

# **The Power of Modifiable Things**

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# Preface

“Let’s hear it for making things as best we can”

Ever since I was a child, I have been obsessed with things. My imaginary friends took the form of polly pocket dolls come to life, and robot dog toys playing fetch. Even as a high schooler who had an overly sentimental relationship with photography—I was photographing objects more than anything else. Today, that obsession is taking shape in my practice as a designer—where I continuously bridge and concern myself with our complicated and evolving relationships with the built world. I want to understand better the ways our relationships with objects are designed, and how they evolve with society. This writing represents a philosophy for my own practice, and explores core topics I hope readers will take into consideration as they evolve their own work.

It would be a mistake to not acknowledge my background and training as an Industrial designer. These experiences have been foundational to my values and belief systems. They frame the entirety of this text. I, like many other students in programs similar to my education (that is, American university led Design programs), have gone through the painstaking process of being taught to see and think through the use of my hands in a workshop, and in countless laborious hand-driven manufacturing processes. As a result, a form of love starts to grow for the way things are made, and the forms they take in the world.

This type of knowledge is not just exclusive to those who studied industrial design. It, or some derivative or alternative of it in equal value, is present across many other disciplines and work—disciplines like plumbing, manufacturing, furniture design, toy making, fashion, even computer science amongst many others. By listing these disciplines it can become clear that everyone is a maker to some degree—becoming expertise on the very ontology of things in this world that develops through the act of making—expertise which has been discussed historically for as long as ‘making’ has existed in humankind’s toolkit of experiences. From the engineer who designs the thread spacing of a screw to the women’s lingerie fashion designer, we all hold a small portion of responsibility for the state of the world we live in.

The gap of knowledge-grained-through-practice from knowledge-gained-through-theory<sup>1</sup> elaborates on one’s sense of empowerment either felt or not felt when navigating the world of objects within and outside their expertise. It is this existential juxtaposition that was brought to light for me when I realized that the

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<sup>1</sup> Christopher Frayling, *On Craftsmanship* (London: Oberon Books), pg 37



process of valuing physical work, products, and tools contrasted with my relationship to the things I bought and used in day-to-day life. Sometimes, the gap is bridged by the continuous elevation and growth of my ‘taste’<sup>2</sup> in things, but more often than not, the problem of complacency persists as I quickly look for things to binge-purchase on amazon prime. Why don’t I care for the things I buy as much as the things I make?

It’s rather unfortunate that this idea of “deep playing”<sup>3</sup> and “deep learning” of the world has somehow become reserved for just the makers within their own state of expertise. Regardless of what we do as a day-job, or how we are trained, everyone has a right to learn more about the world and to feel they can change it themselves.

How can designers, makers, and creators of everyday objects make it so others feel able to change it too? We must abandon the notion that authoring the world is reserved for a few, highly educated and trained people, and embrace that empowering others to author it can be designed too. I implore designers to reconsider their responsibility as makers. In the 21st century, I believe we have a new responsibility to consider the ways we empower and disempower users as stewards of the things they own. There exists an opportunity to re-posture all people as makers, and empower all people to feel the world is capable of change.

I want designers to help make the everyday person a craftsman in their own right. Christopher Frayling in *On Craftsmanship* dissects craft as “making things the best we can”<sup>4</sup>. I hope all people can feel the same.

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<sup>2</sup> Jean Baudrillard, *System of Objects*

<sup>3</sup> Christopher Frayling, *On Craftsmanship* (London: Oberon Books), pg 10

<sup>4</sup> <sup>4</sup> Christopher Frayling, *On Craftsmanship* (London: Oberon Books), pg 9

# Introduction

This writing is about our relationship to things. Particularly the things we buy, and the things we create.

We live in a period of consumerism— continuously finding new and endearing things to bring into our lives, and quick and easy ways to get rid of them. All these things have been in servitude to human needs. From vacuum cleaners, lamps, cups, pipes, cables, computers.. all things are designed to help people.

