3 — SUBJECT MATTER OF THE MATERIAL TRANSFER AGREEMENT

The **Plant Genetic Resources for Food and Agriculture** specified in *Annex 1* to **this Agreement** (hereinafter referred to as the “**Material**”) and the available related information referred to in Article 5b and in *Annex 1* are hereby transferred from the **Provider** to the **Recipient** subject to the terms and conditions set out in **this Agreement**.

ARTICLE 4 — GENERAL PROVISIONS

4.1 **This Agreement** is entered into within the framework of the **Multilateral System** and shall be implemented and interpreted in accordance with the objectives and provisions of the **Treaty**.

4.2 The parties recognize that they are subject to the applicable legal measures and procedures, that have been adopted by the Contracting Parties to the **Treaty**, in conformity with the **Treaty**, in particular those taken in conformity with Articles 4, 12.2 and 12.5 of the **Treaty**.³

4.3 The parties to **this Agreement** agree that (*the entity designated by the **Governing Body***),⁴ acting on behalf of the **Governing Body** of the **Treaty** and its **Multilateral System**, is the third party beneficiary under **this Agreement**.

4.4 The third party beneficiary has the right to request the appropriate information as required in Articles 5e, 6.5c, 8.3 and *Annex, 2 paragraph 3*, to **this Agreement**.

4.5 The rights granted to the (*the entity designated by the **Governing Body***) above do not prevent the **Provider** and the **Recipient** from exercising their rights under **this Agreement**.

ARTICLE 5 — RIGHTS AND OBLIGATIONS OF THE PROVIDER

The **Provider** undertakes that the **Material** is transferred in accordance with the following provisions of the **Treaty**:

- a) Access shall be accorded expeditiously, without the need to track individual accessions and free of charge, or, when a fee is charged, it shall not exceed the minimal cost involved;
- b) All available passport data and, subject to applicable law, any other associated available non-confidential descriptive information, shall be made available with the **Plant Genetic Resources for Food and Agriculture** provided;

³ In the case of the International Agricultural Research Centres of the Consultative Group on International Agricultural Research (CGIAR) and other international institutions, the Agreement between the Governing Body and the CGIAR Centres and other relevant institutions will be applicable.

⁴ *Note by the Secretariat*: by Resolution 2/2006, the Governing Body “invite[d] the Food and Agriculture Organization of the United Nations, as the Third Party Beneficiary, to carry out the roles and responsibilities as identified and prescribed in the Standard Material Transfer Agreement, under the direction of the Governing Body, in accordance with the procedures to be established by the Governing Body at its next session”. Upon acceptance by the FAO of this invitation, the term, “the entity designated by the Governing Body”, will be replaced throughout the document by the term, “the Food and Agriculture Organization of the United Nations”.

- c) Access to **Plant Genetic Resources for Food and Agriculture under Development**, including material being developed by farmers, shall be at the discretion of its developer, during the period of its development;
- d) Access to **Plant Genetic Resources for Food and Agriculture** protected by intellectual and other property rights shall be consistent with relevant international agreements, and with relevant national laws;
- e) The **Provider** shall periodically inform the **Governing Body** about the Material Transfer Agreements entered into, according to a schedule to be established by the **Governing Body**. This information shall be made available by the **Governing Body** to the third party beneficiary.⁵

ARTICLE 6 — RIGHTS AND OBLIGATIONS OF THE RECIPIENT

6.1 The **Recipient** undertakes that the **Material** shall be used or conserved only for the purposes of research, breeding and training for food and agriculture. Such purposes shall not include chemical, pharmaceutical and/or other non-food/feed industrial uses.

6.2 The **Recipient** shall not claim any intellectual property or other rights that limit the facilitated access to the **Material** provided under **this Agreement**, or its genetic parts or components, in the form received from the **Multilateral System**.

6.3 In the case that the **Recipient** conserves the **Material** supplied, the **Recipient** shall make the **Material**, and the related information referred to in Article 5b, available to the **Multilateral System** using the Standard Material Transfer Agreement.

6.4 In the case that the **Recipient** transfers the **Material** supplied under **this Agreement** to another person or entity (hereinafter referred to as “the **subsequent recipient**”), the **Recipient** shall

- a) do so under the terms and conditions of the Standard Material Transfer Agreement, through a new material transfer agreement; and
- b) notify the **Governing Body**, in accordance with Article 5e.

On compliance with the above, the **Recipient** shall have no further obligations regarding the actions of the **subsequent recipient**.

