Slow Design and the Lost Art of Shifting Gears

By

Sarah Catherine Hay

B.I.D. Carleton University
Ottawa, Ontario, Canada

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Abstract

This paper is a contribution to the growing discourse around the transformations taking place at the intersections of design, ecology and culture. It is about slow design and the lost art of shifting gears. It embraces 'Festina lente' from the Latin, which means 'make haste slowly'. The phrase and its implied meaning is central to a new interpretation of slow design, espousing the philosophies of 'slow' and a method that puts them into practice. Slow design does not imply idleness, but rather taking the necessary time to consider and visualize unintended consequences and actively seeking out ways to not only avoid these but to find better alternatives. Long term thinking (ex. Seven Generation Theory) and the notion of sustainments frame and orient the overall intention while new social processes transpire. This thesis describes in detail a new design methodology that is possible if designers focus first on one conceptual variable – time. The focus on time enables designers to recognize variations in physical and temporal scales (i.e. context), expanding one's temporal horizon and building capacity to respond quickly to changing conditions. This is the true challenge for the designer working towards socio-cultural and ecological regeneration.

Questions that will be answered in the paper are as follows:

What is slow design? How does it differ from conventional design? What are the criteria? What are the precedents? What is the methodology and how is it applied?

Conceived as a floating structure, built mostly of salvaged materials, the project component of my thesis (RAFT) is used as a way to test and work through the creative possibilities that surround slow design. I use RAFT as a research tool – a conceptual and physical sounding board to uncover and develop a template for practicing slow design. The method was conceived primarily for industrial designers, and therefore more often than not includes a physical product output. It has the ability to transfer to other forms of sustainable design and production.

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Acknowledgements

Firstly, I would like to thank my supervisors Louise St. Pierre and Randy Lee Cutler for their invaluable support, advice, guidance, encouragement and patience. Secondly, I would like to thank Karolle Wall for additional support and commitment to making work meaningful. It was from working closely with them that I began to view the practice of writing as a powerful way to convey complex ideas on design, temporality, materiality, ecology and culture. Numerous productive meetings helped to shape the content and tone of my thesis, understand the audience and the relevance of each word on every page.

I cannot forget my mates – in the studio, the class room, the office, on the boat, in the restaurant and in my home(s), past present and future. With out them as collaborators and sounding boards, my work spins in circles, in isolation, unfixed and irrelevant.

I would like to thank my family for their support and faith in my creative pursuits in the North West Pacific. The long and layered *slow* score that my younger brother composed specifically for my thesis project was a unique challenge for him, a heavy metal / punk rock guitarist. I will always be grateful for that opportunity to collaborate with such a talented musician.

February 28th, 2008.

Dear reader,

This paper lays down the foundation for a *slow design* methodology resulting in a practical framework for you, the mindful[1] designer. In order to bring us to the methodology, I explore the diverse landscape of time culture, discovering multiple aspects of temporality as they relate to new ways of understanding, approaching and practicing *slow design*. Together, life-world experience and ongoing research generate new ways of understanding old maxims such as 'festina lente' from the Latin and 'seven generation theory' from the Iroquois. The new ways of understanding become the *strategic* and *practical* aspects of *slow design*, as we uncover and (re)discover the lost art of shifting gears in our everyday lives.

Moving on, I begin to dissect and study the way design continues to respond, adapt and even pro-act to changing conditions (Chapter 2). To avoid the trap in labeling something sustainable or not, let's learn from the Ecodesign Foundation in Sydney, Australia and adopt the concept of *sustainments* into our vocabulary. Sustainments are defined as mechanisms for betterment – product longevity, emotional durability and modularity are strong examples for me. There are many more examples on their website but the critical line weaving through the framework ensures that new social processes are factored when designing sustainments. Ultimately a thesis is as much about communication and relationships as it is about contributing to new knowledge.

New knowledge signifies a deeper understanding of a particular idea, concept, system, or process. An interesting current way of thinking about new knowledge is through the notion of the meme. The term meme was originally coined by Richard Dawkins in his 1976 book The Selfish Gene. It refers to "a unit of cultural information, such as a cultural practice or idea, that is transmitted verbally or by repeated action from one mind to another" (Waters 1). Slow could be considered a meme spreading and transmitting its values as it travels through the internet, blogs, and conferences, around the dinner table, or on the RAFT.

I realize the inclusion of time in design research opens up yet another sea of possibilities to contend with, including a complete reconsideration of what we mean by the concept of time. Time is worthy of its own thesis exploration, yet vital to mine. For the purpose of this paper, time is perceived as the thread that weaves together past, present and future, as a medium in which things get made and unmade, as an expanding space in which things move in continuous cycles and oscillating rhythms on all scales. Time is simultaneously a structure, a dimension, a quantity, a concept, infinite, and finite. It is rhythmic cyclical linear and sequential. Our lives could be thought of as successions of events of various durations of various scales, manufactured in the memory of experience. It is complex in its diversity and variability yet easily approachable. It is in this way that time frames the research and thesis project.

Yours,
Sarah Hay

[1] **Mindful: 1.b.** Taking thought or care, heedful; being conscious or aware. **2.** Intending or inclined *to* do something. (Oxford English Dictionary)

Thesis Project: RAFT!

The thesis project is a critical inquiry of the current role(s) of producer and in many ways the consumer, moving into areas of sustainability research that embrace emotional durability in aspects of design. My aim has been to slowly design, construct and deploy a floating platform which I call RAFT. RAFT is not intended to be a metaphor but a contribution to the advancement of unconventional forms of creativity and radical simplicity. It is a pedagogical tool with a capacity to physically support four people. It can be maneuvered on water with oars and on occasion will set anchor for extended periods of time. While on land it will be used as a stage or picnic platform and can be disassembled for transportation and end-of-life scenarios. It will be built from salvaged materials, but this is not Junkyard Wars[2], since the pieces will not be 'scrapped together' but rather, thoughtfully reconfigured and assembled with high attention to detail. The intention in setting up the project is to provide a test bed for creative possibilities that manifest slow design. The desired outcome is to provide a platform for peaceful enjoyment and critical curiosity while slowing down cultural and industrial metabolisms. That is, slowing down the rate at which resources are consumed while contributing to the health and well being of those involved.

At the time of submitting this paper, RAFT will be entering into its second round of prototyping and will be ready for deployment in six weeks time. Research, concept sketches and prototypes have been made and analyzed while substantial material research, sourcing and salvaging has been accomplished. I have collected 8 200L white barrels, 8 timber pallets (48"x40") with access to many more, a bucket-full of inner tubes, and a bundle of 8ft bamboo poles. Many new and surprising relationships have formed in the process and are essential in realizing and sustaining the project.

[2] The Learning Channels' Junkyard Wars is a television series that frames educational demonstrations of basic technological principles with a raucous, fast-paced, head-to-head contest. Racing against the clock, two teams scrap together working machines to carry out a particular mission, using whatever they can find in a 5-acre junkyard. At the end of each show, the two teams pit their creations against each other to find out who has put together the best solution to the producers' challenge.

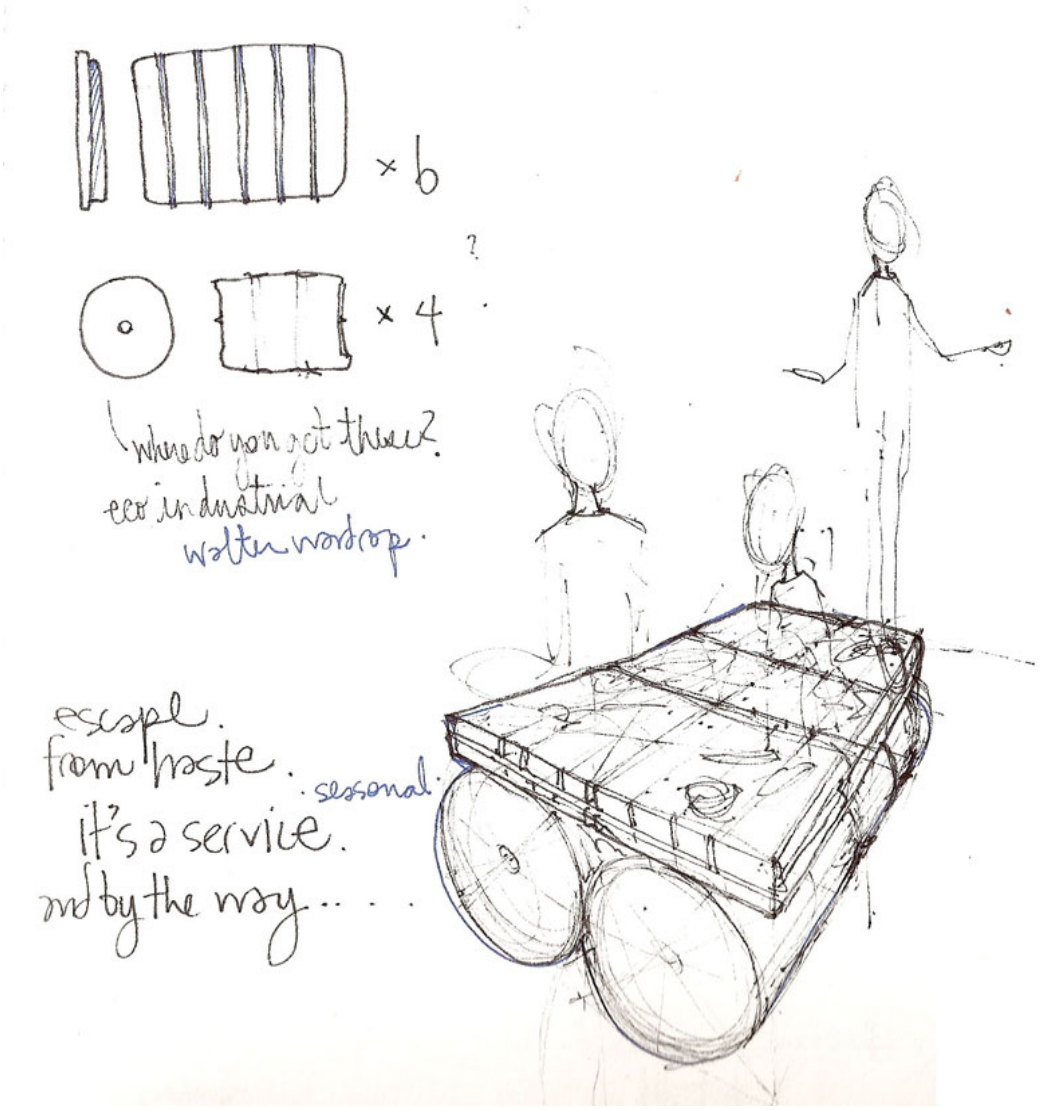


Fig. 1: Early sketch for RAFT.

Hay, Sarah. "And by the way…" December 2007.

UPDATE: Since the first submission of this paper in March 2008, RAFT has been deployed three times. Much was learned each time, and improvements to the design were implemented. For example, because of a lack of storage space, each pallet was modified and outfitted with a simple trap door. Salvaged fishing net was fastened underneath to hold provisions, books, speakers, life vests, etc. It is currently sitting in storage. (May 2007).

