

Material Communications

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Abstract

All of us have a place in our homes where we keep meaningful things. These are things that would be devastating to lose or have destroyed. Our relationship with these things shows us how we have a fundamental, innate relationship to the objects around us. It is curious how design might begin to play a strategic role here. Design can be defined as a process that acts as a mediator between people, objects and spaces often concentrated on ergonomics, economic efficiency, functionality, 'sustainability' and technology. Material Communications provides a way for makers to critique this and adapt their existing design process in order to take care and reflect on the meaning and significance of supplying individuals with material objects. The process of designing products and environments is rich with tactics for making and arranging tangible objects and spaces. Unfortunately, design in its current state is yet to provide a strategy that explicitly addresses this potential. As an interior and product designer, my research is focused around re-orienting the design process as a strategy to slow down and to nurture our relationships to artefacts.

Material Communications is a strategy applied in family therapy that expands the understanding of the cognitive world for designers, and reveals the value of the material world for cognitive scientists. This research method has been put into action in a case study within child and family therapy. Through this research I have asked, 'How might the process for design be used to bridge the gap between the material world and the cognitive world?'

Keywords

design process, artefact, mental health, education, symbology, communication

Part 1: Introduction

A French film from 1994 tells the story about a professional assassin named Léon, and a 12-year-old girl named Matilda. The two end up joining forces to find revenge for the murder of the girl's younger brother. *Léon: The Professional* (Luc Besson, 1994) is a movie about this unlikely pair who rescue each other from the violence and loneliness in their lives. This story is underlined by an unexpected film motif, which turns out to be a simple potted houseplant.

[Figure 1: *Léon: The Professional*] Léon calls this plant his best friend, carefully wipes each of its leaves, and places it on the windowsill every morning. How is an object like this houseplant able to capture human discontent and instability? This is linked to the box of special things we keep on our bookshelves, the nick-nacks that we have got sitting on the mantel, and even the piece of jewellery we have worn for seven years straight.



Figure 1

THE OBJECT, ITS MAKER, AND ITS USER

All of these things would be devastating to lose, or have destroyed. Our relationship with these things shows us how we have a fundamental and innate relationship to the objects around us. They show us they have the power to inspire complex thoughts and emotions, and affect our well-being.

It is curious how this works, and how design might play a role here. My research of Material Communications focuses around exploring this human-to-object interaction and how it is related to our 'mental health'. I am defining this term as emotion and behaviour management. In psychotherapy, the tactics therapists use to help our emotion and behaviour usually involve targeting the thoughts we have, and the actions we take. But, over time I found that there is a contradiction in the field of cognitive science: a theory called Relativity of the Mind says that the way we interact with our environment shapes the way we think (Cassasanto 2013). The problem is that the existing methods for emotion and behaviour management lack this significant variable: the environment. This points out a definite gap between the way a person's well-being is supported and the function of the artefacts that surround them.

As a product designer and interior designer, I feel this as a call to design. Design has the potential to become an agent to address these concepts. The process of designing products and environments is rich with tactics for making and arranging tangible objects and spaces. Unfortunately, design in its current state is yet to provide a strategy that explicitly addresses this potential.

One could argue that presently design as a discipline focuses on efficiency and function. Technological advancement, from the first computer in 1951 and even further back to the beginning of the Industrial Revolution in the late eighteenth century, has focused on applying scientific knowledge for practical purposes. In both these periods, practical purposes have centred on extending our human capacities. They are on this particular trajectory and momentum and are deemed as good design. Good design, like the iPhone or the Swiffer Sweeper, is often synonymous with design that moves. This impenetrable movement abandons an integral part of our nature. On the contrary, slow objects are those not on this efficiency and advancement-focused trajectory and are centred on the nuances of the human condition. They are hardly accepted into mainstream design or society. Since the advancements of the late eighteenth century, we have started yearning for reflective experiences and attentiveness. Design will have to find a new paradigm, a different mode of moving – one based less on productivity and more on caring for the subtleties of the human condition.

Health services such as mental health are made available during every phase of our lives, and they can be applied at such variance as childhood to the end of life. These services are made

to counteract elaborate, fast-moving life by taking out time to slow down and take care. If we accept that design is a way to slow down to make active the object's ability to support our thoughts and experiences, then the designed tools used in mental health care are a means to achieve that during critical points of our lives. The design process could provide a strategy to slow down and to nurture our relationships to artefacts.

