

DISCUSSION WITH THREE JACKETS: MAKING A MATERIAL ECOLOGY

THEME/S: DESIGN AND APPROACHES FOR
SUSTAINABILITY; DESIGN AND ITS WILD CARDS

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ABSTRACT

It is common today for objects and the materials of their making to be swiftly obtained and then inattentively divested, with little regard for the part that they play within living ecologies of artifice. As expressed by Anne-Marie Willis when ruminating over our ontological change imparted via design, “we no longer know how to dwell among things” (Willis 2006, under ‘From Worlding to Thinging’) Through a series of experiments that anthropomorphise and open discussions with materials, connections are cultivated that are not usual within our everyday experiences of our material world. These material conversations are founded within the creative acts of making with particular materials. Matter is personalised, given a persona and is found to possess distinct personality, telling of the life it has had and the potential life it might still lead. This attentiveness to materials and objects offers insight regarding the part they play in both sharing and making our designed ecologies, in turn heightening our regard for the potential of this material matter. An expanded approach towards sustainability is proposed that considers the life of materials, as being worthy of being sustained.

INTRODUCTION

Sustainable design, particularly in relation to fashion and clothing, has largely focussed on the standard types,

styles and genres of products that we are accustomed to having, and merely producing them more efficiently and ‘greenly’. Meanwhile, massive amounts of objects and materials are still being quickly obtained and divested, whether they are deemed as ‘sustainable’ or not, highlighting the lack of real material engagement within such ‘consumption’ practices. Creative research in the field, such as Kate Fletcher’s *Local Wisdom* project (Fletcher 2011, 2012), reflect this problem and aims to engage with the deep material connections that belie the common trend within the realm of usership.

In the footfalls of such work, I have generated research from within my small, emergent, artisanal practice that explores similar aspects of using, in relation to the life that materials lead through living with us. Additionally, I consider acts of design and *making with* these materials as part of their lives, a construct I have come to acknowledge and understand through the development of discussions with certain materials and objects.

A Green Jacket voices an opinion in a three-way conversation, a negotiation that decides its fate. Letters are written to an old and once cherished Red Jacket, helping to reignite the connection with this object and value the material it is made from in ways that I never did before. Probing questions break the ice with an unknown Biker Jacket, smoothing the way for more intensive talk to come.

What can be learnt by *talking* to materials? What insights might be afforded to expand our practices of dwelling among things, and to extend the sustainable design discourse?

SUSTAINING MATERIAL MISUSE

Commonplace ‘sustainable’ design trajectories are dominated by eco-efficiencies, recycling and the scrutiny of embedded energy and its impacts (i.e. LCA — Life Cycle Analysis), with little real world consideration of what is actually being sustained through the continuation of these design practices. While it is recognised that eco-improvements of current

ways are of importance, inherently bad systems often continue under the guise of being sustainable whilst merely being only less bad, calling into question what is truly being sustained. Design futures philosopher Tony Fry would critically answer “the excesses of the present”, which under the veil of “the guiding forces of the status quo continue to sacrifice the future” (Fry 2009, p. 2). The focus on a suite of ‘eco’ approaches can result in savings, but are easily overturned if the result, as noted by Fry back in 1994, is an increasingly “rapid metabolism by which to consume the earth’s resources” (Fry 1994, p. 16). This focus is at its worst, if, as elucidated by Fry a further fifteen years later, it fuels money-makers towards “finding a way to maintain ‘business as usual’” (Fry 2009, p. 243).

Alternatives to this rapid metabolism of materials within the products that we easily procure and divest were present in the past, as shown throughout Strasser’s (2000) history of waste management, where conditions of material scarcity once engendered profound materiality. Practices of product stewardship, encompassing sorting, repair and adaptation, were employed in both professional and domestic domains to organise and utilise materials as resources. These systems were environmentally sound, localised and relevant to, whilst maintaining the cyclical ecology of their place; however they were also of their time and coupled with hardship and poverty. When these former practices of thrift were being displaced by modern, mass manufactured convenience products, the changing tone of advice within a household guide of 1913 sent the message that “mending and reuse were associated with poverty and shame” (ibid., p. 112), indicating the attitude that persists today.