Approaching Praxis

I often ask myself: Who do you work with when you are always working? Where is home when you feel at home everywhere? In 2004 I graduated from the School of Industrial Design at Carleton University in Ottawa, Canada, and slowly headed west to Vancouver, BC. Geography, co-housing, green buildings, sailing and art are what keep me here. During this time in Vancouver, I have been trying to reconcile something deep within myself. I have been trying to figure out how to orient and project my energy so that I may contribute to something larger while sustaining my own well-being and creative desires.

It seemed then, a logical step to immerse myself within the Masters of Applied Arts program to expand my understanding and articulate the 'who-what-where-when-why' of sustainable design and creative communities given the visionary nature of the new program. In the fall of 2006, I entered into the ECI community as something of a hybrid designer: an industrial designer / sustainable design researcher / want-to-be artist (specifically, a new genre public artist interested in relational aesthetics). When I leave, it will be as a creative strategist / planner / project manager / collaborator / teacher and bricoleur.

From knitting circles to barn raising allusions, on the ground and on the web, my work seeks to understand evolving social processes in tandem with sustainable design strategies in order to re-orient the design process from early conception to realization. With slow design, the goal is *always* to reduce the social and environmental impacts locked in during the design process by effectively slowing down cultural and industrial metabolisms, and focusing on holistic well-being (individual, socio-cultural, and environmental). Ecological and slow design sage Alastair Fuad-Luke writes in Slow Theory that setting such goals encourage those engaged in design to take a long view; stimulate a renewed joy in design (and its outputs); celebrate diversity and pluralism; envision slow as a positive socio-cultural value; and, focus on the present rather than trying to design the future (19). Slow Theory was essentially my theoretical spring board into the world of *slow design* in practice.

More than theory translated into practice, praxis involves degrees of intentionality and a sense of agency or purpose to the learning and its application. Yet, to simplify praxis down to theory-translated-to-practice-driven-with-intention could be considered an academic crime. For the purpose of this paper, praxis involves active imagination in order to conceive of alternative possibilities – "without imagination there can be no social progress" (Quon 188) and "the result is action upon our world" (Allsup 158/2). In his essay Praxis and the Possible: Thoughts on the writings of Maxine Greene and Paulo Freire, Randall Allsup writes, "praxis is not simply the capacity to imagine alternative scenarios, but is instead the slow burning fuse of possibility and action" (157/1). Praxis therefore also requires a

deep sense of groundedness in order to act effectively on the world and I would add to that it requires lateral thinking and adopting a long view.

In the western world where time is rendered a scarce commodity, where so much of what we do is a race against the clock, slow is seen as a liberating resistance to this perceived pressure. Slow is seen as a condition for creating political and economic change from within a culture of haste. RAFT is the platform that I am using to translate slow theory into practice. My desire to imagine and realize such a project comes from a deeply rooted feeling of resistance to current 'fast' practices. It is in this curious and purposeful sense I am slowly working towards praxis.

Throughout this paper, I touch on personal experiences in order to deepen and reinforce the foundation Fuad-Luke, Ezio Manzini and Carolyn Straus have set for slow design – the counter balance to conventional (or fast) design. I use the thesis project itself as a tool to explore, test and uncover a methodology for *slow design* that is transferable, scalable and contextual. The emerging methodology can be applied to any number of design projects from ephemeral short-life to enduring long-life products.

By bringing the temporal plane deeper into the design process, the thesis project offers the necessary freedom to investigate the theoretical and practical aspects of *slow design*. Through the act of reading, writing, drawing, prototyping and reflecting, I continue to expand the time frame in which I operate which informs and supports each successive decision.

The output from the research is a Template for Practicing Slow Design (see Fig. 2 on next page or Appendix 2 for text version) and a Slow Design Method Diagram (Fig. 4). The Slow Design Template[3] offers a list of critical questions to ask during these three design phases given the initial state, desired state(s) and potential enduring state(s). The questions that make up this template are also embedded in the paper and are concerned with aspects of temporality, materiality, and conviviality in design. The Method Diagram illustrates how collaborative research can be 'turned' into product output through three phases of design (planning, doing and maintaining). The potential for the product output to have long term relevance increases when the method diagram and the template inform each other. Please refer to the synthesized template as necessary.

Fig. 2: Template for Practicing Slow Design (following page)

[3] **Template:** An instrument used as a gauge or guide in bringing any piece of work to the desired shape. (Oxford English Dictionary)

a template for practicing slow design

What is the anticipated lifespan of the project and product?
How does it stand up to the seven generation theory?
How can this early recognition inform design decisions such as materials, production and distribution methods?

- Short – ephemeral
- Medium – closing the loops
- Long – enduring
- Multi life – this becomes that

What is the timeline? Is it realistic?
What is the critical path. Is there enough time and space for research to empower design activity?

How will you know when you've succeeded?
And what criteria does one need to measure this?

Who/what benefits from this project?
Who/what suffers?

(Socially, environmentally and economically speaking)

Carry out 'sustainability' and/or 'life cycle' analysis if there is any question of negative impact.

How does the product expand our view of the world?
(Locally and globally speaking)

What kind of relationships will form as a result of an integrated/collaborative process?

Where is the funding coming from? Is it an ethical source?'

If there is little funding, what are some strategies to explore to be more resourceful. Remember there is more than one kind of capital.

Is this a self initiated project or client driven?

Who are all the potential collaborators?

To what extent can they contribute and at what points in the process? What are their backgrounds?

Where are the knowledge gaps?

Who are the users and experts and what are they doing?
Research and record precedents that support the projects' trajectory. In what ways did they succeed and/or fail?

What is the volume?

- One of a kind
- Multiples
- Mass production

What are the products materials?
Honour the materials.
Let them speak.
Do not hide them.

What is available locally?
(in terms of people and materials)

What does it look like?
Aesthetic qualities through out life cycle.
New and old. Out of the box and down the stairs.
Consumers are savvy these days with high material expectation (Functionally and aesthetically speaking)

What does it feel like?
Tactile qualities - soft, hard, cold, warm, strong, precious, etc.
What is the experience?
Experiential qualities - creative, challenging, entertaining, useful, helpful, productive, active, passive, etc.

What do we know about the target audience?
Is the user the same as the purchaser?

How do they identify themselves and with others? What is the common language?

What are the methods of production?

What is the state of the art?
What is the traditional method of production?
Is there a happy medium?

What does it take to make it work?
What is the energy source?
Consider solar and human energy.

How do you maintain and service it?
Why will people want to cherish it?
Is it apt to get lost?

What about packaging?
Is it necessary?
Can it become something else or biodegrade?

Does the product illicit emotional durability?

Are you passionate about the project?
Passion will focus your effort to a level that transcends the norm and manifests slow design.

1 Time Culture

June 12th, 2007. Guadalupe, Chiriqui, Panama
It's heaven in the mountains and I don't mind the traffic because I know they're going somewhere. Last night across the street the men played volleyball until long after I was dreaming. Finally, the air is cool and so the weight of the down duvet is quite sensational.

'Festina lente' from the Latin means make haste slowly and appeared in the logo mark of Aldo Manuzio's publishing company some five hundred years ago. The phrase and its implied meaning is central to a new interpretation of slow design espousing the philosophies of 'slow' and putting them into practice. 'Haste', in Manuzio's eyes did not indicate fast initial growth but rather 'speed in reaction and adjustment, combined with firmness in the execution of a grand plan. It suggests that we must be quick, flexible and able to adjust to ever-changing circumstances that can turn up unexpectedly" (Livraghi). This insight is relevant today for the growing number of designers working towards sustainability[4]. The ability to respond quickly to changing conditions, while slowly progressing to the primary destination (socio-cultural and environmental regeneration) is a true challenge for designers today – a challenge that I am exploring and charting through this paper and through the applied thesis project. RAFT is a conceptual and physical platform containing compounding layers of complex information, meaning and method; a pedagogical tool in the face of environmental adversity. Once built, RAFT will be a vessel for peaceful enjoyment and critical curiosity. While I find pleasure in exploring the abstract and theoretical aspects of design, I will always return to the applied thesis project as the conceptual and practical sounding board for the emerging methodology.

[4] The Designers Accord is a coalition of design and innovation firms focused on working together to create positive environmental and social impact. (http://designersaccord.org)

Temporal perception impacts and influence the way one makes decisions and consequently treats others and the surrounding environment. This chapter provides support and vision for the adoption of a slow design methodology built on notions of '*festina lente*' and '*seven generation theory*'. In order to function effectively, design must be well positioned from the onset in order to create positive influence over what we produce and consume (i.e. long term cultural relevance). Information, inspiration and intention related to ecological [and social] issues are the functional ingredients that must be brought into the process of positioning and orientation (Pagani 37). Freda Pagani's formative work on adaptive evolutionary design and architecture reinforces the importance of relational thinking and navigation for the mindful designer.

French theorist Paul Virilio also writes about time culture but in the context of speed pollution, accidents and cultural disconnections that result from technological acceleration and the rise of 'real time' communication. In the opening chapter of Open Sky, Virilio suggests that "if we really want to reorient our daily lives, we will soon need to change our bearings, to shift our sights 'upwards'" (Virilio 3). The time is ripening for artists and designers to focus their creative energy on designing perceptual and navigational aids that enable reorientation of the everyday. The more people involved, the greater the potential for positive change over time.

The motivation to position and orient the thesis project the way I have stems from three years of experience as a crew member on a yacht that races competitively in the North West Pacific. This experience helped me to understand 'festina lente' not only in the way I think, but also in the way I act. For hours on end we were actively engaged in ordinarily passive pursuits: sitting, scanning, observing and relating: training our eyes to focus, watching for wind, wildlife and other boats, as we waited for the precise moment to act – tack, gybe, change and trim sails, shifting our collective weight inwards and outwards, high side and low side. We learned how quickly our

actions – at the wrong time, in the wrong sequence – could disrupt the momentum of the highly sensitive, forty-foot vessel cutting through the vast ocean.

'Festina lente' points to a highly efficient and effective method for practicing slow design however unless one is operating in isolation, relational[5] aspects of slow design are equally vital to successfully reaching the destination. The term relational, in the context of Slow, is about maintaining relationships. As we will see, the process requires time to stop and talk with a myriad of people (craftspeople, suppliers, etc.) along the path of designing slow.

Necessary bonds of trust form when individual roles and group dynamics are experienced, understood and respected. Continuing with sailing as an analogy for 'festina lente', each person must trust and rely on the others to perform the duties of their respective position on the boat at exactly the right time, in the right sequence. That active trust must exist among all players, including the people, material and technical systems and various external forces at work in order to move in the desired direction – safely, efficiently and yes - *quickly*. The trust can only form through a combination of clear communication, practice and experience.

With collaborative work whether it be sailing, designing and/or producing, devoting more time in the initial phases of the process to research and strategic planning is arguably beneficial to the entire process. Shared research not only helps to understand the cultural and competitive landscape, it can also identify new directions to be pursued at a later time. Clear communication will save time, money and energy. Unintended impacts can be dramatically reduced. Relationships require maintenance as do products. I anticipate continual maintenance with RAFT in both senses – the relational and the material.

[5] Borrowing from contemporary artistic discourse, the term relational, for me, is informed by new genre public art (Susan Lacy) and relational aesthetics (Nicholas Bouriard). Both fall into these arenas: creating an environment for the public, interactive installation, "random" moments for the passer by, and situational art that collaborates with the audience. In this sense the term relational signifies the aesthetic of human relations and experience.

