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I have always been more a science geek than an art student. Growing up, I liked to draw pictures or make little toys out of paper but I never had any professional art tutoring or took Advanced Placement Art classes in high school like the other students who were in my undergraduate design program. I've always been that kid who had numerous science kits and read science magazines. As a design student, I felt less confidant with my artistic skills but I tried to use my computer skills as much as I could. I did more research about the given assignment by looking at massive amounts of examples done by other designers. By doing so, I was able to reach higher than my fellow classmates; I knew the value of using different medium for my designs, I knew what was being done outside our design program and what big name designers wanted to design over the next five to ten years.

What I did not realize back then was the fact that my design process was more similar to that of a scientist than a designer. Before even touching the computer, I would draw thumbnails, map out my ideas, make color selection or type selection according a very analytical process. I was definitely able to make my production time much more effective and avoid making the novice mistake of settling on a typical idea too fast. However, I realized that my designs were excessively safely planned out because I would determine the degree of success of a project to how many people liked it. There wasn't much room for a feeling of serendipity in what I had created. I thought that the design process was to create work that would make everyone unable to say negative comments.

My idea of a completed design had changed when I started taking the exhibition design series with Tim McNeil at the University of California, Davis. On the first day of class, Tim gave the students an overview on the class, the definition of exhibition design, and that "we should focus on finding ways to create an experience for the audience and not simply show aesthetically pleasing installations." I didn't know what it was about it but I was deeply sympathetic of the statement. Then on, during my design process, I started asking myself if I was creating an experience for the viewer.

A couple of months later, for a messaging campaign design class, I received an assignment where I had to pick a movie that was about a social issue. I picked the movie "Crash" which was about the racial tension in the Los Angeles area.(Fig. 1) I had combined a number of photographs to create the poster while thinking about what people would feel when they see the poster. Without knowing it, I had created a poster that was critiqued by the professor and fellow students for about thirty minutes in a class where a normal critique would only take five to ten minutes. Overall, only one person's comment was negative; he had said that my poster was too literal and typical with the use of a photograph of an unknown person's hand. For a while, I had a hard time thinking if my poster was a success or not. I ended up talking to one of my friends who made me realize that as a designer I should appreciate strong critiques because it means that I had created a poster that was causing people to think, question, and

wonder about what I was trying to communicate. My poster had created an environment that caused my fellow designers to have a unique experience.

Figure 1. Poster for the movie “Crash” designed in a Message Campaign Design class at UC Davis [2006]

I started seeing design as a sort of lens that uses its unique affordances enabling us see the world in a different way and let us recognize and appreciate the small things that are unable to see otherwise. For one of his chapters of the Massive Change, Bruce Mau titled it “we will make visible the as yet invisible.” [1] By using different medium, designers are able to create work that enables the user to experience the unexperienced.

There are numerous methodologies that enable us to create lenses for this world. Personally, I am interested in integrating different disciplines with design, mapping, probes, and transmedia design.

Many designers utilize interdisciplinary research techniques as muses. “The nature of design as an integrative discipline places it at the intersection of several large fields. In one regard, design is a field of thinking and pure research. In another, it is a field of practice and applied research. When applications

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[1] Bruce Mau, Massive Change (New York: Phaidon, 2004) 106.

are used to solve specific problems in a specific setting, it is a field of clinical research."[2] The idea of an interdisciplinary collaboration can be justified with the rise of the modern fusion culture trend. Restaurants that are themed to cater to more than two ethnic groups--Thai and Italian(Fig. 2), Japanese and French, or Cantonese and American cuisine--easily become more than a topic of conversation. Similarly, the digital world has been influenced by the same idea. Mailing services meet the internet and become e-mailing systems, and phones now will play music, videos, keep your schedules, and even surf the internet, letting you shop online. The "more the merrier" is the key to success with models that are based on a fused form.