MATERIAL DISCONNECT

Many lament our failure to connect with material things. In her work exploring the political ecology of things, political theorist Jane Bennett names this tendency as “*antimateriality*” (Bennett 2010, p. 5), whereby “the sheer volume of commodities and the hyperconsumptive necessity of junking them to make room for new ones, conceals the vitality of matter” (ibid.). This is echoed by Juliette Schor in her article calling for more careful relationships with clothing, noting “that we are not truly materialist because we fail to invest deep or sacred meanings in material goods” (Schor 2002, p. 55). Susan Yelavich believes that deficiencies in our haptic knowledge of materials renders things less potent in their own right, and only operational as “new shells for experience” (Yelavich 2011), while design philosopher Anne-Marie Willis expresses the problem more broadly: “that we no longer know how to dwell among things” (Willis 2006, under ‘From Worlding to Thinging’)

DISCONNECTED USE

This disengagement with material qualities inevitably shapes the nature of our material relationships. As observed by Kate Fletcher, we abide by “fashion conventions, habits, social norms, and industry structures that reflect a vision of ourselves as consumptive individuals, not as users” (Fletcher 2012, p. 235), thus we are consistently absorbed in *ownership* rather than *user-ship*, as evidenced by the “increasing numbers of rarely used garments stockpiled in homes” (ibid., p. 224). Cameron Tonkinwise notes also that we “spend so little time with things” (Tonkinwise 2004, under ‘Introduction’) and that our “thingly” relationships are eroded by mass production, (ibid., under ‘Mis-taking Things’) a view paralleled by fashion ‘hactivist’ Otto Von Busch who emphasises the interpassivity generated in consumer culture by a streamlined but inherently closed “‘overlocked’ mode of production” (Von Busch 2012, p. 447). For Von Busch the metaphor of the ‘overlocked’ seam, which by nature is “closed, contained and efficient, fast and with a little stretch — but no allowance, no room for modification, no chance for user intervention” (ibid.), exposes the inaction in consumer actions, whereby difference and choice are superficial veneers for homogenous products that in reality encourage a lack of material engagement and non-commitment.

DISCONNECT VIA CLOSED MATERIALS

In this way, produced things come to us as finished; “they are alienated from their production and reified as sheer stuff” (Tonkinwise 2004, under ‘Disposing of What is Taken for Granted’). As asserted by technology philosopher Peter-Paul Verbeek in his study of *What Things Do*, the forming of attachment between people and products depends on transparency; that a product is “not only functionally present but it exhibits how it is functioning” (Verbeek 2005, p. 227). In this regard, sustainable design academic Stuart Walker observes that contemporary products “are made using processes, materials and fastenings that are unfamiliar to the user or owner” (Walker 2006, p. 96), distancing us from our manufactured objects and practices that foster lasting engagement, rendering activities such as repair, inaccessible and outside of the ordinary.

In this strange environment of ostensible abundance full of seemingly incidental things — ‘closed’ products that come and go from our lives (or stagnate away in storage), finding and sustaining a meaningful connection with materials is challenging. However these materials, and the objects they are used to make, are vital parts of our artificially designed ecologies. More particularly, these materials may be regarded as companions that we make with to make our own individual ecologies, as a possible way to engender a deeper ‘materiality’ that sustains both ourselves, and the materials that help make our worlds.

CONNECTION VIA DESIGN

The fostering of deep connections with materials and objects is not easy to purposely arrive at; as noted by Niinimäki and Koskinen when studying emotional bonds between users and garments: “meaningful attachments are not easy to embed in design, as they are personal and connected to an individual’s history or personal experiences” (Niinimäki & Koskinen 2011, p. 171). This is supported by emotionally durable design advocate Jonathan Chapman who observes that “designers cannot craft an experience but only the conditions or levers that might lead to an intended experience” (Chapman 2010, p. 65), deducing that a solution lies in making the user less passive (ibid., p. 71).

Emergent practices tackle this lack of user engagement through design that is open to being changed. This encompasses objects made with adaptation in mind (with inbuilt multi-functionality or ability to transform); and the adaptation of existing unwanted products into new forms, such as the remodelling of garments as exemplified by “wardrobe surgery” proponents *Junky Styling* (Fletcher & Grose 2012, p. 105). Such approaches often operate within a production system that is inclusive of stewardship, whereby the designer/maker continues a relationship with the user and their product. They may offer further changes and/or repair as part of an extended service, further enriching the narrative of the piece; or even a take-back scheme when the product has ceased to be of use. The designer’s role then becomes more like that of a service provider, rather than purely a creator of new product — a role more akin to traditional forms of dressmaking and tailoring.¹