Just as work on a boat is never finished, it is safe to assume that in building and maintaining the RAFT, a similar experience will unfold. A boat can be seen as a true example of design for emotional durability, requiring passionate maintenance every passing season from its owner. In Emotional Durability (2005), Jonathon Chapman adds to the discourse another sustainable product design strategy of the same name which is closely related to product longevity[6]. As such, a product's intrinsic value can not be measured immediately because it can only accrue over time. In Chapman's view, emotional durability should strive to "empower alternative modes of consumption through provocative genres of objects that expand our experience of daily life, rather than closing it down through endless cycles of desire and disappointment" (Chapman 24). Often, it is the age-related alterations that trigger past memories and personal histories. For example, toys from one's childhood carry emotional durability built up over years of play and attachment. Toys have the ability to capture childhood memories (such as a family trip or a bad day) and to recount those stories many years later. Through the use of simple, durable materials and/or intelligent technologies, an object's visual indication of age can expand our experience of daily life and contribute to well being, so 'long as it is maintained. Understanding why people become emotionally attached to a product whether it is a toy or a fixed gear bicycle trigger important questions for designers to ask when designing long life products. How does one maintain and service the product? Why will s/he want to cherish it? Or in the words of the Eternally Yours Foundation, how can the product age with dignity? But perhaps even more important, how do individual and cultural perceptions of time become a source of resistance to Slow's objectives and to this thesis in particular?

Research on the perceived flow of time finds that one's perception of time can be linked to changes in well-being. Under pressure, the sense that time for an activity is scarce, has been

[6] Product longevity is a strategy that seeks to reduce environmental impact, by considering ways for the design to gain meaning over time. It involves adopting the long view into the creative and tangible process and outcome.

associated with stress, fatigue and diminished physical and mental health (Larson, 2006). That pressure is lifted when we carve out space for unstructured activities, though not always an easy task (especially for designers and creative types working under deadlines). Time-Pressure Illusion: Discretionary Time vs. Free Time was an Australian research study (2004) that explored whether the 'time pressure' that people feel they are under is real or imagined – or, more precisely, whether it is a matter of choice or of necessity. The study finds that those who feel most overworked – those who have the least 'free time' – largely do it to themselves. These are the people who would benefit the most in hearing about the possibilities surrounding slow design. For the mindful designer, this is an opportunity for positive intervention. How does the product output expand our experience of the everyday? How does it expand our view of the world (local and global)? What kind of relationships will form as a result of an integrated and collaborative process? Considering these questions (extracted from the Template (Fig. 2 / Appendix 1)) will uncover opportunities for positive design intervention and the potential for projects to maintain emotional durability and long term relevance.

Technological advances of the past one hundred years have meant that the work we do more often than not creates a sense of disconnect from time and place. Dr. Freda Pagani writes that "the effect has been to alienate us from the intimate connection between what we do and its effect on human and natural systems. We can no longer perceive the connection between the materials of the chair we sit in and the natural world of plants and trees that it came from" (Pagani 179). To be fair, there are many instances of design, media and technology creating a sense of deep connection to time and place – moments that reflect advancement of knowledge about nature, verify wondrous complexities of the universe, and connect us with each other in meaningful ways. Eames' Powers of Ten, BBC's Blue Planet, Burtynsky's Manufactured Landscapes, and the cumulative effect of TED[7] talks have certainly had this effect on my

[7] TED stands for Technology Entertainment and Design. It is an annual conference that attracts the world's top minds ranging from Janine Benyus on Biomimicry, Malcom Gladwell on diversity and happiness, Alex

understanding of the world. However, it seems that present day dependencies on technology and material expectations induce *temporal tunnel vision* – a detrimental condition found in accelerating cultures for which we must find a remedy. Temporal tunnel vision or the absence of the long view, can take on many symptoms including a sense of isolation from the world at large thus causing limited temporal vision outside one's narrow pathway lined with personal goals. It would be safe to say that we all suffer from this to some degree. The remedy to *temporal tunnel vision* may be found by embracing a long view, bringing temporal variation and elasticity up to the surface, confronting what was before and what lies ahead.

For example, antique chairs with worn rungs tell stories of pioneers sitting around a table celebrating and lamenting. It is unlikely, though not impossible, that the designer did not have this appreciation in mind in the act of making the chairs. For better or worse (in this case better) time is rarely a criterion with respect to how an object fits and contributes to social fabric. In business, time is money, and this level of long term speculation can quickly become time consuming and therefore costly.

Just as time may seem expensive, speed is not free. Virilio writes that along side air pollution, water pollution and the like, there exists an unnoticed phenomenon of pollution of the world's dimensions that [he] proposes to call dromospheric – from dromos: a race, running (Virilio 22). Speed requires enormous flows of energy and material and more often than not, environmental costs are hidden from the consumer behind a false price point. Virilio's sharp insights in this territory are closely related to the concept of temporal tunnel vision in the sense that individual and collective abilities to see beyond immediate concerns and opportunities are deeply inhibited.

Steffen on a bright green future, Carl Honore on Slowing Down in a World Built for Speed. Clarity and vibrancy ring through each presentation with both optimism and precision. As of May 16, 2008, there are 212 presentations which can all be viewed at TED.com.

Eighty percent of the environmental impact of the products, services, and infrastructures around us is 'locked in' at the design stage (Lewis and Gertsakis 14, Thackara). Knowing this, the questions remain: How can design evolve its temporal frames of reference? How can design not expand its criteria and allow more time for research up front? Louise St. Pierre suggests simply talking about product life expectancy with clients and collaborators. She notes that the more the topic of life space is discussed openly, the closer design will get to lengthening the lives of products (St Pierre 3). By embracing a long view; designers may visualize the possible consequences, positive and negative, individual and collective, by paying close attention to the natural, industrial, and cultural systems in which we operate. This shift in perspective could dramatically reduce the eighty percent Thackara, Lewis and Gertsakis draw to our attention.

The question then is whether it is possible to reframe the temporal plane in order to uncover relationships between time and sustainability? 'Seven generation theory', embedded in many Indigenous cultures such as the Iroquois, is a living example of how communities naturally embrace a long view in order to build consensus and make decisions. "In our every deliberation, we must consider the impact of our decisions on the next seven generations" Iroquois Confederacy. The Iroquois Confederacy is considered the Oldest Living Participatory Democracy on Earth (Costa & Noble 1999). All community initiatives are put through a filter to analyze how they could play out over the span of seven generations with respect to resources and, most importantly, unintended consequences. In this way, sustainability is not a new, but rather a forgotten idea. It is highly unlikely that we will ever revert entirely to the ways of our hunter-gatherer ancestors or cottage industries, however, the cultural wisdom embedded in values and social processes of "deep collaboration at all levels over generations" (Armstrong 1999) should not be discounted or forgotten, but remembered and practiced by the mindful designer. While there is much diversity of culture, struggles and levels of organization among Indigenous people, they also share a commonality within their spiritual beliefs. To them, the Earth is regarded as a

living entity and everything in it contains has a soul. They truly believe that Everything we do has consequences for something else.

Sustainability manifests through the maintaining of new relationships working to protect, restore and enjoy the personal, spiritual, social, and environmental aspects of life. Here, it is defined as both the conservation and regeneration of cultural and biological diversity. A more traditional way of conceiving of sustainability is through three over lapping lenses – society, environment and economy, often referred to as the 'triple bottom line' or 'people, planet, profit'. Simona Rocchi of Philips Design expands the conceptual triad with ideas on new social values (ex. 'Slow', conscious consumption), new business models (ex. open source, eco-industrial networking) and technological innovation (ex. renewable energy, biomimicry). At the Design and Innovation for Sustainability Research Unit in Italy, Professor Ezio Manzini exposes sustainability as an enormous social experiment requiring systematic discontinuity. This discontinuity points to radical changes in political and economic systems. For creatures of habit, this is not a simple experiment. It requires a commitment to rediscovering the lost art of slowing down, of shifting gears.

This is an interesting layer to my interpretation of slow. There are times when one needs to put on the brakes. This is usually when life's pace gets away from us, we fill our heads with distraction, and information becomes diluted with noise. Putting on the brakes could mean anything from unplugging (blackberries, mobile phones, laptops, lights), to decompressing (meditation, yoga, reading fiction), or simply not feeling the pressure of this notion of time scarcity (enjoying household activities, walking instead of driving). Similarly there are times when one needs to accelerate. An approaching deadline for work, a presentation, a performance; for these, activity needs to ramp up in order to meet and exceed expectations. The trick is to anticipate this and to be ready for the right moment to up shift smoothly and efficiently, so as to not increase stress levels. Shifting gears also entails a sense of opportunism. Even

during the slower phases of a design project (ex. planning), opportunities will present themselves in the form of available materials, consultation, outside help and support. The ability to shift gears (from slow to fast abd back) and benefit from opportunities will no doubt pay off in the long run.

In summary, for the emerging methodology that this paper puts forward, 'seven generation theory' becomes a conceptual filter for any new deliberation, initiative or project, while 'festina lente' and the art of shifting gears becomes a method to see it carried out *over time*. In the case of RAFT, much time has been spent planning, sourcing and locating materials, building relationships, and growing the networks in anticipation of participation that will be necessary to see the project realized *on time*, continually returning to the initial intentions and objectives.

In the following chapter, I explore the progression of design theory in order to set up the questions that related directly to concepts raised in this chapter. I will illustrate a method for putting slow design into practice by proposing a series of useful questions to ask one's self during the process of a design project. The information culled from the series of questions (i.e. the Template) is analyzed and then applied with the intention of achieving emotional durability, long term relevance and increased well-being.

2 Design Evolves and Adapts: Locating Slow

Design

It was while sailing around Cortes Island in the Northern Gulf Islands of BC a few years ago that I first felt the gravity and the potential of a slow revolution. What would happen if every single person (and business) slowed down, just a little bit? How might that effect the rate at which the Earth is heating up?

Design, the "conscious and intuitive effort to impose meaningful order" (Papanek 1985 3) is a creative activity which influences and is influenced by an increasing number of variables and interests. Dr. Freda Pagani sees the design process as "an evolutionary complex adaptive system" (36). She proposes that embracing "an evolutionary design process will focus the attention of the project team on the natural systems within which they are inserting the design" (36). The design process follows a sequence of events from conception (initial state) to realization (desired state) where by each decision along the way impacts the next one. And there are literally hundreds if not thousands to be made.

The discipline of design continues to demonstrate a driving influence on consumer culture and economic development bringing with these a heightened sense of responsibility around environmental and social implications as can be seen in countless design publications (online and print), in competitions and conferences through out the world. Manzini puts this into context with pragmatism and sensibility when he writes "the issues with which design is concerned are changing. The tools design uses are changing. The people who use design, whether they know it

or not, are changing. There is nothing strange or new about this; in a society in transformation, design cannot help but change (Granelli 2). It is this reality that all designers must embrace.

In working toward a deeper understanding of sustainable design designers and design critics alike may recognize that the desired design paradigm has taken on many names and will undoubtedly continue to do so. Today, the terms *sustainable*, *ecological*, *humanistic*, *conscious*, *strategic*, and *transformation* speak to the desired design paradigm by looking at the world with a critical yet optimistic lens. The following paragraphs provide a summary of current literature on design profession in transformation.