6.5 In the case that the **Recipient** transfers a **Plant Genetic Resource for Food and Agriculture under Development** to another person or entity, the **Recipient** shall:

- a) do so under the terms and conditions of the Standard Material Transfer Agreement, through a new material transfer agreement, provided that Article 5a of the Standard Material Transfer Agreement shall not apply;

⁵ *Note by the Secretariat:* The Standard Material Transfer Agreement makes provision for information to be provided to the **Governing Body**, in the following Articles: 5e, 6.4b, 6.5c and 6.11h, as well as in *Annex 2*, paragraph 3, *Annex 3*, paragraph 4, and in *Annex 4*. Such information should be submitted to:

The Secretary
 International Treaty on Plant Genetic Resources for Food and Agriculture
 Food and Agriculture Organization of the United Nations
 I-00100 Rome, Italy

- b) identify, in *Annex 1* to the new material transfer agreement, the **Material** received from the **Multilateral System**, and specify that the **Plant Genetic Resources for Food and Agriculture under Development** being transferred are derived from the **Material**;
- c) notify the **Governing Body**, in accordance with Article 5e; and
- d) have no further obligations regarding the actions of any **subsequent recipient**.

6.6 Entering into a material transfer agreement under paragraph 6.5 shall be without prejudice to the right of the parties to attach additional conditions, relating to further product development, including, as appropriate, the payment of monetary consideration.

6.7 In the case that the **Recipient commercializes a Product** that is a **Plant Genetic Resource for Food and Agriculture** and that incorporates **Material** as referred to in Article 3 of **this Agreement**, and where such **Product** is not **available without restriction** to others for further research and breeding, the **Recipient** shall pay a fixed percentage of the **Sales** of the **commercialized Product** into the mechanism established by the **Governing Body** for this purpose, in accordance with *Annex 2* to **this Agreement**.

6.8 In the case that the **Recipient commercializes a Product** that is a **Plant Genetic Resource for Food and Agriculture** and that incorporates **Material** as referred to in Article 3 of **this Agreement** and where that **Product** is **available without restriction** to others for further research and breeding, the **Recipient** is encouraged to make voluntary payments into the mechanism established by the **Governing Body** for this purpose in accordance with *Annex 2* to **this Agreement**.

6.9 The **Recipient** shall make available to the **Multilateral System**, through the information system provided for in Article 17 of the **Treaty**, all non-confidential information that results from research and development carried out on the **Material**, and is encouraged to share through the **Multilateral System** non-monetary benefits expressly identified in Article 13.2 of the **Treaty** that result from such research and development. After the expiry or abandonment of the protection period of an intellectual property right on a **Product** that incorporates the **Material**, the **Recipient** is encouraged to place a sample of this **Product** into a collection that is part of the **Multilateral System**, for research and breeding.

6.10 A **Recipient** who obtains intellectual property rights on any **Products** developed from the **Material** or its components, obtained from the **Multilateral System**, and assigns such intellectual property rights to a third party, shall transfer the benefit-sharing obligations of **this Agreement** to that third party.

6.11 The **Recipient** may opt as per *Annex 4*, as an alternative to payments under Article 6.7, for the following system of payments:

- a) The **Recipient** shall make payments at a discounted rate during the period of validity of the option;
- b) The period of validity of the option shall be ten years renewable in accordance with *Annex 3* to **this Agreement**;
- c) The payments shall be based on the **Sales** of any **Products** and of the sales of any other products that are **Plant Genetic Resources for Food and Agriculture** belonging to the same crop, as set out in *Annex 1* to the **Treaty**, to which the **Material** referred to in *Annex 1* to **this Agreement** belongs;
- d) The payments to be made are independent of whether or not the **Product** is **available without restriction**;

- e) The rates of payment and other terms and conditions applicable to this option, including the discounted rates are set out in *Annex 3* to **this Agreement**;
- f) The **Recipient** shall be relieved of any obligation to make payments under Article 6.7 of **this Agreement** or any previous or subsequent Standard Material Transfer Agreements entered into in respect of the same crop;
- g) After the end of the period of validity of this option the **Recipient** shall make payments on any **Products** that incorporate **Material** received during the period in which this Article was in force, and where such **Products** are not **available without restriction**. These payments will be calculated at the same rate as in paragraph (a) above;
- h) The **Recipient** shall notify the **Governing Body** that he has opted for this modality of payment. If no notification is provided the alternative modality of payment specified in Article 6.7 will apply.