But at the same time.. regardless of how objects are procured, these same things affect us emotionally, and have meaning to us. Pablo Neruda writes a resonating elegy for things in his life in the poem “*Ode to Things*<sup>5</sup>”:

*“O irrevocable  
river  
of things:  
no one can say  
that I loved  
only  
fish,  
or the plants of the jungle and the field,  
that I loved  
only  
those things that leap and climb, desire, and survive.  
It’s not true:  
many things conspired  
to tell me the whole story.  
Not only did they touch me,  
or my hand touched them:  
they were  
so close  
that they were a part  
of my being,  
they were so alive with me  
that they lived half my life  
and will die half my death.”*

From functional power— like prescription eyeglasses to emotional power- gifts from long passed loved ones, our objects refer to the lives we lead, our stories, actions, and needs— constantly reminding us of how little we are without them. What would happen if our glasses or souvenirs decided to get up and walk away one day? Things have a power over us we don’t really realize until they are gone.

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<sup>5</sup> Pablo Neruda, ‘Ode to Things’

When they do walk away, we have no choice but to buy a new pair. A quick, immediate, and rather heartless transaction that cares not for the sunglasses from just the day before. Looking to the majority of things people use and interact with, we can start to see how often this frame is applied, and how fragile our relationships with the physical world are. We know very little about the world, and how it is built, because we don't need to. The object has already been made, ready for purchase at the right cost.

In this text, I argue for a new frame of "making," an alternative definition of the "designer," and an alternative frame for "consumer" by exploring core themes for plural, stewardship-oriented relationships to the things we own. By borrowing from the design and crafts practices, I make the case for modification as a means for more resilient objects and resilient designs. By doing so, transitioning designers and consumers towards more sustainable futures alternative to our present age of consumerism.

# An Age of Stewardship

Accelerating from the 20th century, consumerism has long been an acceptable form of resilience— when we break something, there is always an opportunity to buy and replace that same thing. The ease and longevity of producing, and purchasing plastic products makes it incredibly simple to ship and purchase goods at your local store. Not only that, but the complex and far away (literally) processes that we take for granted make it near impossible to know the lives and implications of our things before making their way into our hands. But the notion that these processes are perfect, and come at no cost, is quickly deteriorating. Things are no longer ‘fantastic plastic’.

From the outlined critiques that the capitalist mode of production is an exploitive relationship between workers and owners in Marx’s 1848 Communist Manifesto to more explicitly Brundtland Commission’s outlining of “sustainability” as a forward movement for one of the first times in modern history in Our Common Future—it’s become clear capitalism is no longer an appropriate case for social and material resilience. We can get and have so much we have brushed away the warnings from environmentalists, scientists, and philosophers for decades.

Environmentally, the imbalance of unsustainable materials and products, irresponsible distribution of resources, pollution of the very resources all creatures on earth needs, alongside so many other factors, has led to unforeseen, detrimental effects to our shared environment and a degradation in quality of life.

Socially, companies have prioritized the ability to sell products so much, they degrade the consumer’s ability to understand the very products purchased. Models like the well known Razor and Blades business model<sup>6</sup> which increases material costs while intentionally decreasing quality and shortening the life-span of the product and user’s relationship show companies are much more in the business of private, economic prosperity rather than holistic and healthy product cycles.

We need to move towards a movement that deprioritizes quick revenue and convenience, and instead prioritizes long-term, transitional relationships with materials and goods. We need to aim towards a model of stewardship.

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<sup>6</sup> Randal Picker, “The Razors-and-Blades Myth(s)”, Olin Working Paper No. 532, (<https://dx.doi.org/10.2139/ssrn.1676444>)

In the podcast *Sugar Calling*, Cheryl Strayed interviews Margaret Atwood, writer, poet, and environmental activist, about her mundane experiences and reflections during social isolation in the Covid-19 crisis. In this documentation, Margaret outlines a particular reflection on the things they own, and their homes.

“We’re going to be saying to ourselves: Do I really need that? Do I really need to be doing that? I think it is going to be— I’ve heard a number of people saying “you know, I just wasn’t really using my home as a home, I was just using it as a place to sleep. And now that I’ve had to be **in it** I’m creating a whole new relationship with it.””<sup>7</sup>

While the particular context of Covid-19 is an outlier in the greater historical narrative, it has allowed Margaret an intense re-evaluation of her relationship to things. By trade, designers are constantly “in it” when designing for the complex relationships and experiences all consumers have with products. However, here, Margaret quickly points to how everyone, so long as they have a body, are also “in it”— navigating these physical and digital spaces daily. What’s changed in the period of isolation and quarantine however, has been the forced, critical awareness of these same spaces.