Silje Friis' PHD dissertation Conscious Design Practice as a Strategic Tool walks us through the 'progression' of design methodologies throughout the last fifty years, building on the work of Christopher Alexander, Nigel Cross and Donald Norman, with case studies on leaders in transformation design. Through her thorough analysis, Friis demonstrates that the evolution of design methodology is very much an additive process and a desire to continually renew and reinforce a deep understanding of design activity and the role of designer in society. The 80's and 90's experienced a substantial shift from a science based approach to one of humanities in what is most commonly understood as user-centred or inclusive design, 'bringing in methodological approaches from the social sciences such as anthropology, ethnography and sociology' (Friis 66). The mindful designer welcomes diversity, variability, sophistication and collaboration.

Dr. Elizabeth Sanders, a prominent design researcher and cognitive psychologist at Ohio State University writes that "a new design space is emerging. It is the culmination of all the phases preceding it. The new space is… where interdisciplinary experts in design and research will work together with ordinary people… Collectively, they will generate many new ways of expressing, experiencing and meaning-making" (Sanders 3). Elaine Ostroff adds that the "user/expert can

offer the perspective of life experience and firsthand qualitative information in response to a design problem" (Ostroff 1). Like many in the field, Sanders recognizes that design cannot operate in isolation if positive transformation is to be realized. The desired design paradigm requires collaboration, life cycle thinking and analysis from the onset. Slow strategic design carves out space for the anticipated paradigm shift, deeply considering how design activity might affect ecologies and culture.

More recently in the United Kingdom, Stuart Walker, in his essay entitled Design Redux, reminds us of the importance of allowing "a more intuitive process that attempts to relate a plethora of complex, interdependent background ideas and understandings about products, the environment, people and function" (Walker 64). He continues,"whether or not such a process is considered valid depends on what we are attempting to achieve and the criteria we use to validate… it is an approach that is modest and deeply grounded in an interdependent relationship between the rational and the intuitive, the functional and the aesthetic" (65). It is here in the creative and innovative spaces of interdisciplinary practice, where Walker's words resonate with me, uncovering new opportunities and reason for collaboration.

Beyond form and function, the issues with which design is concerned are the overwhelming evidence of diminishing natural resources and environmental pollution. Increasing dependencies and expectations of goods and services induce massive equity imbalances. For years, ecological economist William Rees has been advocating for "radical transformation of our thinking about urban form and function" (Rees 1). John Thackara adds to Rees' in that "complex systems seem to be out of control; too complex to understand, let alone to shape, or redirect" (Thackara 162). Rapid migration to urban centres is biophysically unsustainable, "resulting in an 'ecological footprint' several hundred times larger than the areas physically occupied" (Rees 1). Rees' research brings to light (darkly) the fact that the acceleration of the human population in only the last century is causing detrimental effect on the land and on biodiversity. Across all disciplines,

solutions to this reality are being put forward, carrying an extreme sense of urgency to act now; to change everything[8].

But how does one even begin to measure and validate the effective of these propositions? Recognizing the complexities faced when attempting to label (measure, assess, analyze) a design as being sustainable or not, the Eco Design Foundation (EDF) in Sydney, Australia proposed the concept of *sustainment*. A sustainment is defined as a mechanism for betterment, a concrete initiative that aims to promote and sustain change toward more sustainable ways of living and working. No sustainment is by itself 'sustainable'. Rather, sustainments are contributions to the development of sustainability as a concept and a realized way of living and working (EDF). EDF Researchers offer constructive criticism to sustainable design strategies by pointing out their tendencies to result in merely sustaining the unsustainable. Unsustainability happens because our environments are filled with things that cannot change. For example packaging can take hundreds of years to decompose when in actual fact it functions as it was intended for a matter of weeks. The accumulation of this 'waste' material in the biosphere is immense. Current work by Seattle WA. based artist Chris Jordan visually represents the immensity of collective consumption in North America. Jordan's underlying desire is "to emphasize the role of the individual in a society that is increasingly enormous, incomprehensible, and overwhelming". One example is a 60x120" high resolution image that depicts the two million plastic beverage bottles used in the US every five minutes. (Jordan). Now what the template for slow design (Fig. 2 / Appendix 1) suggests is that acknowledging the expected life span of a product can steer the design in a direction that deeply considers this whether it be through material selection, production method and end-of-life scenarios. A sustainment is a product-service that can change, a place or thing that is not rendered redundant when we learn to change, but rather has the ability to receive and manifest our learning; things like an adaptable

[8] See online: www.world studio.org, www.worldchanging.org, www.changeeverything.org, www.changedesign.org, www.breakthrough.org, www.un.org, www.unep.org, and on.

building, a modular product, an upgradeable system (EDF). This level of critical thinking is where design needs to go and the notion of sustainments is the key to orienting the method of slow design.

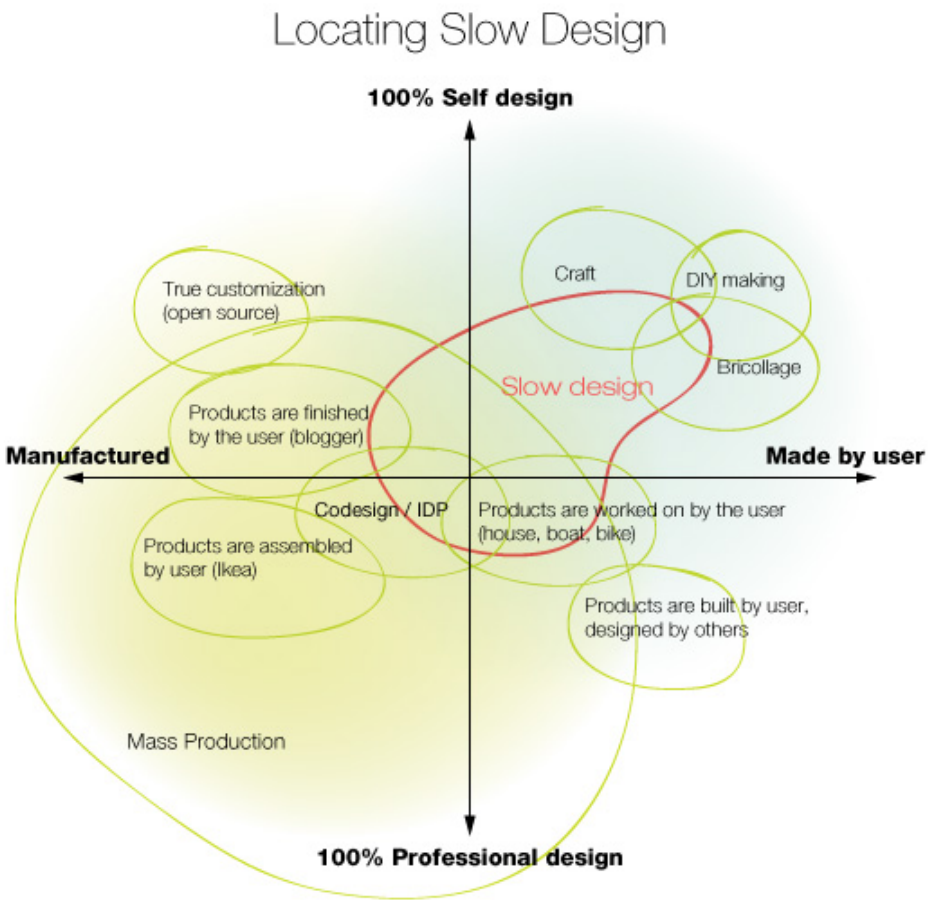


Fig.3: Ways of Designing and Making: Locating Slow Design

Building on Fuad-Luke's diagram found in his most recent publication Redefining the Purpose of Sustainable Design Fig. 3 helps to locate slow design in the context of production (y-axis) and making (x-axis). Starting at the bottom left quadrant with the majority of mass produced goods, dealing with high volume, high capital investment and therefore high risk. Moving toward the top right quadrant quantity decreases as does capital investment thus allowing space for creative experimentation and exploration. It is here where slow design is anchored, taking up space, acting as a counterbalance to fast mass production. Each area is not static but continually

morphing, pushing and pulling. Slow design inches towards mass production and professional design bringing rigorous sensibility and cautious optimism. The Template for Practicing Slow Design (Fig. 2 / Appendix 1) offers a series of critical questions to ask during the design process (planning, doing, maintaining) that relate to temporality, materiality, and conviviality. The question now is how can we bring the methods of slow which lie in the self made / self design quadrant into the industrial design process on a larger scope and scale?

In the 1950's Wim Gilles, the Dutch born engineer, designer and educator, conceived of an template of questions a designer needs to ask when s/he plans to design a new product. Design critic and science fiction writer Bruce Sterling makes reference to the late Gilles in Shaping Things and points out that his seventh question: *How long does the product last?* should be one of very the first questions that today's designer working towards sustainability should ask and acknowledge. Together, Gilles' Industrial Design Algorithm and Sterling's timely insight act as the spring board for The Template for Practicing Slow Design (Fig. 2 / Appendix 1) to be used in tandem with the Slow Design Method Diagram which tries to illustrate how research and collaboration can be 'turned' into product output.

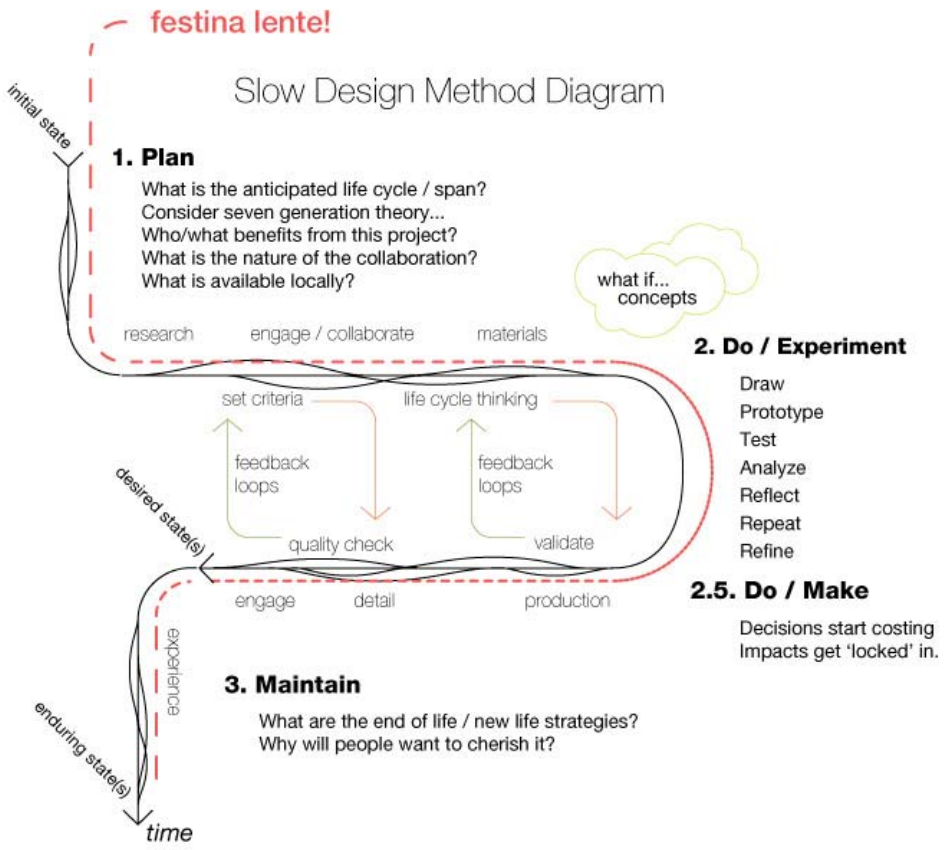


Fig. 4: Slow Design Method Diagram

Fig. 4 is a graphical representation of the hair pin design process that identifies three key phases of a project and offers critical questions to ask during each phase. The initial phase (planning) involves looking ahead to the intended outcome, while nearing that outcome (making, maintaining) involves looking back to the supporting research and early motivation. The orange dashed lines signify the shifting of gears. Undulating black lines signify variations along the same general course. This diagram can act as a tool for gauging momentum and the distribution of time within a project's timeframe. The function of the hairpin turn is to illustrate feedback loops from initial state (Plan) to desired state (Do / Experiment and Make) using the design process to "turn" research and collaboration into a product output with potential for long term relevance (Maintain). The very fact the process now extends beyond the desired state to enduring state(s) is an important aspect of the slow design method is indebted to the Eternally Yours Foundation.