DESIGN AND THE HUMAN CONDITION

Objects, including everything from pencils to architectural structures, have hundreds and thousands of orientations, functions, implications and cultural significances. Emotion and cognition both as a field of study and in everyday life is riddled with even more complexity. In what ways might design interpret and influence the vast range of human-to-object relationships?

Weeds, Aliens and Other Stories (Anthony Dunne and Fiona Raby, 2013), is a project by Dunne and Raby, a critical design studio. This set of furniture plays on the eccentric relationship the English have with the garden and plants in the home. The design process is used as a medium first to critique existing cultural habits and second to design pieces of home



Figure 2 (Dunne & Raby)

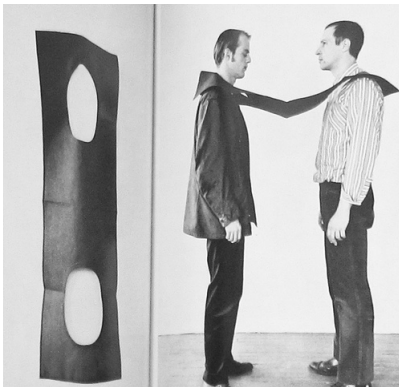


Figure 3 (Franz Erhard Walther)



Figure 4 (Meeting Charles Bliss)

furnishing. They are objects that are made to encourage a particular behaviour and emotional state, and are incorporated into the landscape of a typical household.

While Dunne and Raby's objects are made to subtly stand out in the environments they are in, the artifacts in Franz Erhard Walther's *Werksatz* are considered 'immaterial art' (Figure 3). In other words, the made the object here is invisible and the change is reflected in the new personal and interpersonal experience of the individual(s) using the object. Each *Werksatz*, of which there are over 100 made in the span of thirty years, are all primarily made of cotton fabrics. The limitation on the physical material is part of how these participatory art pieces elicit such unique and diverse emotional experiences.

Charles K. Bliss was an Austro-Hungarian chemical engineer who in 1949 designed a new written language system. As a semantographer, he created what is called 'Blissymbolics'. Here, the 'object' is not a tangible one, but comes in the form of metaphoric representations of concepts. Bliss designed several hundred of these symbols that could be combined together to represent nearly any idea, and presented them as a kind of alphabet. If these symbols are seen as designed 'objects', design is used here to root its user in the subtle nuances of the way we communicate with one another.

The objects in these three precedents are intentionally positioned in the space between the individual and the object: what is emotional, cultural and social. Reviewing them is not meant to be a way to find gaps in existing material approaches. What this is meant to do is to begin understanding the array of ways

designers and artists are expressing a need for slowness in the design process and to speak to our emotional relationship to one another and to objects. In what way might this in-between space be defined more specifically, and be further operationalized?

MATERIAL WORLD + COGNITIVE WORLD

Through Material Communications, I am asking; ‘How might the process for design be used to bridge the gap between the material world and the cognitive world?’ The heart of this work is not in the objects, but the process for design that could be used to impact our well-being. Material Communications is one design strategy that uses this capacity and begins filling this gap in order to expand the understanding of the cognitive world for designers, and to reveal the value of the material world for cognitive scientists. By tapping into this in-between space we can arrive at a deeper, more mindful understanding and practice that is transdisciplinary (Hunt 2013).

MATERIAL COMMUNICATIONS

The Material Communications approach has three phases (Figure 2). Figure 2: Doremy Diatta (2014) First, it requires an existing situation that involves a person enacting their social and emotional skills. The second phase is a repurposing of the process that interior and product designers are already using to design, and is called Materializing. Here, social and emotional skills act as the agent to incorporate an attention to the nuances of the human condition, or slowness, into designed artefacts. Once a spatial intervention’s been made, the third phase works to consider a person’s daily life and how this intervention might improve their personal interactions. Integrating is about nurturing our relationship with artefacts. This document explains in more detail what each phase of Material Communications is and how it works through one case study done over a seventeen-month period.