(left top) Figure 2. Cover of the menu at Thaitalian, Pasadena, CA
(right top) Figure 3. Strandbeest by Theo Jensen[3]
(bottom left) Figure 4. Cent Mille Milliard des Poèmes by OuLiPo writer Raymond Queneau

Often designers turn to the sciences for inspiration. Historically, natural sciences, technology, and mathematics have always maintained a close relationship with the arts. Theo Jensen, a Dutch artist and kinetic sculptor, has designed a line of simple forms(Fig. 3) that were very carefully and precisely

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[2] Ken Friedman, "Creating Design Knowledge: From Research into Practice" (Loughborough University, 2000) 10.

[3] Theo Jensen, "Strandbeest" 1996, 15 Oct. 2007 <http://www.strandbeest.com/mGallery/index.php?s=y&id=strandbeest__sabulosa4&p=1&style=dark>.

engineered without any electronic mechanism. His “creatures” use simple kinetic physics and wind to roam around. He uses quantified/numeric/absolute disciplines, such as math and kinetics, to materialize his initial idea of a creature that can roam around the earth. By integrating these two techniques, he was able to create an artistic form of living creatures; he has re-created lively action with a non-electronic machine that is able to walk around with a mind of its own. His creation has both an artistic and mechanical value.

Literature is also often an inspirational source for design. OuLiPo artist Raymond Queneau physically cut the pages of his 1961 Gallimard publication, Cent Mille Milliard des Poèmes(Fig. 4), which can be translated to “one hundred million million poems,” allows the user a line-by-line access to the entire catalogue containing 10 sonnets of 14 lines. By turning the pages by the line, his work is recomposed and remade into one of 100,000,000,000,000 combinations as said in the title of the book. “This shifts the conceptualization from that of a poem as fixed artifact to that of a work whose existence is contingent on the active engagement of the reader. Always true, now demonstrated, this principle re-imagines the space of the book through artistic imagination, revealing the dynamic properties of the codex.”[4]

There are design methodologies that allow us to communicate and reveal messages, information, and emotion using form, specifically in the process of creating form. Mapping and making probes are design methodologies that I find very interesting because it lets a designer reveal messages while making. In the 1977 publication, “Learning from Las Vegas,” there is a map(Fig. 5) that shows every written word seen from the strip of Las Vegas. With the simple act of putting together information that is spread over a broad space into a single piece of paper, the designer is able to recognize interesting patterns, a reflection of the city’s hotel business power structure or the messaging techniques of the hotels of Las Vegas. Because maps give their readers the “simple and magical ability to see beyond the horizon,” [5] without literally saying that certain hotels have bigger signage than others or listing what the designer has found interesting from looking at the map he has created, he is able to communicate his findings through the act of showing. This designer-led mapping lets the viewer to make meaningful contemplations, and possibly leave space for analysis that even the designer was not able to conjure up. Maps are seen as neutral carriers of information, and thus have the power to persuade without appearing to do so “because the myths they contain are naturalized within a system of ‘facts’.”[6]

Sophie Calle is an ideal example of someone who used probes to create art. When her boyfriend dumped her by email, she showed it to her friend for advice on how to reply to it, her friend’s reaction to

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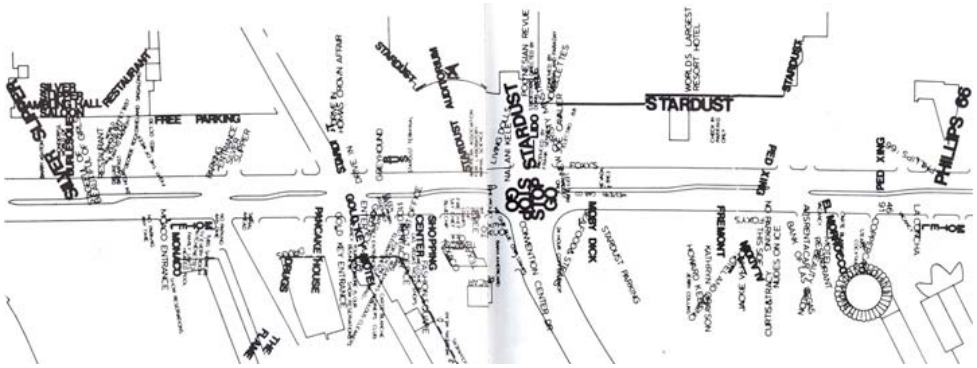
[4] Johanna Drucker, "The Virtual Codex from Page Space to E-space" April 25, 2003, Syracuse University History of the Book Seminar, <http://www.philobiblon.com/drucker/>.