ARTICLE 7 — APPLICABLE LAW

The applicable law shall be General Principles of Law, including the UNIDROIT Principles of International Commercial Contracts 2004, the objectives and the relevant provisions of the **Treaty**, and, when necessary for interpretation, the decisions of the **Governing Body**.

ARTICLE 8 — DISPUTE SETTLEMENT

8.1 Dispute settlement may be initiated by the **Provider** or the **Recipient** or the (*the entity designated by the **Governing Body***), acting on behalf of the **Governing Body** of the **Treaty** and its **Multilateral System**.

8.2 The parties to **this Agreement** agree that the (*the entity designated by the **Governing Body***), representing the **Governing Body** and the **Multilateral System**, has the right, as a third party beneficiary, to initiate dispute settlement procedures regarding rights and obligations of the **Provider** and the **Recipient** under **this Agreement**.

8.3 The third party beneficiary has the right to request that the appropriate information, including samples as necessary, be made available by the **Provider** and the **Recipient**, regarding their obligations in the context of **this Agreement**. Any information or samples so requested shall be provided by the **Provider** and the **Recipient**, as the case may be.

8.4 Any dispute arising from **this Agreement** shall be resolved in the following manner:

- a) Amicable dispute settlement: The parties shall attempt in good faith to resolve the dispute by negotiation.
- b) Mediation: If the dispute is not resolved by negotiation, the parties may choose mediation through a neutral third party mediator, to be mutually agreed.
- c) Arbitration: If the dispute has not been settled by negotiation or mediation, any party may submit the dispute for arbitration under the Arbitration Rules of an international body as agreed by the parties to the dispute. Failing such agreement, the dispute shall be finally settled under the Rules of Arbitration of the International Chamber of Commerce, by one or more arbitrators appointed in accordance with the said Rules. Either party to the dispute may, if it so chooses, appoint its arbitrator from such list of experts as the **Governing Body** may establish

for this purpose; both parties, or the arbitrators appointed by them, may agree to appoint a sole arbitrator, or presiding arbitrator as the case may be, from such list of experts. The result of such arbitration shall be binding.

ARTICLE 9 — ADDITIONAL ITEMS

Warranty

9.1 The **Provider** makes no warranties as to the safety of or title to the **Material**, nor as to the accuracy or correctness of any passport or other data provided with the **Material**. Neither does it make any warranties as to the quality, viability, or purity (genetic or mechanical) of the **Material** being furnished. The phytosanitary condition of the **Material** is warranted only as described in any attached phytosanitary certificate. The **Recipient** assumes full responsibility for complying with the recipient nation's quarantine and biosafety regulations and rules as to import or release of **genetic material**.


Duration of Agreement

9.2 This Agreement shall remain in force so long as the **Treaty** remains in force.

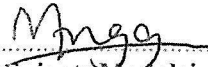
ARTICLE 10 — SIGNATURE/ACCEPTANCE

The **Provider** and the **Recipient** may choose the method of acceptance unless either party requires **this Agreement** to be signed.

I, Mark Elliot Christensen, represent and warrant that I have the authority to execute **this Agreement** on behalf of the **Provider** and acknowledge my institution's responsibility and obligation to abide by the provisions of **this Agreement**, both by letter and in principle, in order to promote the conservation and sustainable use of **Plant Genetic Resources for Food and Agriculture**.

Signature..... ..... Date..... 5th November 2020.....
Name of the **Provider**: Heritage Food Crops Research Trust

I, Madaleine Trigg, represent and warrant that I have the authority to execute **this Agreement** on behalf of the **Recipient** and acknowledge my institution's responsibility and obligation to abide by the provisions of **this Agreement**, both by letter and in principle, in order to promote the conservation and sustainable use of **Plant Genetic Resources for Food and Agriculture**.

Signature..... ..... Date..... 5th November 2020.....
Name of the **Recipient**: Madaleine Trigg

Annex 1

LIST OF MATERIALS PROVIDED

This *Annex* contains a list of the **Material** provided under **this Agreement**, including the associated information referred to in Article 5b.

This information is either provided below or can be obtained at the following website: (*URL*).

The following information is included for each **Material** listed: all available passport data and, subject to applicable law, any other associated, available, non-confidential descriptive information.