As a designer, a consumer, a ‘user’, we ask ourselves how the processes and systems we comply with do or do not support our abilities to be “in it” at any given time. Current design-thinking and human-centered design processes are popularized, foundational processes for critical problem solving and at best, holistic and systemic methods for contextualizing artifacts and services. However, in application, they become processes that are co-adopted by corporations for conventional value generation and profit.<sup>8</sup> As a result, this profit-driven form of empathy ignores the foundational requirements for more sustainable, stewardship oriented resilient futures. We continue to binge-purchase Amazon prime instead.

By actively designing for criticality on the processes and ideologies that guide us, we can start designing for healthier relationships with our things, stronger forms of feedback, and empowered “being” and “playing”<sup>9</sup> with our environment. By doing so, we can foster a distinctly critical and deep relationship with objects and experiences that we have commodified out of value in recent decades.

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<sup>7</sup> Sugar Calling podcast interview with Margaret Atwood, author, 8 April 2020

<sup>8</sup> Natasha Iskander, <https://hbr.org/2018/09/design-thinking-is-fundamentally-conservative-and-preserves-the-status-quo>

<sup>9</sup> Christopher Frayling, *On Craftsmanship* (London: Oberon Books), pg 10

In the remaining text, I will discuss some long-term and emerging topics within the field of design that I believe, are core to explore in this broadening of “play” and critical placing. Particularly, I will discuss modification as a means towards stewarding and adapting values over time to things—ultimately presenting an opportunity for transforming user empowerment and agency.

# A Modifiable Future

Products like a new kettle or toaster are designed with a persona, use case, and experience in mind long before the manufacturing begins for the product. Those experiences, and expectations, are then frozen the moment the product has been open and left on the kitchen counter. While not always the case, common product journeys like this show how structures and pedagogies like design-thinking, the double-diamond, and persona making are often used by designers, institutions, companies, and researchers to abstractly create a framework of “value” for products. This value, however, is more or less static once it has reached the hands of consumers.

In contrast, a person changes and grows both physically and emotionally. They change habits, environments, rituals, and develop symbiotically with all other changes happening around them. The journey of a person is not planned, not easily systemized, and will fluidly change over the course of their life. Value, while static in the product, is fluid to users as they grow into new experiences.

This asynchronous relationship between people and their artifacts is an essential problem exploited by product designers encouraging further, rigorous consumption. Each product on the shelf (digital or physical) utilizes a narrative that presents itself as unique, providing unique value not found in competing products. As a result, consumers are encouraged to lean on new products as their life course changes—jumping from one set of defined value to another. This process can be wasteful, and limits user’s abilities understand the underlying foundation for why and how things work.

With this as our present day reality, I would like to propose an alternative: a world where products are designed with a means for modifiable, adaptive, and evolutionary value. By designing artifacts to afford change, an alternative relationship between users and their products may develop over time. What if things were designed to be given away, once a user is done with it? Or as a product becomes worn away, new layers of use and value are revealed? Through intentionally afforded modification, we can create the potential for long-term and adaptive relationships with the built environment around us.

This alternative reality has already been set in motion by efforts like the DIY (do it yourself), maker, and right-to-repair movements, as well as areas of research like media archaeology and emotionally durable design. However, these movements utilize modification as a kind of verb— a means to an infinite set of instructions, changes, and designs at a case-by-case level. I am able, for example, to find infinite

instructions for how to embroider a sweater, a bag, a jacket, but it's far more difficult to study and understand what embroidering does to an object, why it's done, and what other options there are that achieve similar experiential results. To what degree can we bring modification in at a systematic level, approachable by creators in their own design processes?

Baudrillard's *System of Objects*<sup>10</sup>, as well as James Fraser in his own analysis of the same work *Artifact Linguistics*<sup>11</sup>, discusses a frame of four values reflected back onto the world by objects, with which I have paraphrased here, as economic value, functional value, symbolic value, and complimentary value.