Part 2: Case Study

SOCIAL, EMOTIONAL ENGAGEMENT SKILLS

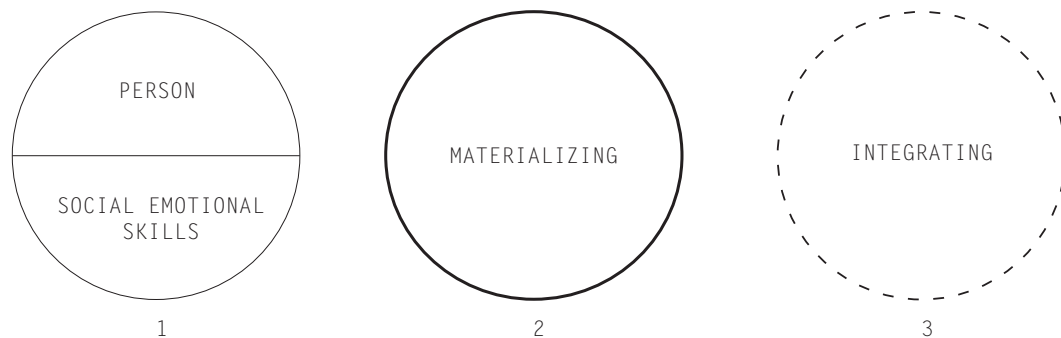


Figure 5

The story of this MFA research starts at the crux of social and emotional stability or detriment: the family unit. I partnered with a child mental health organization that offers families Parent–Child Interaction Therapy (Find Treatment 2012). This organization provides children and families with evidence-based clinical care, engages in research, and provides resources to educate parents. Parent–Child Interaction Therapy (PCIT) provides the families using it with a practice firmly based on research evidence. This therapy treatment gives support to families with children who have clinical levels of externalizing behaviours, for example, physical aggression and impulsive behaviour. For me this partnership involved going to clinician meetings, watching therapists work with families, a feedback session, and one-to-one

conversations with parents.

Brian's son is a really bright and loving 4-year-old. He has been acting out and is aggressive at home. His behaviour has started to cause serious problems with his older sister and parents. Because of this, Brian's family met the criteria to start Parent–Child Interaction Therapy. Brian began to learn new skills so he could have a more positive experience with his son. In this photograph, they were in the first of more than ten introductory therapy sessions.



Figure 6 (CMU)

Although the child is the vulnerable one, the parent is the key to creating a supportive environment for the child. This case study works to directly support the parent. The main thing these sessions work to do is help to avoid feeding attention to negative behaviour and punishing for it, and instead acknowledge positive behaviour. There are three social and emotional skills parents learn to use in order to do this:

- 1 Give the child specific *praises* for behaviors they want to see more,
- 2 verbally *reflect* what the child says, and
- 3 *describe* the child's behavior.

In combination, these three skills lay the foundation for being able to achieve the goals of Parent–Child Interaction Therapy. Parents learn what Praise, Reflection and Describing Behaviour are, and how to use these skills with the therapist in the clinic for one hour per week. The setting for the room is always designed to be set up for the most favourable interactions; there is usually a table, a few chairs and one set of toys. In contrast, the family's environment at home can be unpredictable and chaotic with so many variables affecting what happens moment to moment. Understandably, parents find it hard to use the skills when they go home. They have got to remember to use them, remember what they are, where to best use them, when that is appropriate, and above all overcome their long-standing habits for interacting with their child.

The difference in how successful parents are at using the skills are mainly environmental differences. One starts to wonder how design can become more fluid to help parents like Brian remember to practise their skills at home. This kind of support has yet to be made available by Parent–Child Interaction Therapy. So, how might a material, spatial, intervention help ease this gap?

MATERIALIZING

I first thought of a way to take the essence of each skill and represent it visually and symbolically. This way, parents would not be using their memory skills at home, but their visual skills. This translation is actually a capacity most spatial designers are trained to have early on in their education. By this, I am referring to the design exercise where you take an abstract concept or term like 'movement' for example, and through the basic principles of design come up with several visual forms that represent 'movement'. As part of Material Communications, this is how Materializing works.

My very early hunch was for parents to make these visuals themselves or use an object they already own. But, the real question is, how might a universal representation useful for any parent be determined? The reason for this is over time, I found people have an ability to attach

meanings and abstract associations with any object as long as there are somewhat symbolic features to the object that are appropriate for what they are meant to be used for. By adopting this existing design process, I have taken the three Parent–Child Interaction Therapy skills and taken them from being ‘complicated concepts’ and made them into ‘simple material symbols’ that represent each skill (Figures 3, 4 and 5). Through Materializing, the slow nature of our emotions and intimate social interactions are embedded into the design process and consequently result in an aesthetic and material form.