Other practices that heighten our attentiveness towards materials and objects occur within the realm of using. Via her ground breaking global project *Local Wisdom*, Fletcher uncovers acts of craftsmanship and making within individuals’ stories regarding the use of enduring and cherished garments. This *craft of use* sometimes involves physical manipulations of the garment such as alterations or mending, but is also characterised by the making of emotional connections with, and developing special ways of caring for the garment, a unique object that often acts as a conduit to others or remembered experiences (Fletcher 2011, p. 174). Skilful user-ship shows the ordinary being made extraordinary, not only through the careful management and coordination of garments to develop personal style and unique

¹ In *Shaping Sustainable Fashion* (Gwilt & Rissanen eds. 2011, p. 75), tailoring in a contemporary setting is presented as a potential model for sustainable practice. As a bespoke service, it offers a slow and personalised production process, as well as alteration and repair for the life of the garment. Another benefit of this practice model is the reduction of waste within the production and use phases of a garment — the tailor is able to manage their own waste streams more effectively than in systems of large production through careful, individual cutting and reuse of fabric and the client is likely to appreciate and favour fewer well-crafted pieces that are not prone to divestment.

narratives, but also through the creation and expression of individualised acts of making.

These examples, through their cultivation of carefulness for the lives of objects and materials with which they are made, suggest a space for design practice where aspects of user-ship might influence how materials are *made with* when in the process of designing or *redesigning* a garment. The past, present and future lives that reside within materials would be privileged within such a practice where the ‘making of emotional connections’ might be incited within the *making* or *remaking* phase of a garments life.

MAKING WITH MATERIALS

A deep connection with materials, inherent within my existent making and design practices, has been the starting point for exploring how the ‘making of emotional connections’, through *making with* materials, might play out. For seven years (and for a few years as a freelancer after that) I was employed as a designer and maker of fetish wear. Despite the novelty of making such things as leather underwear, corsets and harness-like wearables, the subject matter of the objects produced was not the motivation behind my interest in this work. This was an opportunity to make and learn through making, developing connections between material and my hand in relationship with what it was to shape. Through this intimate *making with* material, particularly with the malleable and responsive characteristics of leather, I have developed an attuned ‘listening’ to the material through making. My consistent handling over many years of making, affords a sense of its appropriateness for arrangement into particular forms, for example “impermeable for a jug, sufficiently hard for an ax, firm yet flexible for shoes” (Heidegger [1971] 2013, p. 28). Through this handling I also come to understand how physical manipulations shape the material to my desire — much like the rendering of a wall where my response to the render, when in the process of rendering, tells me the action that is required to achieve the correct packing in and smoothing of the material. This encompasses a developed sense of making within the capabilities of the material; bringing its ‘best’ to the fore and revealing the inherent life that it has to offer.

My other relevant practice mode is the craft-based making occurring within the domestic sphere where materials are not only *made with*, but where the everyday lives of materials and objects are lived out. Within this domestic environment acts of using and making intermingle — material change is imparted by use and through further maintenance and repair I prolong the useful life of useful things. Making techniques and skills, such as simple hand-stitching and crochet, are not only called upon to fix and make things that are needed and used, but adapt and develop

in response to this use and need. In this way, making has its own life that is cared for and kept in practice by the materials that call for making actions.

Within these spheres of professional and domestic making, my material awareness is heightened through my attentiveness to its “back-talk” (Schön 1983, p. 79) as I probe with my experimental making techniques. I am in a situation similar to what Tonkinwise describes, that “the material seems to be speaking to us about its capabilities” (Tonkinwise 2008, under ‘Animating Materials, Tools and Dialogue’) and find myself anthropomorphising my materials in the way that he observes makers to do. Sennett names this imbuing of inanimate things with human qualities as “anthropomorphosis — virtue discovered in the material” (Sennett 2009, p. 135) and notes that this kind of characterisation is often inclined in an ethical manner, as in seeing bricks as “honest” or brick walls as “friendly” (ibid., p. 136). The aim of this process is not explanation or description, but to “heighten our consciousness of the materials themselves and in this way to think about their value” (ibid., p. 137). In a similar way, the materials and objects that I ‘meet’ within my emergent practice have character beyond their material properties; they are companions that I *make with*, rather than being merely acquaintances that would never stay long enough to really get to know.