Economic value to measure economic or monetary worth, functional value so to measure an object's utilitarian capabilities, symbolic value related to a greater narrative defining its worth, and complimentary value where an object's worth is defined in relationship to one or more other objects. While all things have some degree of value in each case, not all values are designed equally, nor are they equal in the eyes of users.

By breaking our understanding of objects down this way, we can start to discuss, in particular, the ways modification alters values of objects over time. Modification does not have to be a transition to improve an already existing use case of a product, but is the opportunity to completely redefine its value as well. For example, a generic, store-bought scarf can become an object of personal significance through embroidering a personalized message or image. In this case, a functional product is altered to gain symbolic value through means of ornamentation— potentially elongating the life and use of the object from something that's used only in winter until it wears away, to something that is kept for personal, symbolic meaning. Perhaps, for example, the embroidery represents love between two people, and is kept particularly as a reminder of that relationship.

Building upon this framework of value, I will use the next two sections to elaborate on four components of modification (empowerment, agency, personalization, and customization), their implications, and their relationship to both designers and users. These examples should be seen as just the start of a larger discussion on the variety of opportunities designing for modification can enable, and how.

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<sup>10</sup> Jean Baudrillard, *System of Objects*

<sup>11</sup> James Fraser, *Artifact Linguistics*, unpublished MA dissertation (London: Royal College of Art, 2018)



## Personalized & Customized Experiences

Despite the realities of mass manufactured product development, it is common to view the things we encounter in everyday life through a personal lens. Regardless of the life it had before, the place each component was made or who's hands it had passed through weeks prior, a completely new life of the object begins once it enters the household of its owner. Through intimate knowledge, control, and self-investment, we establish a singular relationship with those artifacts— fueling our own sense of ownership.

This sense of ownership can sit on a wide spectrum, while some may feel a great sense of responsibility and care for an object in their house, someone else may feel comfortable throwing it away in a month's time. In *Psychological Ownership and Consumer Behavior*<sup>12</sup>, Baxter and Aurisicchio breaks ownership further into experiences of psychological ownership, sense of possession, and legal ownership over both immaterial and material objects. They discuss, similarly, how an owner's sense of possession is a result of afforded interactions and experiences enabling efficacy, self-identity, and a sense of security. By affording these opportunities, not just at the beginning of a product's life but throughout it, a user may develop an even stronger personal narrative and relationship with their object allowing for continued learning, sense of ownership, and self expression.



User yolandaintintheity [online] <<https://www.tiktok.com/@yolandaintintheity/video/6810551617218186501>>



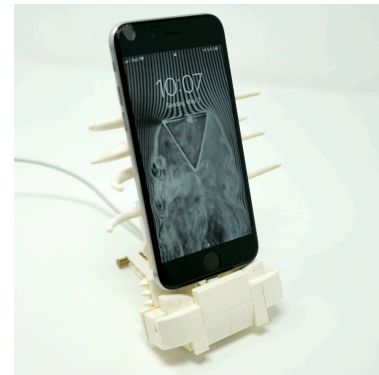
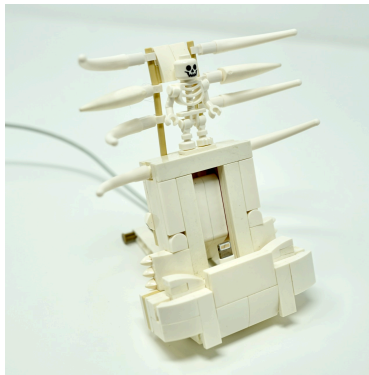
User diyfashiontips [online] <<https://www.tiktok.com/@diyfashiontips/video/6822011348755516678/>>

Within the world of modification, personalization and customization of products are two methods which can enable further alteration towards efficacy, self-identity, and a sense of security. By nature, a user spending the effort to alter, change, or modify a product harvests a sense of efficacy towards an originally 'blank slate' product. By spending time learning the methods that have an effect on their object, users harvest a sense of empowerment to alter other things in their environment as well. This establishes