[5] Roger Fawcett-Tang, William Owen, “Mapping: An Illustrated Guide to Graphic Navigational Systems” (Switzerland: RotoVision, 2002) 4.

[6] Denis Wood, “The Power of Maps” (New York: The Guiford Press, 1992)

the email sparked an idea for an art project; she distributed it to over 100 women professionals, photographed them reading it and asked them to analyze it as professionals of their fields. A copy editor marked up grammatical and syntax errors, and an etiquette consultant made a list of comments on his manners. A forensic psychiatrist confined him as a "twisted manipulator." Although this project had started out in a comedic and therapeutic setup for herself, the outcome showed much more than that. Through probes, Calle mapped out extreme views of different women of different professions and was able to create a project that exposes the cathartic moment of being over an ex many women can sympathize with.



(left) Figure 5. Map of Las Vegas strip (detail) showing every written word seen from the road [7]
(right) Figure 6. Photograph of a piece from "Take care of yourself"(Prenez soin de vois)[8]

There are many forms designers can take to communicate their ideas. Designers who are able to identify and apply the unique affordances of different media produce work with a much richer and higher level of expression.

The Blur Building by Diller & Scofidio is a great example of an architectural project that uses an unconventional medium. It was the center piece for the Sixth Swiss National Exhibition; a suspended platform shrouded in a perpetual cloud of man-made fog. The building is essentially a metal construction that has a layer of fog surrounding it. The blurry fog is made by 13,000 fog nozzles that shoot filtered lake water as fine mist. The building has computers that are adjusting the strength of the sprays according to different climactic conditions of temperature, humidity, wind speed and direction. The fog mass reforms from minute to minute. By using mist as an architectural material, Diller & Scofidio created a fluid form of architecture that is able to constantly adapt to the environment and imitate the ephemera.

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[7] Robert Venturi, Steven Izenour, Denise Scott Brown, “Learning from Las Vegas: The Forgotten Symbolism of Architectural Form” (Cambridge, Massachusetts: MIT Press, 1977) 30-31.

[8] Tama Leaver, "Take care of yourself" (Sophie Calle)" July 1, 2007, <http://www.flickr.com/photos/tamaleaver/690809256/>.

Renowned graphic artist, Martin Venezky explores a set of transmedia rendering for the proposal for the National Design Triennial scrim, Cooper-Hewitt, National Design Museum in 2000. He explored the creation of the letter, “E” by photographing composed light, paper, clay, projection, CRT monitors, water, and other media. Venezky explains this project as a chance to “explore type as a physical substance.” [9] Although the results were politely declined and replaced for a simpler solution, there is no doubt that there was much thought put into this experiment; the act of simply typing the alphabet “E” was replaced with an active study and creation of type.

(left) Figure 7. Photograph of a piece from "Take care of yourself"(Prenez soin de vois)[10]
(right) Figure 8. Photograph of a piece from "Take care of yourself"(Prenez soin de vois)[11]

Each of the methodologies and examples I have presented achieve different effects of design at various levels. Cent Mille Milliard des Poèmes introduced a new and creative way of making. The map in “Learning from Las Vegas” poetically suggests the creator’s message in a subtle yet powerful manner. Sophie Calle’s work genuinely spoke to the viewer at an emotional level with a hint of humor, and the “Blur Building” affords a unique experience and deeper symbolism that is otherwise unachievable. Through hours of extensive research, countless design experiments, and careful refinements, what are we as designers trying to achieve? What do I want to achieve?

During my research, I came across a book that provided me a clear guideline. In the “Design of Everyday Things,” Donald A. Norman initiates his discourse by introducing his collection of teapots. One, invented by the French artist Jacques Carelman, is quite unusable for the handle is on the same side as

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[9] Martin Venezky, “...it is beautiful...then gone...” (New York: Princeton Architectural Press, 2005) 23.