THREE JACKET DISCUSSIONS

In the following examples, my *making with* plays out in various ways through the interactions with three diverse jackets. The personification and valuing of materials is exemplified through this making, and here through the description of these processes in action.

CONSERVATIONS WITH GREEN JACKET

Green Jacket comes to my practice as a commission. It is primarily as a garment to be repaired, but a repair that might have flexible boundaries. The owner of Green Jacket enjoys the aesthetics of its atrophy, but fears the eventual demise in which this gradual decline might end. Green Jacket is still worn and active — usable and used in its current form. The challenge is in supporting the material to continue with this usable life.

I am presented with a dark green, boxy shaped garment with a series of vertical tears across its back yoke and a network of spidery weakness culminating in a gaping rupture in the centre of its left hand sleeve head (Figure 1). The overall flaking away of its colour reveals this material as coated leather — an inferior leather given an appearance otherwise through a spray painted and synthetically textured surface — also discernible via its rigid cardboard-like feel. Unfortunately it also performs rather like cardboard, hence the breakdown into a reoccurring series of tears. A section of seam attaching the right hand sleeve to the body has completely come

apart, and when the jacket is on the body I notice this splitting of the seam has saved this sleeve from the stress and strain that caused the damage to its partner. The material breakdown is the evidence of wearing. Green Jacket has responded where it has contacted the body, not quite fit, or been forced into repetitive action. It reacts, reveals its weaknesses and breaks apart. It gives way, and through gaping, feels like it wants to breathe. Or perhaps it reacts to the need of the body underneath to breathe.



Figure 1: A torn and worn Green Jacket.

The owner of Green Jacket and I discuss this object and its life — what has happened to it and what we think should happen to it next. The exchange is augmented by the object as our exploration takes on verbal, visual and haptic dimensions. We talk, handle the jacket, look it over carefully, move it about, unpick the lining, and turn it inside out. Through this three-way conversation some possible strategies become clear.

If nothing is done, it might become more holes than jacket. At what point it no longer is Green Jacket, as usable jacket is unclear, however it is pondered no further. This is not an option.

Previous repairs, where the damage has been bridged by an interior patch of new leather, are noted as only causing further distress since more drastic tearing has occurred at the next weakest point beyond the reinforcements. We observe that these, and other stress points are indicative of where the jacket requires more flexibility, and so decide that allowing these weaknesses to have the space that they desire is a fitting approach. We consider how light, or heavy the hand might be; how subtle or drastic should the intervention be that achieves this provision of space? Green Jacket owner suggests that a flexible material might span the space, somehow attached inside. The remnants of crochet lace tablecloth, residing in the workroom, are spied and considered for this role. It is a strange but also fitting combination. The ecru crochet and the ramshackle leather are sympathetic somehow to one another, sharing unexpected visual synergy, while the crochet itself possesses the

stretchable, flexible properties that we seek.

When taking this path of crochet as ‘mending’ material, its characteristics, which through my crafting skills I innately know so well, quickly guide my way. The edges of crochet panels are attached far enough beyond the trauma sites, affording a supported space within which the degrading leather can continue its life of strangely attractive decay (Figure 2).



Figure 2: Green Jacket's gaping armhole seam, bridged by crochet.

The crochet peeks out from the leather breaks — a layering of parts from different worlds. Parts of me are within this making that is part repair, part re-make and part new creation. Manly leather jacket meets the domestician, leaving her marks of careful, crocheted repair, augmented by the leather oriented know-how of the professional with the skills to make such things work. It is a layered narrative, allowing Green Jacket to be itself and continue along its own unique track of its own making, only now joined by an unlikely companion from another kind of material ecology.

Dear Red Jacket,

I am writing to you in relation to some recent contact we have made. I haven't always been good to you, and so I hope that my latest efforts might make some amends.

I first knew you when introduced by the sales lady at the wig shop, upstairs on

Swanston St in the Melbourne city centre. I cannot speak of your time before then, but I believe it must have been good, since this lady, not only kept you, but sought an appreciative new owner. No longer having use for you, she could sense the affinity we might have

and offered you to me for the good price of thirty dollars. I liked you very much and wore you often. You complemented the circa 1960s/70s printed polyester dresses that my elderly neighbour gifted to me and that I loved to wear at this time in my early undergraduate years in the mid 1990s.