To be clear, Fig. 4 is not meant to be a comparison between slow design and conventional design. Instead, the diagram illustrates how early recognition of aspects of time and how asking the right sets of questions at the right time can help reduce (perhaps drastically) unintended environmental and social impacts that get 'locked in' during design. The dotted lines that flow from festina lente and follow that trajectory of the process track signify a change in pace, or momentum. This is where the art of shifting gears is illustrated / made apparent. The strategy here is not new; it simply anticipates and/or recognizes transitions in tempo and plans accordingly. Festina lente (make haste slowly) implies that at certain times, speed is necessary and important. as does *the art of shifting gears*.

Contextual information is extracted from the Template for Practicing Slow Design and collated in terms of strengths and weaknesses as they relate to the overall objectives of slow design and of the project itself. The findings are analyzed and decision making criteria are formulated. This analysis can be applied to the Slow Design Method Diagram (Fig. 4) to determine the relative time frame for each phase (planning, doing, maintaining) and sub-phases. Slow design is not necessarily about more time but rather the strategic contextual redistribution of time and energy together.

A critically important question from the Template (Fig. 2 / Appendix 1) is concerned with life cycle assessment (LCA). When one measures the environmental impacts of products and services s/he is embarking on the daunting task of quantifying ecological damage (climate change, ozone depletion, acid rain, reduced biodiversity, habitat alteration, land degradation), human health damage (air pollution, smog, carcinogens) and resource depletion (fossil fuels / fresh water, top soil, minerals, solid waste) (Belletire, St. Pierre and White 15). Concerns with validity and quality of information are inescapable. Methods for impact assessment (both positive and negative) are abundant but are effective only to a certain point – subjectivity takes over. However, a simplified,

streamlined LCA can provide valuable insight into both the design process itself and decision making at any point in the lifetime of a product. Building in degrees of flexibility in order to respond to more human centred criteria that LCA cannot measure effectively such as aspects of local is essential to achieving slow sustainable design. Furthermore, short, medium, or long life products require fundamentally different strategies in terms of materials, production and distribution channels, and user relationship. i.e. Is it recyclable?, biodegradable?, reusable?, adaptable? upgradeable?, cherishable?, etc..

The mindful designer must also ask who are the experts in the project field and what are they doing? In other words, what are the best practices? Artists and designers, engineers and architects, ecologists and cultural theorists all offer valuable insight into setting up the project and in seeing it carried through. It is mutually beneficial to develop and nurture a network of people to learn from and possibly work or consult with.

In 1983 Victor Papanek made the important connection between ecology and design. He said "on all scales design is a strategic lateral bridge between vertical domains of expertise. If the world could be shown broken down into little boxes like a table of organization, designers and ecologists would study the flow lines that connect the boxes" (Papanek 1983 137). In addition, both disciplines seek to discover new lines that were previously invisible. Ecology is essentially the study of the workings of the Earth, teaching us to see the interdependent relationships between objects in a more holistic view of the world. In thinking like an ecologist during the planning phase of RAFT, specifically in the re-use of timber pallets, I am concerned with relationships between individuals of a species (trees and humans), organized activity of a species (lumber and pallet production), and the relationship between the environment and a species (forests, humans and distribution systems). Papanek adds that designers cannot possibly claim to understand every complex relation, but they must have the capacity to consider the subtle relationships between disciplines and to be mindful of the deep knowledge and complexities

within vertical domains of knowledge.

Lateral thinking and interdisciplinary learning are largely about 'vantage point' with respect to the human experience of change, cultural production and consumption. Vantage point is an empathetic concept that encompasses attitude and perspective, emotions and belief systems (Burnett 9). Sometimes vantage points differ because of disciplinary orientations, and sometimes they differ because of personal and cultural histories. Understanding and considering multiple vantage points require the active ability to listen for connections and to observe patterns before making decisions. These skills are indispensable for the mindful designer who needs to understand socio-cultural problems in communities or institutions.

An open mindset and lateral thinking have allowed the thesis project to evolve in response to ideas and events that have occurred during its course. In the following chapter, social processes and material details that have informed, influenced and surprised RAFT's evolution are articulated.

3 RAFT: the Method and the Process

May 23 2007. Vancouver BC.

Just behind the construction of concrete steel and glass, resounding mountains protect us from what lies beyond, while the sea, pulled by the moon, pours out into the rest of the world. Cumulous clouds drift over the mountains with atmospheric hesitation. Janine is right, there is no new water.

This thesis project has been evolving for four months and has enabled the study of the collaborative nature of my working process in tandem with principles of slow design. As I have articulated, maintaining relationships whether material or social naturally takes time and energy. ECI Sustainability Working Group (SWiG), Energy Awareness Through Art (eatART), and Vancouver Design Nerds (VDN) are three creative collectives I am currently working with in developing RAFT (both the method and the physical structure). Appendix 2 lists the people and networks I have exchanged conceptual recipes with and provides further information on the nature of the cross pollination. The selection process in deciding what information to take away from each encounter is either a matter of timing or intuition in deciding which undulating path to take at what time and with whom. The mindful designer must be open to this push/pull process, but can stay on track by applying the slow design methodology outlined in the previous chapter.

I will now discuss material aspects of RAFT and the elements of surprise that have come about through the people and networks I have engaged with in the process of planning and prototyping. The question I continue to work through by means of scenario building, sourcing and locating materials and prototyping is: W*hat is the lifespan of RAFT*? I don't necessarily want

RAFT to last even twenty years for very practical reasons – mainly storage and transportation. There will come a time when I won't have a place to store the pieces; the adopted materials may enter back into the industrial stream from which they came. Design for disassembly "plays an important role not only in enabling parts and materials to be recovered for recycling but also enabling reconditioning, refurbishment, re-manufacture, repair and service of the product and components extending their useful life" (Dowie-Bhamra). The strategy is most successful when disassembly can happen with ease. Therefore, the intent is to honour the materials for what they are, what they can be and what they might become.

RAFT materials are mostly salvaged. The bill of materials includes timber pallets (48x40"), 200L high density polyethylene container barrels, 3" diameter bamboo, marine grade rope, inner tube, nautical hardware, netting, and screws. Certain components will have to be purchased. For example the frame that holds the pallets together absolutely must maintain structural integrity. Precedent setting research into floating structures has resulted in a library of images, information and open source construction plans for swimming rafts, pontoon boats, contemporary furniture, and small scale eco architectural projects.

One of the primary constraints I've confronted is how to locate and source materials locally. Offline and on the streets, the approach is quite simply to always be looking, whether in alley ways, side streets, abandoned sites, construction zones and parking lots. It involves talking to people, probing, asking questions. Generally people are open to creative suggestions for ways to divert waste from the landfill and also want to share their stories of landfill diversion. Online, I have tapped into local networks that promote the prefix RE (as in reuse) for example Craigslist.org and Made-in-BC.ca. For instance, the barrels come from a woman found on Craigslist by my flat mates who were sourcing barrels for their rain catchment system on Saturna Island, BC. I followed up with Joanne and learned that she has created a business from reclaiming reusable goods and using online networks to connect with people. She had

numerous suggestions of what the barrels could become from container gardens to dog houses to floating structures, including the option to sell them back to her. These locative methods are part of what is called eco-industrial networking or Industrial Ecology (IE). Promoted by the National Research Council of Canada and the EcoDesign Foundation, IE is a growing discipline which is not only concerned with production and industry, but also in connecting a body of work that addresses larger questions about consumption, distribution, and growth[9]. IE invites us to think about our material world as a natural phenomenon, drawing from our understanding of natural cyclical systems – to see the design process as cyclic rather than linear. Another aspect in considering the salvaged materials is the role they play in society and the degree to which one is are aware of them. Pallets and barrels are used to deliver our goods adding another layer to understanding global distribution systems, what we consume and how it is delivered. The use of salvaged materials is not only resourceful; each material brings a speculative history and builds emotional durability into the narrative.

My fascination with pallets began nearly two years ago when I decided to reinvigorate a very old hard wood pallet from a basement in Strathcona scheduled for demolition. For days I sanded and tended to the pallet. It became a focal point of a relational installation in the Concourse Gallery at ECI in the spring of 2007. The pallet is currently being used as my kitchen table. Once I began looking, I soon began to see them everywhere – in every alley, behind every other building, stacked against the wall or on the ground. Those that don't belong in the system are known as misfits. Quantity affords me the ability to be selective. Because networking and relationship building is part of the method of slow design, I set up an appointment with the facilities manager, Janice at Emily Carr to discuss material streams within the institution. Janice advised to make an appointment with Granville Island Maintenance and this is where I met Dennis, a convivial man highly attuned to the industrial metabolism of Granville Island. I told him

[9] Industrial ecology is the shifting of industrial process from linear (open loop) systems, in which resource and capital investments move through the system to become waste, to a closed loop system where wastes become food for new processes.

I was a design student wanting to build a beautiful floating structure from salvaged materials in the name of slow design, peaceful enjoyment and critical curiosity. I told him that the proposed site of deployment would be South East False Creek in April 2008. Dennis was a wealth of hyper local information and receptive to my research and ideas. On the topic of pallets, I learned that on Granville Island, there are two unique systems which are approaching a closed loop operation. At least one pallet is sacrificed every day by acting as a lid for the compost container which gets transported off the island to Squamish territory. He offered me unlimited pallets for the project so long as they could be eventually returned into the stream. Many of the pallets I initially collected in the vicinity of our studio vary in size, weight and structural integrity. Perhaps they will become table tops or additional floating structures, each unique in form, yet maintain a similar aesthetic and function.

The Eternally Yours Foundation points out that in order to increase the products 'psychological lifespan' "products must have the material ability as well as the immaterial opportunity to age in a dignified way" (van Hinte 19). This implies that "products should not be left alone after their introduction. Design can be extended to include everything that happens after that (van Hinte 27). Alternatively, design can intervene at various stages of a products life, including after the products functional life. The idea with RAFT is to design and construct it in such a way that the pallets and barrels are well maintained, and may eventually be returned back into their respective streams in better form than when I 'borrowed' them.