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<sup>12</sup> Baxter et al. 'Ownership by Design', in *Psychological Ownership and Consumer Behavior*, edited by Joann Peck and Suzanne B. Shu, ch. 7

healthier, long-term perspectives in users that not all things need to be kept in their ‘out of box’ state, but can be tailored over time. By way of personalizing and customizing, users establish a sense of security by making things more familiar and unique to themselves while gaining greater sense of efficacy and empowerment. For example, by learning to tailor clothes to fit in length or in style (changing the functional and symbolic value of the clothes) as pictured above, a user gains more experience and empowerment to not just rely on purchasing well-fit clothing, but to tailor already existing pieces to themselves. Extending the life of the piece, while familiarizing it to their own body shape and taste.



Nick Burka, [online] <<https://twitter.com/nickburka/status/1256965286948999169>>

By personalizing objects to the owner, the owner imbues their own belief system into the object- increasing symbolic and aesthetic representation, further anchoring it into the user’s personal narrative. Not only does this allow for personal expression but at large increases the presentation of many identities in the world, rather than a single identity presented by the original corporation. For example here, twitter user Nick Burka uses lego pieces to additively modify the shape and design of an Apple lightning cable. He has not only modified the functional value of the charger to better fit his needs, but uses the affordances of Legos to build a completely unique charger to himself and his son. One which represents their own personal taste and the time they spent together making it.

In conclusion, personalization and customization are key ways that users can modify objects in their lives and anchor their built world to reflect a personal narrative and journey. By affording these experiences, designers can foster learning new skills, self-empowerment amongst users, and a greater sense of self identity and psychological ownership.

## Empowerment & Agency

Empowerment and agency, with clear overlap to previous methods of personalization and customization, are two more esoteric opportunities afforded through modification. By intentionally engaging the user to be part of creating a product, designers invite users to know more about how and why a product works the way it does, and encourages users to even extend that knowledge for their own purposes. By doing so, users are given new toolsets, the opportunity to learn more about the systems that make the products they own the way they are, and ideally further confidence to modify other things in their life.

This more fluid experience of empowerment and agency can be encouraged in multiple stages of a product's life, from the beginning of a product's use like with IKEA furniture which explicitly requires users to build their product, to the middle of a product's use like Nintendo's Labo additions to their Switch console, to the end of its life, and finally more fluidly throughout a product's life as encouraged by other users rather than the originating company itself. It's important to note that very few products exist which encourage modification at all four levels (the beginning stage, during its life, and fluidly throughout it), instead, companies tend to opt (if at all) for one core stage to involve the user.



'I tried assembling a "remote control car Toy-Con" of "Nintendo Labo Variety Kit" to combine Nintendo Switch and cardboard into a radio control' [online] <[https://gigazine.net/gsc\\_news/en/20180420-nintendo-switch-labo-rc-car/](https://gigazine.net/gsc_news/en/20180420-nintendo-switch-labo-rc-car/)>



Sara Butler, '7 Steps to Building IKEA Furniture Without Fighting Your SO' [online] <<https://www.entitymag.com/7-steps-build-ikea-furniture-fighting-so/>>

Examples of modern-day products designed to intentionally empower users from the start of use include the DIY building process of IKEA furniture, where users (in a world where access to furniture making facilities is a privilege) can build their own products through well catered-instructions, ideally ensuring success. The effects of IKEA's design to engage users through labor is well studied and noted by researchers Norton, Mochon, and Ariely pointing famously that through labor, users may justify and even "overvalue their creations"<sup>13</sup> increasing a user's sense of psychological ownership while being economical for the company.

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<sup>13</sup> Norton et al., *The IKEA effect: When labor leads to love*

The clear danger here is that these processes, while generating a positive sense of ownership and relationship between the users and the object, may be used to justify increasingly cheaper and poorly built designs. This topic will be discussed further in the following section, which outlines key dilemmas of designing for modification with the focus of longevity.

With IKEA furniture, products are created upon arrival in someone's home, while in an alternative example, Nintendo Labo's designs, where users (particularly children) are encouraged to exploit the various sensors and controls of the Switch's modular design to create their own games and controllers through cardboard cut outs, are considered isolated additives to a Nintendo Switch's life while it still is an actively engaging console for gaming. In both cases, users are engaged by design to better understand the underpinnings of each product and own their processes at a single point in the life-span of the product, without further encouragement to change or modify afterwards. Alternatively, products like the Fairphone and MNT Reform (pictured below) intentionally design technological products for repairability and alterations — fully expecting users to change needs over time.