Several years of regular catch-ups between my wrist and the edge of your cuff, whilst initially resulting in some pleasant patina, caused such dire erosion that an inevitable split occurred. Alas, along this vital fold your epidermis was peeling away, exposing your unprotected dermis. So, against my better judgement, I took you to a local, and regrettably dubious dry-cleaner. Yes, they could clean you and do something about your worn cuffs, and so they offered a ‘renovation’ service. When I returned to collect you, woe is me, you were stiff, dried out and had been inappropriately coated by a spray on leather paint, which was still tacky around the edges and spattered on your lining, besides making you look rather plastic.

Complaints and compensation could do nothing to reverse the disfigurement and so I tried my own damage control. You were stripped with solvent, re-dyed with raven oil and slathered with leather conditioner, but your dried out, peeling cuffs could not be saved, and your uniform lustre had diminished. My next attempt at rehabilitation involved sewing on furry, contrast cuffs and a matching collar to coordinate. The repair was beyond my capabilities at the time, and besides the black sheep skin just didn't seem to be ‘you’. I lost heart and interest in fixing you, and you were forgotten as an unfinished project, relegated to the stagnant relics.

It must be at least 10 years since I gave up on you this first time, it may be even longer, but recently I've been doing some work with leather waste, and so you came to mind. I dug you out of the wardrobe where you were stashed among some of the other things I never wear or never finished. I am sorry, but I can't use you as you are. You are very damaged, with your splitting cuffs and overall dullness of your skin surface. But besides that, you are too small for me now, since I guess I have 'grown'. And there is something else, just as the fur collar and cuffs weren't 'you', well I'm not sure that you're 'me' anymore. Sorry.

Time has started to erode the need to keep you as you were and so I tentatively start experimenting with you. Since I have been thinking about parts, with some resolve I unpick just half of you, your left hand side, to keep a comparison between the whole you, and you as you break apart into pieces. This tells me something about your anatomy and brings me closer again to your surfaces, impressed by both fond use and heedless mistreatment. I spread your pieces further apart to see if the spaces between can tell me something. This offers nothing. Your pieces are large and unmistakably jacket like. If I want to use the value you have, the value of these parts how do I get away from a jacket? Overwhelmingly, you are still a jacket. And furthermore, I want you to stay as a jacket!

So here I leave you. You are bagged back into the dry cleaner's plastic and hung onto my rack of experiments. I still value you, but I'm confused and I am left with the questions: Can you be used? What would you be used for? You are no longer usable – what can you do now?!

Until another day,
Regrettably yours,
Tania

Figure 3: The first letter to Red Jacket.

WRITING TO RED JACKET

Red Jacket is a once loved and intensely worn garment from my past that following its failed repair, stagnated in storage for many years. As part of a greater project to make with discarded, disused and misused materials, Red Jacket was retrieved and evaluated, then evaluated again and again through the act of making, pursuing its potential for further living, as founded within its fabric. While in the early stages of making with Red Jacket, the first letter was written on a hunch — that a formalised kind of communication with the jacket, while in the process of making, might reveal a deeper, enriched knowledge of its parts. This first letter incited a stream of recurring communication — a practice of letter writing to this very personal object, unfolding as I make sense of, and make with its constitute materials.



Figure 4: The initial taking apart of Red Jacket.

As parts of Red Jacket are broken down and remade into another kind of form (Figure 4), Red Jacket itself evolves into something else — partly a corset-like hybrid (Figure 5), alongside parts that are never (or at least for the time being) touched, lying in wait for the next burst of making activity. The letters that I write while in this process tell of this story, capturing my



Figure 5: Part of the reconstructed Red Jacket in the making.

action of making with, guiding my connection with Red Jacket's materials through tactile, and experimental engagement.

This material connection through conversation is like that experienced through the three-way discussion with Green Jacket, but on a more intimate, enduring scale in this one-to-one encounter. Furthermore, the conversation takes on complex dimensions through this formal act of writing to. Between my words is a space for imagined words to erupt — the implicit answer of Red Jacket, its “back-talk” (Schön 1983, p. 79), emanates from the anthropomorphised object and materials. The letters manifest my reflective conversation with the materials of the situation, such as that described by Schön wherein the consequences of the designer's moves are taken account of “by forming new appreciations and understandings and by making new moves” (ibid.). These fragments of writing are making in their own right, a kind of story telling that tells of material relationships, like Fletcher's stories of use, reflecting an expanded design space where making and using is merged.