Figure 7 (Chen)



Figure 8 (Chen)

Labelled Praise compliments a child on her or his behaviour. Labelled Praise is effective because it lets your child know exactly what you like. Labelled Praise increases the behaviour that it describes. Labelled Praise increases your child’s self-esteem. Labelled Praise makes both you and your child feel good. (Eyberg, Sheila M., and Beverly Funderburk 2011, p.17) Figure 3: Doremy Diatta (2014)



Figure 9 (Chen)

To reflect is to repeat or paraphrase what your child says. Reflection allows your child to lead the conversation. Reflection shows your child you are really listening. Reflection actually helps you learn to listen. Reflection shows you to accept and understand what your child is saying. Reflection improves and increases your child's speech and language. (Eyberg, Sheila M., and Beverly Funderburk 2011, p.17) Figure 4: Doremy Diatta (2014)



Figure 10 (Chen)

Behaviour Descriptions state exactly what your child is doing. Describing behaviour lets your child know you're interested and paying attention to her or him. Describing behaviour lets your child know you approve of what he or she is doing. Describing behaviour teaches your child how to hold his or her own attention on one activity. (Eyberg, Sheila M., and Beverly Funderburk 2011, p.17) Figure 5: Doremy Diatta (2014)

The Parent-Child Interaction Therapy objects are not prescriptive and they're also not meant to teach parents new information about 'Praise,' for example. They are designed to prompt parents to use that skill. They are designed to elicit memories of the skills they practiced in therapy in the past. The following iterations are the first experimental results of Materializing each of the 3 therapy skills.

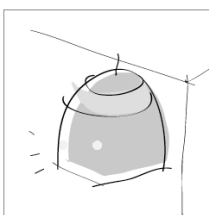


Figure 11

Labeled Praise compliments a child on his or her behavior.

Iteration A

This is based on a preliminary PCIT Skill Survey response; "Praise is huge, violet but bright. It's blinding when seen from below and lifting when seen from above."

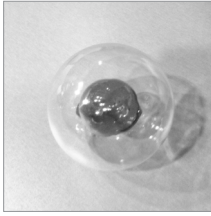


Figure 12

Iteration B

Through interviewing parents, it was obvious this skill stands out for them. It is a prominent example of a mutual benefit both for them and their child. This iteration is focused on creating loosely symbolic features that are appropriate for Labeling Praise. Material: glass.



Figure 13

Iteration C

The inner blue mirror may represent the physical praise-worthy action of the child. The exterior transparent sphere may represent the Labeled Praise the parent is enveloping the child in. Material: plexiglass.

Reflect is to repeat or paraphrase what your child says.

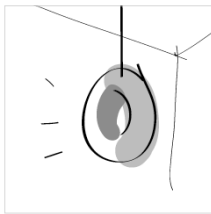


Figure 14

Iteration A

This is based on a preliminary PCIT Skill Survey response; “Reflection is a sort of harmless shape, like a squashed sphere with depressions in the middle. Like a blood cell. It is round and stable, but heavy and somewhat unwieldy.”



Figure 15

Iteration B

This iteration is focused on creating loosely symbolic features that are appropriate for Reflection. This jack shape is intended to represent the very auditory and vocal qualities of this interaction skill; ‘frequencies’ emanating from a central point. Material: zinc with chrome finish.

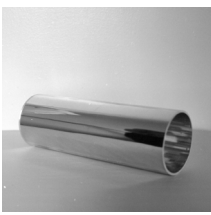


Figure 16

Iteration C

Keeping the same representational concept, this iteration mimics an object that captures sound; a seashell, a cave, a boom box. Material: plexiglass and metallic foil.

Behavior Descriptions state exactly what your child is doing.

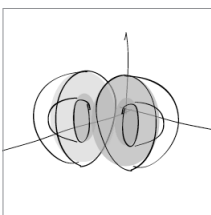


Figure 17

Iteration A

This is based on a preliminary PCIT Skill Survey response; “Description is like circles, different bright colors.” Its overall form is made to represent the diversity of characteristics in any action that is to be described.