"Fairphone | The phone that cares for people and planet".  
[online]. *Fairphone* <<https://www.fairphone.com/en/>>



"The Campaign is Live". *Crowd Supply* [online] <<https://www.crowdsupply.com/mnt/reform/updates/the-campaign-is-live>>

Products like the Fairphone and MNT Reform highlight a few key necessities for deploying complex, lifelong, modifiable products. At the forefront, they require the deployment of parts catered at targeted levels of expertise, in the case of Fairphone- modules, batteries, and cameras and in the case of MNT- all components of a computer. Secondly, they also require a consistent service which supports users as they modify, adapt, and repair their products. In the Fairphone case, both the catered tutorials and parts are needed for repairing, however the opportunity to learn how the phone itself works through repair becomes secondary when following step-by-step tutorials. This allows for much more accessible repair processes compared to the MNT Reform, where users are expected to understand (at its current state of deployment)

how the device works on electrical, mechanical, and software levels, making the ceiling to engage with a modifiable and personalized computer very high.

In all cases listed here, from IKEA furniture to Nintendo Switch Labo, Fairphone, and MNT Reform, creators have intentionally attempted to enable users to engage with the design, process how it works and why. But one's sense of self empowerment and agency is not something *just* to be designed, but is consistently emergent with anyone's intention to modify their built world.

As toolsets, skills, and self-empowered knowledge converges with the opportunities of the internet and global communication, culture becomes a crucial factor and motivator for continuous learning and development as these toolsets and skills so long as people exist who desire to modify the things they own. Practices like DIY and Maker Culture are thriving representations of 'modification cultures' where individuals look towards others to learn how to create unique garden beds or hack into old game boy consoles, cyclically supporting one another to further learn, modify, and adjust their environment. It is necessary for these 'modification cultures' to continue to exist, as they reinforce further, scalable learning processes for modifying the environment without relying on singular corporations or institutions as their guide.

Finally, these cultures alongside a much longer historical narrative of crafts point to how modification and craft are not just empowering and educational actions, but also are political ones too. In *The Subversive Stitch*, Rozsika Parker re-evaluates the relationship between embroidery and women— bringing to light the ways in which embroidery (which is used today to both create beautiful art but also to modify garments), is “a medium with a heritage in women's hands... more appropriate than male-associated paint for making feminist statements”<sup>14</sup>, sitting further into the history and means of women exploring their own craft based history, subverting narrowly defined ideas of womanhood, and creating new definitions of femininity for themselves. Today, as everyday users utilize embroidery to modify their clothes and create art, they invoke this history in their actions. Similarly, in *Protest, The Aesthetics of Resistance* the manipulation of commonplace images, signs, and symbols is discussed as a representation of direct subversion of power and ideology- usable by intention to invoke symbolic value as a means to changing it.<sup>15</sup> Both show that the means with which we craft, modify, and design sits in a greater context of who makes what, and why.

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<sup>14</sup> Rozsika Parker, *The Subversive Stitch*, pg XIV

<sup>15</sup> Akanji et al, *Protest, the Aesthetics of Resistance*

# Dilemmas

As a final chapter to this exploration on modification, I will elaborate here on major dilemmas of designing for the experience of crafting and modifying products (designed or otherwise). These dilemmas are discussed here not to dissuade the reader from working towards modifiable, craftable experiences, but to full heartedly address them.

## **Designing for modification tends to be worse than catered design**

The first dilemma is that designing to enable modification and continued alteration throughout a product's life is often far more difficult to manufacture and secondary in need to well-built functionality. At its core, especially in transition from “black-boxed” products (products which are designed to be difficult or impossible to see inside, and understand), users will continue to buy-in to the paradigm which desires well-made solutions for their needs. The opportunity for modification, inclusive of sentimental and symbolic value, cannot overcome poorly built functionality. This is representative in both the IKEA effect, where users still achieve a minimum degree of functionality in their furniture, as well as in projects such as the half-built-houses of Alejandro Aravena's studio for Chile's social housing<sup>16</sup> where essentials of housing are pre-constructed for residents, and then left for residents to complete as they see fit. In both these cases of modifiable designs, core functional value is still pre-determined and catered for their users.