Perhaps this is a very particular example of what Downton observes: that while writing about a design work may do it damage since “just as writing about singing, love or dancing profoundly misses the point, writing about design does it equal violence” (Downton 2003, p. 130), it is also possible that a design work “will be made intelligible in a different way with the addition of words — more and different things will be known about it” (ibid.). Through this writing to Red Jacket, more is known of the materials within my design situation, but also of myself and the evolving practice as it is partly made by this process.

A FIRST INTERVIEW WITH BIKER JACKET

I retain only a fleeting memory of the conversation that preceded the arrival of Biker Jacket. It was delivered later in the day, bundled up within an improbable, reusable shopping bag. Its story, as I remember, involved an adventure across the western half of Australia, punctuated by violent damage to Biker Jacket — not through providing the protection that is its vocation, but by being slung through the wheel and burnt by the exhaust pipe after its prior draping over the back of the motorcycle, for which it serves as a vital accessory. My other key memory of that conversation was that Biker Jacket seems ‘sad’. But despite its despair, evident by its damaged physical state (Figure 6), an ordinary repair that returns Biker Jacket back to a pristine, seemingly new condition will not do. Erasing this experience from the life of Biker Jacket will not erase its sadness. The sadness must be acknowledged. The trauma *and* the sadness are conditions that I must *make with*.

Physically, I understand the Biker Jacket less than the previous jackets I have *made with*. I have limited

experience of biker apparel, having only encountered and repaired the occasional full leather piece — kit that was more for show than genuine protection. I am relying then on connecting to the Biker Jacket through the materials of its making, many of which I see on first glance as being unfamiliar, either in form or in their application.

The initial discussion, with this unfamiliar object feels like an interview, perhaps something akin to a first job interview. Am I probing to understanding how it is fitting to the tasks ahead? Am I myself being probed?

I formalise this process here, to relay an experience of what my initial talking to, as part of *making with* this particular jacket, feels like, including the imagined response of Biker Jacket. Specific questions are posed, carefully crafted to draw out the information — open-ended and never closed, most certainly to avoid answers of yes and no.



Figure 6: Damage to Biker Jacket's interior.

TS: Hi BJ (Biker Jacket), I'm pleased to meet you. You've been through a lot recently and I'm glad you could come to meet me. Now tell me what I'm looking at here, maybe firstly just in terms of your parts that are damaged.

BJ: Well, beginning with my outer shell, the black canvas part of me — there are many tears and grazes, I'm not sure how many. I keep discovering more and more. They don't really stop me from doing my job though, so I guess they are okay.

TS: So in one way this damage is somewhat inconsequential? But what about how it looks?

BJ: Yeah it looks pretty horrible. I guess that even though I can still do my job just as okay *in practice*, I just don't feel as strong as I did.

TS: So how your outer part looks is important — what about looking like you're strong and capable?

BJ: Oh yes, I have to do that! I have to be that, and look to be that, strong and capable. It would be nice if my

outside could be like this again so I can be like this.

TS: Perhaps I can do something to bridge these ragged gashes and holes. Not to hide them away under a repair, but in a way so that they are shown, to show how you've come back from the adversity. You were strong to survive this after all.

BJ: Yeah of course, I'm pretty tough 'n' stuff! Showing my scars would really work for me at the moment to help me get past these feelings. Just as long as it makes me look tough and strong — nothing too fancy okay...

TS: Yes of course, you're a utilitarian thing. You have a reputation to keep. I'll see what I have in my stash of materials that might work well with your good, strong canvas. Leather could work perhaps?

BJ: I never thought about that, I don't have any other leather parts. But yes, let's try it out and see.

TS: Good. Now moving onto your inside ... I'm a little puzzled as to what happened here. Tell me about these stitches.

BJ: Well I have this mesh lining you see. It's strong to a point, but it's also nice and airy, which is important. It got pretty torn up around the bottom part where you can see that layers of it keep an internal 'back protector' in place. There's a zip there too, also busted up, that allows that protector to be removed for washing. The protector being in place is really vital for me to do my job, so my owner performed these stitches to keep it all together.

TS: Oh, I see. You can't remove the protector now though the way the zip has been stitched together. There are still a lot of holes in the mesh there too — how do you feel about that?

BJ: It's not too bad. I can see how it would be good for that protector to be removed at times so perhaps I need a new zip or some kind of fastening there. Keeping the mesh as being mesh-like would be good for my airiness, if it was to have something done to it.