The role of the designer is to work creatively within sets of constraints. With slow design, constraints are seen to enable rather than hinder the creative process. This is also the method of the bricoleur. S/he is a person who creates things from existing materials, is creative and resourceful: a person who collects information and things and then puts them together in a way

that they were not originally designed to do[10]. Similar to the bricoleur, the mindful designer must remember to make time for details and finishing so as maintaining a high level of aesthetic sensibility and rigor. I am inspired by classic designers such as Alvar Aalto, Joe Columbo, Charles and Ray Eames and contemporary slow designers such as Simon Heijdens (Life is Suite couch), Alastair Fuad-Luke (60 Minute bench), Marcel Wanders (apple juice jug becomes bird house), and the Danish group N55 (with their manuals for building autonomous structures and spaces). Aspects of aesthetic and functional detail will be crucial to the overall success of the thesis project (and also the most challenging for me).

Strangely Familiar Design and Everyday Life (2004) was an exhibition at the Walker Art Centre that was pivotal for the cautiously optimistic designer on a quest for invention. Critical, yet playful and curious, the show celebrated projects that stand out from the ordinary and in doing so, they "perform a self reflective action, causing us to reconsider our expectations of design and our approach to living, offering a provocative counterpoint to the habitual, the routine, and the commonplace" (Bleauvelt 37). Seeping through each project is a constant questioning of the role of design in endlessly transformable environments.

Often, the development of a new means of production goes hand in hand with the development of a new material, though perhaps more interesting is when new and old are mixed and experimented with. I am exploring ideas that combine CNC (computer numerical control) technology and the salvaged timber. The very act of industrial engraving to communicate aspects of temporality (textual or graphical) is appealing as it may act as departure points for conversation and speculation. Another aspect of old and new that I am considering will be the use of high grade marine rope and hardware with long lived knot tying techniques as a means of connecting the pieces. Traditionally a woman's activity, weaving and knot tying transcend

[10] I am indebted to Alex Grunenfelder for this insight, from an unpublished essay entitled: garbage and enabling constraint, written in early 2006.

gender issues while on the water, climbing a rock face or felling an old growth tree. In tandem, theoretical ideas informing slow design are physically carved and woven into the object itself.

The link between what I was thinking and learning and what I was doing physically is difficult to pin down in retrospect. Doing, at best, included bursts of creative activity in the studio, paying closer attention to the systems at play while sailing, as well as on the RAFT, and meeting often with experts, bringing with me new questions as I approached a functional solution. Doing also included walking through the city, observing the water, observing people, observing the weather. Cognitively, I was training myself to think in life cycles. Lifecycle thinking aims to minimize the negative consequences of a design by considering the product in its entirety; as a system working within larger systems. It requires designers to consider each stage in the design process, to identify materials and energy needed to sustain each phase of a products' life cycle and to understand inherent environmental and social impacts.

In the end, the barrels can be resold on craigslist and/or some (if they are food safe) can be used for rain catchment systems, and everything else put back where it came from.

4 Islands of Slow

December 23, 2007. Lund BC.

Morning sunshine streams in through the coniferous cedar leaves and penetrates into the glass pane windows. Salutation. It is early and yet we don't have to be anywhere in particular. Brew a pot of tea. Step outside and feel the soft ground underneath your feet. Find abundance in nature and creativity in culture.

Emerging in the socio-geographic landscapes of food, film, cities and now design, 'Slow' is both a philosophy and an approach to everyday life. The notion of 'Slow' is not only wonderful, it is "an inflection of senses, spaces and sustainability" (Cutler). It breathes connections. Slow is a deliberate and strategic direction in my ongoing research of sustainable design strategies because of its timeliness and relevance to the pressures of this current cultural moment. There is indeed pressure on our civilization to act quickly; to work collectively to reverse the effect of climate change. The paradox here is that the slow movement is an effective and holistic antidote to this felt pressure to change our everyday behaviours (individual, communal, institutional). Slow is not in opposition to pressure, but rather *negotiation*.

When 'Slow' meets design as described in the previous chapter (Friis, Sanders, Walker), new questions arise around the relationships between temporality, materiality and conviviality. Although Tools for Conviviality (1973) is mostly a critique on the effects of modernization, Austrian philosopher and social critic Ivan Illich put forth a vision for thriving learning communities who assume certain responsibilities around their use of and dependencies on technology (much in line with Slow's objectives). In his eyes "a desirable future is one where people deliberately choose a life of action over a life of [sheer] consumption" (Illich 57). Thirty five years later, we

know a lot more about the state of the world. Social activist and environmentalist Paul Hawken examines a rising phenomenon in his book Blessed Unrest. Calling it the largest movement in the history of civilization, calling it *unstoppable*, Hawken tells the story about the thousands of organizations worldwide, dedicated to environmental restoration and social justice. Malcom Gladwell, author of The Tipping Point and Blink, explains in his charismatic 'TED talk' how we have moved from seeking conviviality in universal 'truths' to embracing it in diversity and variability (Gladwell 2004) in the social and imaginative fabric of the everyday.

Slow carries a sensibility around consumption that is not about sacrifice but rather well-being and sensation. Carl Honoré points out that "in a world obsessed with work, leisure is a serious matter" (Honoré 216). It does not mean we should walk every where and do every thing slowly but rather take the necessary amount of time to understand what is hidden behind the allure of *faster-smaller-cheaper-now*. Honoré continues by noting that "gardening, reading, painting, building – all of these satisfy the growing nostalgia for a time when the cult of speed was less potent, when doing one thing well and taking real pleasure from it, was more important than doing everything faster" (Honoré 218). Always with slow, the well-being of the individual, the community and the environment are the three main criteria to keep in mind. One might envision concentric circles rippling and dissipating outward.

As it applies to the thesis, the overall aim in setting up the thesis project is to practice and test theories and objectives embedded in *slow design* – slowing down industrial metabolisms while focusing on the well being of individuals, communities and environment. As Manzini puts it "slowing people and flows of energy, materials and/or information is central to concepts of improvements in well-being by designing products and services for a regenerative economy and creating 'islands of slowness'" (Manzini qtd. in Fuad-Luke, Slow Theory 13). RAFT could be seen as one such island in the psycho-geographic archipelago. Other islands include Robert Smithson's "Floating Barge", and his unrealized proposal for "Island of Broken glass" in the

middle of the Georgia Strait, Andrea Zittel's "A-Z Pocket Property" and "Deserted Islands" and the Vancouver Design Nerds "Car Park". Of course without haste we could not appreciate (let alone locate) such islands of *slowness*. Recognizing the slow / haste relationship as a continuum is fundamental to the proposition this paper puts forward – a paradigm that is a counter balance to the current design paradigm (Fuad-Luke 2004).

Of course there aspects of speed or quickness are critically beneficial to the slow movement and this project specifically. This in many ways marks the sophisticated nature of the slow movement. Slow is not anti-speed, but it recognizes the environmental impacts of a hasty culture of convenience and mass consumption.

In the case of information distribution, web 2.0 social media platforms such as youtube.com, flickr.com, facebook.com, and del.ico.us have been used to plan, share, and document the process. All of these individual pieces come together at my personal blog: breavo.blogspot.com. The blog becomes evidence of my work, experience, successes and failures, indexed and archived and open for dialogue. I have mentioned craigslist.org as another crucial source of success for the RAFT. Craigslist transactions are slower than ordering from the manufacturer and subject to availability but could also be considered fast compared to pure craftsmanship, for example oak barrels. The final instance I will bring up of new business models and tools working in conjunction with slow is the Vancouver Co-operative Auto Network or the 'car co-op'. The car co-op made possible the excursion to Buntzen Lake on April 12, 2008. With ease we booked a small sized truck which fit the components of the RAFT perfectly (with some creative packing), along with four bodies and some provisions. This was an important outing because of the dialogue and shared experience of the whole day. There we were floating. Our breathing slowed down. We discussed politics, participatory planning, urban design, philosophy, birds, and the importance of connection with the outside world.

Carolyn Strauss, founder of Slowlab, reminds us that a "deep experience of the world – meaningful and revealing relationships with the people, places and things we interact with – requires many speeds of engagement, and especially the slower ones" (Straus 1). The very act of recognizing and reframing the temporal plane is at the heart of the proposed methodology.

Rather than propose a complete make over, *slow design* lifts up the design process and reinforces its very foundation with critical questions and considerations. The methods developed for the thesis project can be transferred and applied to many design projects from furniture systems, exhibits (enduring and temporary), toys, consumer electronics, lighting, and packaging. For instance, with furniture systems much work has gone into advancing sustainability in terms of material selection, life cycle thinking and lean production. However what is lacking is the integration of local resources and human energy. The slow approach can open new possibilities to design, and new design can offer useful operational tools to Slow (Manzini, Slow Model 2) resulting in reciprocal support. This is also evident in the growing number of slow related organizations and networks worldwide, already embracing the local and harnessing the creative potential of humans.

Networking is one of the Slow movements' largest objectives. With over 80,000 Slow Food members in over 130 countries, each region's website reads like practical poetry, inspiring readers to choose a life of participation over sheer observation and consumption. In the midst of the fastest city in the world, New York, evangelists of Slow have gone to new measures in order to reach a larger audience employing unconventional and highly creative strategies. Members of the Art of Slow Living were on the streets on February 25th 2008 handing out symbolic speeding tickets to frantic pedestrians, on a Monday morning no less (Green 1).

5 Future Directions + Social Implications

June 2nd 2007. Playa Soropta, Bocas del Toro, Panama.
The air is hot and there are so many thoughts running through my mind. Everything connects, eventually. Jen told me on one of our first nightly walks how "we represent so many more people than just ourselves here." I've held onto that thought as some nights I feel quite small and insignificant against the vast sea.

If sustainability is a social experiment, the relational aspects of slow design in practice are central to the methodology. This final chapter highlights RAFT with respect to slow design and new social processes. The effect is an exploration of the shifting relationships within aspects of temporality, materiality and conviviality. So many promising initiatives get started and left unfinished. In order to sustain a project / initiative, especially those with a long view and vision, measures for continual success must be established which will naturally involve degrees of collectivity, commitment and trust.

RAFT seeks to intervene in the most positive cultural and ecological ways. Rather than taking up space in a trade show on sustainability and green consumerism, RAFT sets the context for an outdoor experience suspended beneath the open sky.

Papanek points out that "people cannot participate in something if they do not know it exists. One way of getting design and people closer together is to design things that make participation by end users essential to the design process" (Papanek 1983 31). To infuse a more current forecast, Sanders writes "when you involve people in the design development process, you

begin to see the new land with new eyes, i.e., with the benefit of their eyes" (2). She goes on to say that "designers will transform from being designers of "stuff" to being the builders of scaffolds for experiencing (3). When it comes to deployment of RAFT, no doubt these words of vernacular wisdom will ring true.

To float over a body of water is an ephemeral experience and is contingent on atmospheric and social conditions. Wide open, yet intimate, RAFT offers a unique vantage point that is from and close to the water. Physically detached from the land, participants may witness an ever transforming landscape from this new vantage point, heightening one's awareness and attunement to all the variables at play. It is an invitation to experience the tension between the salvaged materials, construction techniques, and the embedded ideas on temporality and conviviality. Participants will be invited and encouraged to imagine future histories. But quite simply, it is an open platform on which to enjoy the passing of time. Comfort and issues of personal space are under consideration as I come around the hair pin turn on the 'slow design method diagram', poised and ready to shift gears.

Stretching and expanding one's understanding of the temporal plane yields multiple ways in which to navigate the concept of time (duration, direction, momentum, linear, cyclical, infinite, long term, short term, elastic, etc.). This act of broadening will help to reduce social and environmental pressures by being more mindful and empathetic of the hidden or unintended impacts caused by the excessiveness of modern production, consumption, and distribution systems.