Materials that are Plant Genetic Resources for Food and Agriculture under Development and that are derived from and distinct from germplasm that is included within the multilateral system, are identified here in accordance with article 6.5(b) by identifying the ancestral MLS germplasm used in their development to date. These **Materials** are being transferred under the provisions of article 6.5. **Materials** with no identified ancestral MLS germplasm are included

within the multilateral system and are being transferred without invoking article 6.5.

Line Entry	Accession Number	Primary Accession Name	Taxonomy
1	AGG708WHEA1	New Zealand Velvet	Triticum aestivum
2	AGG3955WHEA1	Australian Talavera	Triticum aestivum
3	AGG3466WHEA1	Turvey	Triticum aestivum
4	AGG1658WHEA1	White Lammas	Triticum aestivum

RATE AND MODALITIES OF PAYMENT UNDER ARTICLE 6.7 OF THIS AGREEMENT

1. If a **Recipient**, its affiliates, contractors, licensees, and lessees, **commercializes a Product or Products**, then the **Recipient** shall pay one point-one percent (1.1 %) of the **Sales** of the **Product or Products** less thirty percent (30%); except that no payment shall be due on any **Product or Products** that:

(a) are **available without restriction** to others for further research and breeding in accordance with Article 2 of **this Agreement**;

(b) have been purchased or otherwise obtained from another person or entity who either has already made payment on the **Product or Products** or is exempt from the obligation to make payment pursuant to subparagraph (a) above;

(c) are sold or traded as a commodity.

2. Where a **Product** contains a **Plant Genetic Resource for Food and Agriculture** accessed from the **Multilateral System** under two or more material transfer agreements based on the Standard Material Transfer Agreement only one payment shall be required under paragraph 1 above.

3. The **Recipient** shall submit to the **Governing Body**, within sixty (60) days after each calendar year ending December 31st, an annual report setting forth:

(a) the **Sales** of the **Product or Products** by the **Recipient**, its affiliates, contractors, licensees and lessees, for the twelve (12) month period ending on December 31st;

(b) the amount of the payment due; and

(c) information that allows for the identification of any restrictions that have given rise to the benefit-sharing payment.

4. Payment shall be due and payable upon submission of each annual report. All payments due to the **Governing Body** shall be payable in (*specified currency*)⁶ for the account of (*the Trust Account or other mechanism established by the Governing Body in accordance with Article 19.3f of the Treaty*).⁷

⁶ *Note by the Secretariat:* The Governing Body has not yet considered the question of currency of payment. Until it does so, Standard Material Transfer Agreements should specify United States dollars (US\$).

⁷ *Note by the Secretariat:* This is the Trust Account provided for in Article 6.3 of the Financial Rules, as approved by the Governing Body (*Appendix E* to this Report). The details of the Trust Account when established, will be introduced here, and communicated to Contract Parties.

**TERMS AND CONDITIONS OF THE ALTERNATIVE PAYMENTS SCHEME
UNDER ARTICLE 6.11 OF THIS AGREEMENT**

1. The discounted rate for payments made under Article 6.11 shall be zero point five percent (0.5 %) of the **Sales** of any **Products** and of the sales of any other products that are **Plant Genetic Resources for Food and Agriculture** belonging to the same crop, as set out in Annex 1 to the **Treaty**, to which the **Material** referred to in *Annex 1* to **this Agreement** belong.
2. Payment shall be made in accordance with the banking instructions set out in paragraph 4 of *Annex 2* to **this Agreement**.
3. When the **Recipient** transfers **Plant Genetic Resources for Food and Agriculture under Development**, the transfer shall be made on the condition that the **subsequent recipient** shall pay into the mechanism established by the **Governing Body** under Article 19.3f of the **Treaty** zero point five percent (0.5 %) of the **Sales** of any **Product** derived from such **Plant Genetic Resources for Food and Agriculture under Development**, whether the **Product** is **available or not without restriction**.
4. At least six months before the expiry of a period of ten years counted from the date of signature of **this Agreement** and, thereafter, six months before the expiry of subsequent periods of five years, the **Recipient** may notify the **Governing Body** of his decision to opt out from the application of this Article as of the end of any of those periods. In the case the **Recipient** has entered into other Standard Material Transfer Agreements, the ten years period will commence on the date of signature of the first Standard Material Transfer Agreement where an option for this Article has been made.
5. Where the **Recipient** has entered or enters in the future into other Standard Material Transfer Agreements in relation to material belonging to the same crop[s], the **Recipient** shall only pay into the referred mechanism the percentage of sales as determined in accordance with this Article or the same Article of any other Standard Material Transfer Agreement. No cumulative payments will be required.