[10] Martin Venezky, “...it is beautiful...then gone...” (New York: Princeton Architectural Press, 2005) 24-25.

[11] designboom, "Diller & Scofidio: The Blur Building" 2002, <http://www.designboom.com/eng/funclub/dillerscofidio.html>.

the spout. Another teapot Nanna, which designed by Michael Graves, he claims is “a teapot so ugly that it is appealing” and “actually works rather well.”[12] The third is a tilting pot which was made to reflect different stages of tea brewing. You can lay the pot completely on its back while the leaves steep. Then, as the brew approaches the desired strength, tip the pot up to a tilt(Fig. 9), partially covering the tea leaves. When the tea is ready, stand the pot upright, so that the leaves are out of the liquid. According to Norman, the three teapots illustrate three different aspects of design: Visceral, behavioral, and reflective.

> Visceral design concerns itself with appearances. Here is where the Nanna teapot excels--I so enjoy its appearance, especially when filled with the amber hues of tea, lit from beneath by the flame of its warming candle. Behavioral design has to do with the pleasure and effectiveness of use. Here [...] the tilting teapot [...] is the winner. Finally, reflective design considers the rationalization and intellectualization of a product. Can I tell a story about it? Does it appeal to my self-image, to my pride? [13]

Figure 9. Three teapots: works of art in the window above the kitchen sink [14]
(From left to right: The Impossible Teapot, Nanna, the Tilting Pot)

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[12] Norman, D. A. (2002). Emotion and design: Attractive things work better. Interactions Magazine, ix, 36.

[13] Norman, D. A., “Design of Everyday Things” (New York: Doubleday Business, 2002) 5.

[14] Norman, D. A., “Design of Everyday Things” (New York: Doubleday Business, 2002) 5.

I definitely see eye to eye with Donald Norman's identification of the three aspects of design. His idea of visceral design is parallel to my idea of creating design work that nears aesthetic completion reached with an artistic approach. Behavioral design, exceeding the physically functional qualities of his tilting pot, can be translated into my idea of how effectively a work of design can communicate with the experiencer. I would say that my old design research technique of using the scientific approach to see how many of my viewers can agree that a piece of design is successfully communicating with them is a proper match. Lastly, Norman's reflective quality of design can be explained with my idea of a completed design having a level of theory behind it. At first sight, it is easy to think that these three aspects of design are the only elements a designer should aim to achieve. However, there is a problem with only striving for this logic. There could be a project that is aesthetically pleasing, the back-hand theory is flawless, and communicates that back-hand theory successfully with the viewer, yet stops at that. There is a teapot that is decorated beautifully, designed to avoid any spills, and easy to understand how to operate. There could be a TV commercial that is visually clean-cut and sends a strong message but does not specially use creative ways of conveying the idea. It may be the perfect commercial product but the viewer may say, "so what's new?" As a designer in a graduate studies program, this level of completion seems inadequate--not to say that it is easy to achieve.

Here I want to introduce a fourth element, the emotion-provoking "wow, that's new" aspect of design. There is a downfall to being too caught up to using this factor--there could be designers who only concentrate on using an innovative technology or technique that they ignore or pay less attention the fundamental details of their work such as the visceral, behavioral, and reflective aspects of design. However, this fourth element also is an important element of design that is often forgotten or put aside due to the disregard for experiments, ignorance, or swiftly approaching due dates. The projects I have introduced earlier all have the new, "wow," creativeness. It is just as subjective a value as the other three, and is dependent to the other three factors, I feel as though it needs to be spotlighted for its importance in the research process of achieving a higher level of designerly excellence.

In my future projects I want to explore design research methodologies such as transmedia design, mapping, probes, and the integrating of different disciplines to achieve a strong balance--either an equivalent balance or wabisabi, the perfection of imperfection--between the visceral, behavioral, reflective, and last but not the least, the creative "wow" factors of design.