TS: So is it important how this interior repair looks, compared with what I do to the outside? How do you think it will effect your performance?

BJ: I never really thought about that ... this bit of me is more important for my owner, the wearer of me perhaps?

TS: The wearer sees the inside of you and experiences that part of you directly. Perhaps the repair here is important for them then?

BJ: I think that is absolutely right. I'm there for them after all. I think my inside should be for them, but don't forget ... I need to be tough and strong on the outside.

TS: Ok, no worries, that's all good! Lets leave it here for now. Next meeting will be in the workroom and we can have a look at material options — firstly for your outside and then your inside if we have time. We can

also see what will work in terms of making techniques once we know what materials we're working with. I'm looking forward to it.

BJ: Thanks heaps TS — I'm feeling stronger already!

TS: Thank you for your time BJ. I'll be in touch.

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This imagined interview with Biker Jacket and its materials is the beginning of our relationship, soon to be further developed through my physical engagement with its damaged parts. Through this discussion, I have founded sympathy for the material form, its purpose and what it 'seems' to need and want to do. These insights assist in appropriately positioning my role as part repairer, part maker alongside the other players in this ecology.

MATERIAL ECOLOGIES

Within these three examples, my communication with materials and objects is a device that illuminates existing connections, but also forges new and unexpected relationships with this anthropomorphised matter. The living, and therefore changeable, material ecologies that I reside within are made clearer, and perhaps more palpable, via these discussions — particularly through the writing of the Red Jacket letters which commit the communication to the rigour of actual pen on paper.

Materials and objects are furnished with a 'voice' that in turn enhances my ability to 'listen' to what they have to say. An openness is nurtured that allows relationships to naturally and slowly unfold. My made objects embody what McDonough and Braungart observe in regard to 'upcycling' processes: "every life creates more opportunities — is beneficial — for the next lives" (McDonough & Braungart 2013, p. 46), but demonstrate particularly that 'lives' need not be thought of in compartmentalised ways. I find it unnecessary and even undesirable for the existing life of a material or object to end when another one starts, or to consider such lives as separate at all. These are obsolete attitudes when past, present and next lives merge, blur and coexist in my shared, artificial ecology. In this ecology I look for a balance between the functional and symbolic affordances of the materials I *make with*, folding respectively into a similar balance between the needs of both people and objects.

This artificial ecology, designed through my *making with* materials, brings to mind the "garden of objects" speculated upon by sustainable design strategist Ezio Manzini (1992, p. 20). In contrast with "a throw-away world that requires no effort but, at the same time, produces no real quality", Manzini imagines a garden of flowers and fruit requiring "attention, time, and energy" for its nurture. The person who tends this garden does so for "the love of the plants", thus value "cannot be measured in banally economic terms". He proposes

“a system of objects that have the variety, complexity, life, and blend of beauty and utility of a garden but, at the same time, are a product of the real world, a world extensively and intensively artificial” (ibid.). The tending of these objects is like the love given to the plants. When performed with the mindset and skill-set afforded by craft-based making, it is making for the sake of quality and for the sake of giving life to the object that in turn supports the living of its maker. As elucidated perfectly by Fry: “craft recentres the human maker, but in the living process rather than in the self. In doing this, working life is retained as a lifeworld in which the care of the world is lived as a practice of making with care for materials, tools, process, products and the life of the made object in the life of its user and in the dominion of the alive” (Fry 1994, p. 132).

CONCLUDING REMARKS

These three varied, material discussions are put forward as exemplars for how the deep appreciation of materials, and the part they play in our artificial ecologies, might be cultivated within design practice. Materials are equal players in these situations, given voices, listened to and subsequently, I hear the part they play in creating my own ecology. More broadly, beyond my own small, emergent practice, this kind of process, when applied by others in other realms of design, might afford an expanded recognition of the true value and potential of materials in regard to the life they have had and the life they might yet lead. Materials might be seen as more than merely a means to an end product.

Such an engagement with materials holds the potential to combat the common malaise of today — the disconnect with, the lack of regard for and the tendency to get material matter quickly in and quickly out of our lives, without recognition of the key parts they play in our artificially designed ecologies. This thinking moves the sustainability discourse away from decision-making based on technical rationality, towards move-making based on an empathy towards materials and an awareness of how we live with artificial matter. With this approach, we might design better ways for objects to live and be lived with, that is sustaining for us, and sustaining for the materials themselves.

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