## **Transparency over sublimity and magic**

In order to engage users with designs, it is necessary for designs to transparently show how and why the designs are the way they are, clearly sharing its functional, symbolic, economic, and complimentary values. However by doing so, a sense of sublimity and magic is traded away. Once we understand how something works, the illusion is lost, and that sense of childhood awe might be too.

The idea of a ‘magical experience’ is a well leaned upon marketing tool from corporations selling proprietary work. By promising an experience as awe inspiring and otherworldly, companies create an expectation that the design of the product is equally otherworldly— impossible to decipher. In this case,

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<sup>16</sup> Sukjong Hong, *Can Half a Good House become a Home?*, <https://newrepublic.com/article/134223/can-half-good-house-become-home>

the promise is similar to magicians and their promise to an audience, that what you see is beyond what you know. However, in the same case as magicians, “the illusion dies when the magician reveals his sleight of hand, so the technology becomes distinguishable from magic when I becomes familiar.”<sup>17</sup> In the trade off for modifiable, empowering designs, users may have to come to terms with a new paradigm that nothing is truly magic.

## **“Modification Cultures” continues to be periphery to mainstream product design**

In the present day, modification cultures like DIY cultures, craft based cultures, and maker cultures maintain a niche, secondary status to mainstream consumerism. While this is the basis of the argument of this paper, these subgroups often create their own unique set of rules, expertise, and methods that are not fully accessible to all people and at worst, are actively anti-accessible. For example, the maker, “hacker” culture is notable for being white and male centric in both ideas and culture— with active exclusion pointed towards women of color in the space like Naomi Wu (going by the online alias of Sexy Cyborg) who in an interview with Elsa Ferrira actively acknowledges how conferences like Maker Fair and companies like Raspberry pi deliberately exclude her as someone of the “outgroup”<sup>18</sup> in community events. If these cultures of modification desire to become more mainstream, they must actively work to be inclusive towards a plurality of identities, not just white, male, western ones. They must fully invest in an inclusion of multiple backgrounds, educations, and intentions.

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<sup>17</sup> James Auger, <http://www.auger-loizeau.com/projects/sublime-gadgets>

<sup>18</sup> Interview with Naomi Wu, maker, 30 January, 2017 <https://www.makery.info/en/2017/01/30/sexy-cyborg-la-communaute-maker-est-reservee-aux-privileges-blancs/>

# Conclusion

A key consequence of modifiable artifacts and culture is that it allows us to reflect more deeply and consequentially on our relationships with the built environment. It allows for us to ask ‘What do I understand about this thing? Why do I understand it that way? How is it affecting me? And how can I change that?’ Objects affect who we are and how we relate to the world, but it often doesn’t feel up to us, the users, to understand the how’s and why’s. By engaging users to actively participate in changing the interfaces of things they use, the language<sup>19</sup>, we actively tell users that they themselves are the participants of making their politics as reality.

Modification methods allow users to gain a sense of personal independence from the commodified idea of value, allowing self-definition of functional, economic, symbolic, or complimentary values that matter to them as they change throughout their life. This in turn can create a larger paradigm shift of material resilience from consumerism to stewardship where the modification of things itself is a political act of shifting our material lives. By practicing modification in the design of everyday things, we can experience a “deep playing”<sup>20</sup> which transforms our idea of a manufactured world into a craftable one.

In this text I have described how modification practices are poised to alter the ways we, consumers, view and interpret the physical world. Using examples of present day practices, I have given a deeper picture on modification as a catalytic force for further, participatory design opportunities, and the ways in which modification engages users, changing a fundamental viewpoint of ownership and our relationship to things.

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<sup>19</sup> James Fraser, *Artefact Linguistics*, unpublished MA dissertation (London: Royal College of Art, 2018)

<sup>20</sup> Christopher Frayling, *On Craftsmanship* (London: Oberon Books), pg 10



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