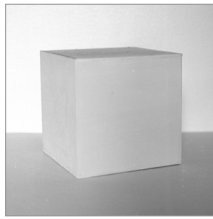


Figure 18

Iteration B

The latest iteration of this object is based on observations of parents in clinic. Behavior Description, successfully executed, is often dependent on the pace of the parent. More specifically, if the parent is slow in pace and is providing a neutral ground for the child to play, the more effective their Behavior Descriptions. The subtlety in the two yellow hues and the natural tone of the wood is representative of the slow pace required to identify subtle yet telling behaviors of the child.

INTEGRATING

Integrating is the final phase of Material Communications. Within the case study, Integrating is about asking, how can these objects be made practical in a parent's life? In other words, it is about nurturing our relationship with artefacts. For the designer, this phase is centred on the design process being a way to facilitate conversations and encourage reflection to answer this question.

The objects for Parent–Child Interaction Therapy are designed with different kinds of loose symbolic features that leave room for parents to personalize how they associate and what they associate with the object. How can you induce, in a relatively short period of time, a similar kind of association we humans have with the nick-nacks sitting on our mantle, or the plant we call our best friend? Part of this has to do with designing conversations and dedicating time to reflect and make these connections. The hour-long dialogue I have with parents in Parent–Child Interaction Therapy is made up of six smaller, progressive conversations.

Brian and I took a seat together with just a few papers and a pen in front of us. Prompted by a worksheet, Brian shared that 'Labelling Praise' is an important skill for him to use. Yet, it is the one that is most challenging to use at home. He shared that it is especially the case at the breakfast table right before his son has to run and get on the school bus. I then placed the therapy object assigned to 'Labelled Praise' in front of Brian. This next conversation is a period for him to pick apart a few material aspects of the object and reflect on his experience with using Labelled Praise and record on paper exactly how they correlate. Once he has done this, the object carries meaning. He is ready to take it home, and hang 'Praise' over the breakfast table (Figure 6). Figure 6: Doremy Diatta (2014)



Figure 19

Early on in researching and testing this, my thought for integrating the objects into a person's life was that the object-to-person relationship is a direct exchange. One has a thought, one associates it with an object, that object triggers a thought, that thought evolves, and back and forth. But in fact, I found the true object–person relationship is one that is ephemeral. The way parents and clinicians use these objects and integrate them embraces this complex nature. The associations and relationship parents have with the object are regulated by the therapy sessions they go to every week that are already working to reinforce their understanding and

Conversation 4 Therapy Object: The goal for this conversation first to review the skill chosen. Secondly, the therapy object is revealed and introduced. Thirdly, an exercise is done for parents to form personal associations with the object.

Conversations 5 Take-Away: The goal here is to prepare parents to be able to take their object home, practice skills, and document this process.

Conversation 6 Reflection: What were your main take-aways? This final portion allows for the parent to self-reflect, providing feedback, and re-design their objects.

Integrating Worksheets

Each of the 6 conversations within the Integrating dialogue are guided by a worksheet, one of which is shown in Figure 20, where parents take a moment to reflect and write about their experience and tacit knowledge of PCIT and the correlated therapy skill.

Part 3 Implications

Material Communications gives emotional and social support to individuals by affecting their surrounding environment. An investigation of the existing conditions of Parent–Child Interaction Therapy was done, which led to the revealing of a gap in the practice that is based on environmental factors. Material Communications is a design process whose final outcome is a built set of supportive, metaphoric and memory-eliciting objects specifically around the concerns of the parent.

ASSESSMENT

The process of design is a strategy that addresses a gap in the case of two families being able to engage with their social and emotional skills at home and in therapy. The outcome of this design process is at a small scale, where it results in a set of artefacts for the home. They allow their user to have a kind of clarity that lets them have more positive emotional and social experiences with their family. It can be speculated that a thoughtful research process, well-informed Materializing and a guided Integrating of the objects into a parent's life may increase how frequently parents practise their skills at home, improve their evaluations in therapy, and consequently cut down on the time and finances needed to complete Parent–Child Interaction Therapy.

There was consensus that for parents who are visually oriented, the object they took home served as a consistent reminder to use the skill. Parents could understand the meaning of the object:

I definitely say it was successful. My idea of success was to use the skills more, and yes in this way it was. It wasn't just during special time. Whenever I was using the skills, it reminded me to Reflect more. (Parent Interview Feb. 2014)

However, there wasn't consensus that the therapy object is fitting for all parents, nor that when they did take the object home, that they place it somewhere appropriate.