In writing this paper, my intention is to combine an awareness of real-life pressures and the reprioritization of the time factor into practice. 'Festina lente', 'seven generation theory' and the notion of sustainments have been researched in order to reorient design and new social processes towards incremental betterment, in anticipation of radical socio-cultural-economic-

political transformation. I believe that sustainability can emerge out of the celebration of slowness, with rigorous sensibility towards the environment, quality of life, and temporal rhythms which can be integrated into the designing of objects, structures and spaces over time. The methods and materials used in the thesis project enabled understanding of ways in which dominant thought patterns (temporal tunnel vision and time pressure illusion) may be overcome within an open mindset of the individual. If we really are to reduce our consumption by 90%, the slow approach (with its new interpretations) is a promising evolutionary model for the future of western civilization. Slow bridges production with consumption, and the radical with the possible.

Ed van Hinte in Smart Architecture states that "architects [and designers] need to concern themselves most of all with fields of change and modification, with generating possibilities instead of facts. It doesn't need to be an immaterial, virtual architecture. On the contrary, the presence of a physical, spatial structure always will be a necessary condition for potential use" (132). I take this to heart in the conceiving and building of RAFT. The project has allowed my research on time, sustainments and slow design to realize physical form and emotional durability. Questions that continue to inform and motivate this applied research require further focus in the areas of perception, temporality and design. Specifically, under the assumption that a heightened awareness of time leads to sustainability, how can design work to create new paradigms for perceiving time? While this question could be the departure point for further academic investigation, I am committed to exploring these areas of inquiry in practice. The shifting paradigm of authorship in design has much to do with new and available tools, as does the cultural adoption of slow. More importantly, a mindset that embraces the long view, life cycle thinking and openness to uncertainty is a crucial characteristic for the mindful designer working towards positive socio-cultural and environmental regeneration.

I would like to end with a quote from the second-century philosopher-emperor Marcus Aureluis who provided this eloquent prospect of time's incessant presence, which continues to carry significance in our current cultural moment:

One thing hastens into being, another hastens out of it. Even while a thing is in the act of coming into existence, so part of it has already ceased to be. Flux and change are for ever renewing the fabric of the universe, just as the ceaseless sweep of time is for ever renewing the face of eternity. In such a running river, where there is no firm foothold, what is there for a man to value among all the many things that are racing past him?

Work Cited

Allsup, R. "Praxis and the Possible: Thoughts on the writings of Maxine Greene and Paulo Freire". Philosophy of Music Education Review - Volume 11, Number 2, Fall 2003, pp. 157-169. Academic Search Premiere. EBSCOHost. ECI Lib. 16 May 2008.

Armstrong, Jeanette. "Let us Begin with Courage." Centre for Ecoliteracy. 1999. 22 February 2008. <http://www.ecoliteracy.org/publications/pdf/jarmstrong_letusbegin.pdf>

Aurelius, M. "Meditations." Trans by Maxwell Staniforth. New York: Penguin. 1964. 93.

Belletaire, Steve, Louise St. Pierre, Philip White. Okala: Learning Ecological Design. Second Edition. 1 February 2007. Industrial Designers Society of America (IDSA). Pheonix, AZ, USA. 15.

Blauvelt, Andrew. "Strangely Familiar: Design and Everyday Life." USA: Walker Art Centre. 37.

Burnett, Ron. "How Images Think." Oxford England: MIT Press, 2005. 9.

Chapman, Jonathon. "Emotionally Durable Design: Objects, Experiences & Empathy." London: Earthscan, 2005.

Costa, F., Noble, A. "Preserving the legacy: concepts in support of sustainability." USA: Lexington Books, 1999

Cutler, Randy Lee. Personal email communication. 8 November 2007.

Dowie-Bhamra, Tracy. "Design for Disassembly." The Interdisciplinary Journal of Design and Contextual Studies. 1996. 2 March 2008. <http://www.co-design.co.uk/design.htm>

EcoDesign Foundation. "What are Sustainments?" Change Design. Sydney, Australia. 2004. 22 Feb 2008. <http://www.changedesign.org/Sustainments/What_are/Eternal.htm>

Friis, Silje. "Conscious Design as a Strategic Tool." Denmark: Danish University of Education, 2006. 220.

Fuad-Luke, Alastair. "Slow Theory: a Paradigm for Living Sustainably." Slow Design. 2005. 13. <http://slowdesign.org/pdf/Slow%20design.pdf>

Fuad-Luke, Alastair. "Redefining the Purpose of Slow Design." Designers, Visionaries + Other Stories. Ed. Jonathan Chapman and Nick Gant. United Kingdom: Earth Scan. 2007. 45.

Green, Penelope. "The Slow Life Picks Up Speed." New York Times. January 2008. 22 February 2008. <http://www.nytimes.com/2008/01/31/garden/31slow.html?pagewanted=print>

Granelli, Andrea. "Slow + Design | Manifesto + Abstracts: Slow approach to distributed economy and sustainable sensoriality." International seminar. October 6 2006. Milan, Italy. A joint activity conducted by: Università di Scienze Gastronomiche, Slow Food Italia, Politecnico di Milano, Facoltà del Design, dipartimento INDACO, Istituto Europeo di Design Domus Academy. 2.

Honore, Carl. "In Praise of Slow: How a Worldwide Movement is Challenging the Cult of Speed." Toronto, Canada: Random House, 2004. 216, 218.

Illich, Ivan. "Tools for Conviviality," London: Fontana. 1973. 57. Available online 22 Feb 2008. <http://clevercycles.com/tools_for_conviviality/>

Larson, E. von Eye, A. 2006. Predicting the Perceived Flow of Time From Qualities of Activity and Depth of Engagement. Journal of Ecological Psychology. 18(2), 113–130.

Lewis, H., John Gertsakis. 2001. Design + Environment: a global guide to designing greener goods. Green Leaf Publishing. 14.

Livraghi, Giancarlo. "Festina Lente (said Aldus Manutius)" Offline: a Pause in Navigation. May, 1999. 22 February 2008. <http://gandalf.it/offline/off14_en.htm>

Manzini, Ezio "Ideas of Well-being: Context of Life and Regenerative Solutions" in Towards Sustainable Product Design #6. Amsterdam, the Netherlands, October 2001. 76-81.

Manzini, E., Anna Meronis. The Slow Model: A Strategic Design Approach. Milan Polytechnic. 2005. 22 February 2008. <http://www.experientia.com/blog/slowdesign-examining-the-slow-approach-to-design/>

Ostroff, Elaine. "Mining Our Natural Resources: The User as Expert." Innovation. The Quarterly Journal of the Industrial Designers Society of America (IDSA), Volume 16, No. 1 1997. 22 February 2008. <http://www.icsid.org/feature/current/articles427.htm?query_page=1>

Pagani, Freda. "Adaptive Buildings Through Evolutionary Design: Towards More Sustainable Buildings: Project Design Process as a Complex Adaptive System." Vancouver, Canada: University of British Columbia, 2004. 37, 179.

Papanek, Victor. "Design for the Real World: Human Ecology and Social Change. New York: Hudson, 1985. 4.

Papanek, Victor. "Design for Human Scale." New York: Van Nostrand Reinhold Company Inc. 1983. 31, 137.

Quon, J. "Phenomenology and Artistic Praxis: An Application to Marine Ecological Communication". Leonardo - Volume 38, Number 3, June 2005, pp. 185-191. Academic Search Premiere. EBSCOHost. ECI Lib. 16 May 2008.

Rees, William. "The Built Environment and the Ecosphere - A Global Perspective." Vancouver, Canada: University of British Columbia. 1999. 1.

Rocchi, Simona. "The Sustainability of Ambient Intelligence." The New Everyday: Views on Ambient Intelligence. Ed. Emile Aarts and Stefano Marzano. Rotterdam: 010 Publishers, 2002. 153.

Sanders, Elizabeth. "Scaffolds for Experience." 2004. In Information Design Institute for Information Design Japan (Editors), IID.J, Graphic-Sha Publishing Co., Ltd., 2002. (In Japanese)

St. Pierre, Louise. "Here Today, Here Tomorrow: Design Strategies to Lengthen Product Life Spans" Innovation magazine. the Quarterly Journal of the Industrial Designers Society of America (IDSA) USA, 2008. 3.

Sterling, Bruce. "Shaping Things." Cambridge: MIT Press. 2005. 112.

Straus, C. "Ideas." Slowlab. 2004. 22 February 2008. <http://www.slowlab.net/ideas.html>

Thackara, John. In the bubble: Designing in a Complex World. USA: MITPress. 2005. 162.

van Hinte, Ed. "Eternally Yours: Visions on Product Endurance" Rotterdam: 010 Publishers. 1997. 19, 27.

van Hinte, Ed. "Smart Architecture" Rotterdam: New York. 2003. 132.

Virilio, P. Open Sky. Translated by Julie Rose. First published as *La Vitesse de Liberation* in 1995. Verso, 1997. 22, 23.

Walker, Stuart. 2007. "Design Redux." Designers, Visionaries + Other Stories. Ed. Jonathan Chapman and Nick Gant. United Kingdom: Earth Scan. 64, 65.

Waters, S. "Can The Passion Quilt Meme Be Brought Together?" Mobile Technology in TAFE. Perth Austrailia. 2008. <http://aquaculturepda.edublogs.org/tag/flickr-creative-commons/>

Appendix 1: Template for Practicing Slow Design

Slow Design Objectives:

- To slow down industrial and cultural metabolisms
- To effect holistic well-being (individual, socio-cultural, environment)

This template can be applied to many design projects of varying physical and temporal scales:

- furniture / fixtures / systems /
- exhibits / temporary and permanent /
- small scale architecture / mobile structures /
- consumer electronics /
- lighting /
- packaging /
- events /

Following are important questions to ask in the beginning of any design project always returning to the previous. Each decision affects the next one. In this way, this guide has an algorithm-like structure. Criteria for answers should be determined on a project basis.

What is the big idea?
What is the objective of the project?
What does it challenge and/or afford?

What is the timeline? Is it realistic?
Is there enough time and space for research so as to empower design activity?

What is the anticipated lifespan of the project and product?
How does it stand up to the seven generation theory? How can this early recognition inform design decisions such as materials, production and distribution methods?

- Short – *dematerialization and the ephemeral*
- Medium – *closing the loops*
- Multi life – *this becomes that*
- Long – *emotional durability and long term relevance*

Who/what benefits from this project?
Who/what suffers? Socially and environmentally speaking.

How will you know when you've succeeded? And what criteria does one need to measure this?

Carry out life cycle assessment (LCA) if there is any question of negative environmental impacts.

How does the product / project expand our view of the world (local and global)?
How does the product / project expand our experience of the everyday?
What kind of relationships will form as a result of an integrated / collaborative process?

Where is the funding coming from? Is it an ethical source? If there is little funding, what are some strategies to explore to be more resourceful. Remembering there is more than one kind of capital.

Is this a self initiated project or client driven?

Who are all the potential collaborators? To what extent can they contribute and at what points in the process? What are their backgrounds? In what sense is it multidisciplinary? Where are the knowledge gaps?

Who are the experts and what are they doing? Research and record precedents that support the projects' trajectory. In what ways did they succeed and/or fail?