Firstly, it has been very important to be cognizant of how apprehensive or skeptical parents may be of therapy itself, and to avoid inadvertently compounding that by imposing the therapy object.

I did so much research of PCIT before starting therapy, but once I started, it's totally hard and uncomfortable to have to completely re-learn my habits as a parent. (Parent Interview Feb. 2014)

This requires a questioning of whether or not the objects are necessary or appropriate for a

parent at the outset. This is why the decision to incorporate the objects into therapy would vary case to case, and is at both the therapist and the parents' judgement.

Secondly, it's been found that there is a need to determine where the ideal locations for the objects are.

I would say it was unsuccessful because it didn't really trigger to use Labeled Praise. Had I been seeing it, it would've been great. (Parent Interview Feb. 2014)

This insight was followed by refining the Integrating phase, where a more targeted dialogue was designed. This dialogue became about identifying exactly where and when the PCIT skill is most needed and considers that there may be more than one location. As a designer, this is a time to guide parents to avoid what seems like a simple error of 'putting it in the wrong place.' Over time, parents have found their experience with these objects are always in flux, and take on different meanings related to, as an example 'Labeled Praise', depending on where it's located and what is happening around it.

Assessing the Design Methodology

The first phase of the process requires a designer to engage with an existing situation that involves a person enacting their social and emotional skills. This points to how important it is to be immersed in the organization or institution in question. Group meetings with stakeholders and one-to-one interviewing work to gain a richly subjective account of the context. Yet, this research simultaneously requires a designer to observe objectively just as intently. The design in this phase is achieving this balance. It is implied that any kind of expedited version of research would be inappropriate for working on such an intimate scale. A multi-dimensional understanding of the setting and the individuals involved is the purpose of the first phase.

These existing conditions and a designer's nuanced understanding of them are used to Materialize. This understanding acts as the agent for incorporating slowness into the design process. Slowness can be defined as the particular pace of a person's state of mind or the pace of an interpersonal relationship. Materializing is meant to be enacted by a designer who is well versed in the existing process for abstracting and visually representing a given concept. Hard skills like drawing, prototyping and making allow a person to put forward these abstractions, but this also requires soft, tacit knowledge. By this, I mean to know the way in which and why, for example, an apple can mean one thing to a teacher, mean another to an anorexic, another to a farmer, another to a Christian, another to one's sister, and another to oneself. Integrating these forms into a person's life requires it to be that much more forgiving and flexible to associations a person might have. In contrast to other design processes, this one isolates the tacit knowledge a designer uses, and dedicates a phase of practice solely to engage with this knowledge, and again, encourages a slowness to designing.

The process of Materializing results in artefacts. Incorporating them into a person's daily life is the basis of the Integrating phase. Without orienting a person to the value and intention of the given object, the object cannot fulfil its purpose. This process mirrors the way we are known to nurture our relationship with the objects around us. We associate material artefacts with a moment, it changes meaning constantly, and it can act as a physical and metaphorical anchor for a vast range of ephemeral experiences.

With Material Communications, design becomes an assessment tool for balancing qualitative and quantitative information, and a negotiation tool between individuals and organizations. As a Transdisciplinary Design approach, Material Communications is a design strategy that embraces the true nature of the human condition that is equally as material as it is cognitive. A study of mental health and behaviour is an investigation of environmental factors. A conversation about artefacts is a question of the human condition.

REFLECTION

Currently, the education of product and interior designers on how to make things and spaces is directed by concerns like commercial profit, ergonomics, efficiency, 'sustainability' and functionality. In hindsight, Material Communications is yes, a means to a new design practice, but it is really more of a pedagogical approach to be used by educators and to be the start of an incremental shift that changes our processes and understanding for designing. This movement is about strengthening and grounding our sincerity and ethics as designers through education. Material Communications also functions as an alternative form of communication. It is indifferent to these language-based representations of an experience, and is a way for the user of the object and the designer enacting the design process to tap into something that is not limited by syntax. Applying Material Communications to different contexts becomes a question of where alternative forms of communication could be of use. It is also a means for conversation and organizational change in general education. This method allows me to synthesize pedagogies of institutions in order to simplify the content in more digestible forms for their constituents.

The objects described in this article are an active contribution for the well-being of a family unit. Yet, they can blend in with the nick-nacks sitting on the mantle. They sit next to the box of special things on the bookshelf. And with time, equally become a sentimental archival piece for him, his family, and future generations.

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