What is the volume? One of a kind / multiples / mass production.

What are the products materials? Honour the materials. Let them speak. Do not hide them.
What is available locally? (in terms of people and materials)

What does it look like? Aesthetic qualities through out life cycle. New and old. Out of the box and down the stairs. Consumers are savvy these days with high material expectation – functionally and aesthetically.

What do we know about the target audience? Is the user the same as the purchaser?
How do they identify themselves and with others? What is the common language?

What does it feel like? Tactile qualities – soft, hard, cold, warm, strong, fragile,

What are the methods of production / construction?
What is the state of the art? What is the traditional method of production? Is there a happy medium?

What does it take to make it work? What is the energy source?
Consider solar and human energy.

What are the uses and limitations? What can't the product do? Is it safe?

How do you maintain and service it? What about storage?
Why will people want to cherish it? Is it apt to get lost?

What about packaging? Is it necessary? Can it become something else or biodegrade?

What about price and value? Consider price point + intrinsic value growing overtime.

Does the product illicit emotional durability? Does it have a soul?

What is the big idea?
What is the objective of the project?
What does it challenge and/or afford?

Are you passionate about the project?
Passion will focus your effort to a level that transcends the norm and manifests slow design.

Collate your answers in terms of strengths and weaknesses as they relate to the overall objectives of slow design and the specific question. Analyze and draw conclusions. Formulate guidelines for the proposed product which should obviously possess as many of the positive characteristics as possible while virtually eliminating the negatives.

Use this information and apply it to the slow design method diagram (Fig. 3) to determine flow of project and relative time frame for each phase (planning, doing, maintaining). Slow design is not always about more time but rather strategic contextual redistribution of time and energy together!

Appendix 2: List of Creative Consultants

Through the process of researching, planning and prototyping, the people I've been in conversation with about the RAFT have taught me a lot. Through each encounter, new questions became intertwined in the conceptual structure. I have engaged with a large number of people to varying degrees about the thesis project. All bring another view point. Some are very positive, others are confusing. Some are very helpful, others are distracting. From *We would love to help in any way we can!* to *Why wouldn't you just buy a cheap inflatable raft?* to *You can't possibly show it in the gallery if it was conceived to be experienced outside!* and on. The untangling of suggestions and contributions is all part of my process, and enable new understandings and possibilities.

Louise St. Pierre – sustainable industrial design product longevity

Randy Lee Cutler – critical cultural studies – praxis – phenomenology

Karolle Wall – writing – ecoliteracy – material salvaging

Duane Elverum (ECI faculty) – sustainability assessment, sustainable art + design research

Monique Fouquet – metaphor – socio-economics of sailing

Ron Burnett – vantage point – Italo Calvino – projecting

eatART (energy awareness through art) – artists and engineers – help make it happen

Vancouver Design Nerds – collective of artists, designers, architects, green building consultants

SWiG (sustainability working group) – sustainable art + design consultation

Green Drinks – networking with "green minded" professionals / minds

Kenneth Newby (ECI faculty) – interactivity – documentation – deep ecology

Ruth Beer (ECI faculty sculpture) – new genre public art

Blake (ECI Med4) Media artist building floating sculpture 45 ft tall

Katrin, Rok, Jaime, Victor, Brenda – MAA creative consultation and moral support

Genevieve Noel – floating gardens – regenerative industrial design

Patrick Chan – phenomenology – architecture – philosophy – Deleuze – urban studies

Henry Tsang – what is your strategy? Is it enough?

Dale, Anatole, Ian, Steven, Sean – ECI shop techs – creative technical consultation

Anatole and Tina – artists builders roommates – creative consultation eco architecture

Kierstin and Jason (Conscientious Innovation) – creative strategy – sustainability marketing

Helen Goodland (Light House Sustainable Building Centre) – Eco Umberto

Walter Wardrop – NRC IRAP – eco industrial networking – engineering

Tony (ECI ID4) – designing a floating home for grad project

Janice Wong (ECI facilities) – salvaged materials

Dennis (CMHC / Granville Island Maintenance) – timber pallets

Joanne Strottman (Recaimer of reusable goods) – 8 200L HDPE barrels

MadMax – race crew – nautical consultation

Bruce Sterling – science fiction writer design critic – don't drown – the blog is thirsty

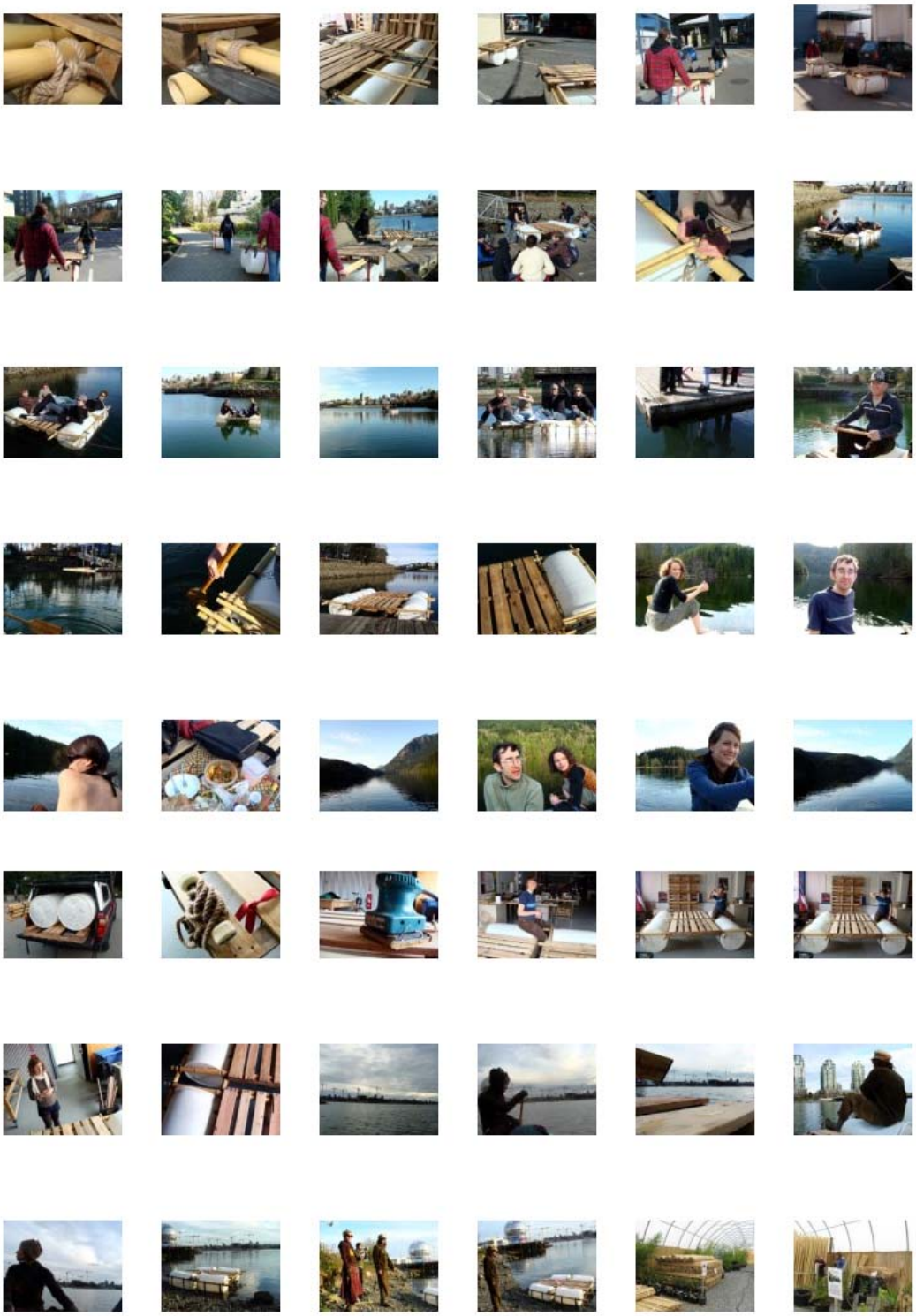
Babak Golkar – artist – designer – Richard Smithson Islands of Glass

Terry Brown, Reinier Halbertsma, Susan Perrigo – industrial design consultation

Alex Grunenfelder – Bricollage – the enabling constraint

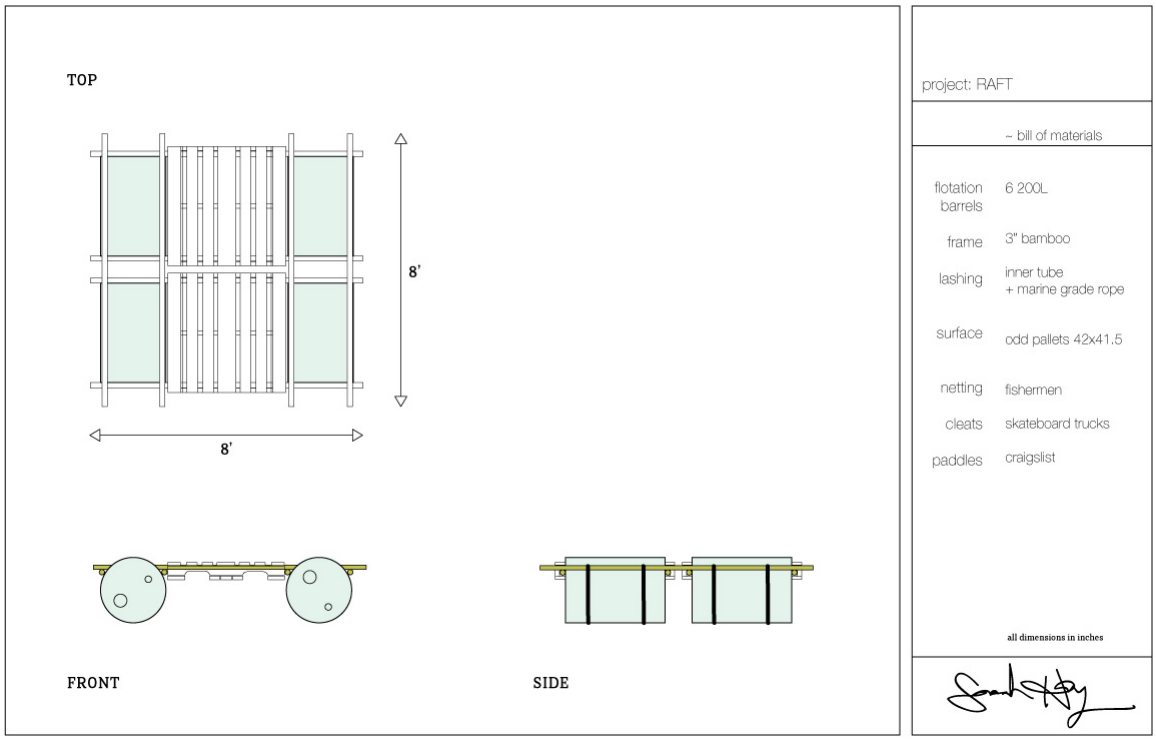
Daniel Hay – Musical score for grad show exhibition RAFT installation.

Appendix 3: RAFT Process Photos



Images: Sarah Hay (March, April, May 2008)

Appendix 5: RAFT General Assembly



Drawing: Sarah Hay (April 2008)

Appendix 4: MAA Graduation Exhibition Photo

Images: Sarah Hay (May 2008)