Final Project :

Surface Tension # 1
A.K.A. I Think, That Mother Fucker Is In The Back

Introduction / Motivation :

For me, as an artist, I should start from what have inculcated me to my practice. As I used to be an architect, musician and sound engineer, I mostly got inspired by architectural principles about human sense, interaction, material, space, sensation and phenomenology[1] to create any creative work. In the architectural school, they taught me to pay more attention to nature and what happened around you so I'm quite interested in natural phenomenon. And as a musician and a sound engineer, rhythm, sound and technology inspired me to start to use electronic medium to create art.

Figure 1.
Natural phenomenon

Figure 2.
Barcelona Pavilion,
by Mies van de Rohe (1929)
'Less is More'[2]

In the middle of 2010, I met a Thai conceptual artist, Top Changtrakul,[3] who taught me to think of art in the different way that is to think more about concept than only exterior aesthetic of an object like Clement Greenberg's formalism.[4]
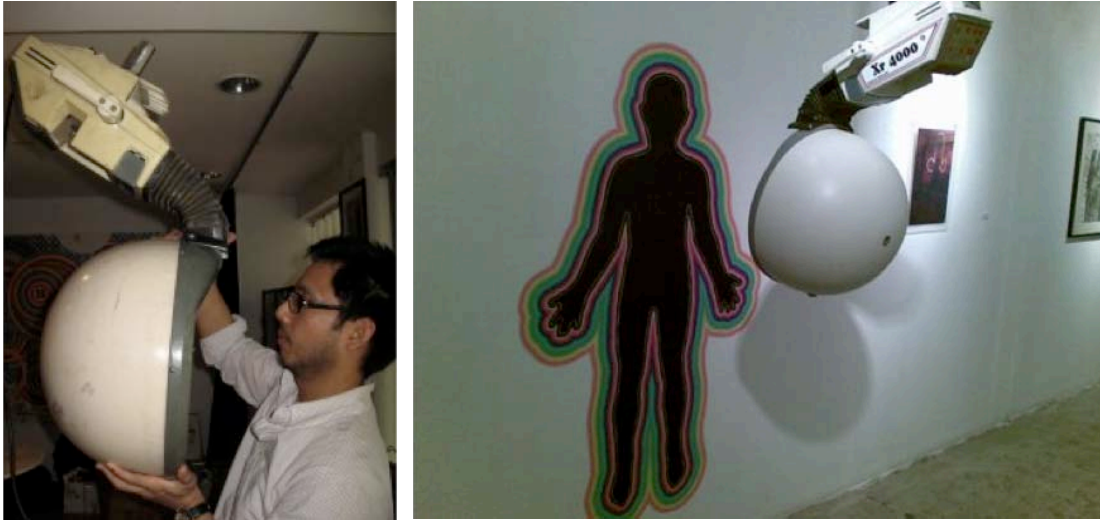

Figure 3. More Of The Same, a solo exhibition by Top Changtrakul (2010)

Later on in that year, I met another Thai conceptual artist, Chitti Kasemkitvatana, who became a monk for 8 years, and got back to be an artist again that year. This is a quote from an interview in his exhibition, which can be a good example for his practice.

"I expect my viewers to construct their own individual sphere based on their experiences in encountering my artworks. Many of their interpretations are fascinating," explained Chitti. "The conversations with the viewers I met usually started with talking about the exhibition. But after a while we changed subject and talked about our shared interests. We used the exhibition as a springboard to our connection."[5]

Figure 4. Tomorrow Was Yesterday, an exhibition by Chitti Kasemkitvatana (2010)

And from meeting those Thai artists, they gave me very valuable inputs for me to look at work in Art history and also some contemporary works. I found that the works I mostly like are the works that talk to me in the sensual level, for example like works of a Minimal artist, Carl Andre, Richard Serra and etc, which they tried to reveal the beauty of materials by reducing other matters into pure materials.[6]

Figure 5. Equivalent VIII [7]
by Carl Andre (1966)

Figure 6. Circuit II [8]
by Richard Serra (1986)

Or Postminimalism

'In visual art, postminimalism refers specifically to the work of those artists who use minimalism either as an aesthetic or conceptual reference point. The term refers less to a particular movement than an artistic tendency. Postminimalist artworks are usually everyday objects, use simple materials, and sometimes take on a "pure", formalist aesthetic.' [9]

Figure 7. untitled (box balls), by
Tom Friedman (2002)

Figure 8. Study,
by Rachel Whiteread(2005)

From the work of Tom Friedman's (figure 7), he transformed how we perceived a normal cardboard box to have texture, resembling to a digital image by putting little styrofoam balls on it. [10]

And from the work of Rachel Whiteread's, she made casts in the negative space of a domestic object in order to change the perception into exterior to reveal the truth of that object.[11]

On the other hand, sometimes I like works, which are very unreasonably hilarious e.g. works of Dadaism, that they were the first one, using found objects. [12]
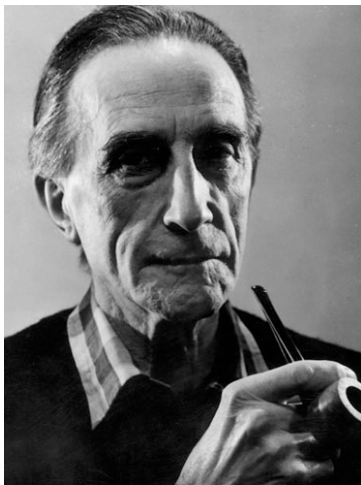

Figure 9.
Marcel Duchamp

Figure 10. Bicycle Wheel, by
Marcel Duchamp (1913)

Figure 11. Fountain, by
Marcel Duchamp (1917)

Initial Ideas

From the motivation as I mentioned, I got inspired by the power of the found objects and materials, in which simply arranged to get the view to get some ambiguous

motion. Hence, initially what I tried to do for this final project was more like an exploration and experimental through materials or found objects with movement in various ways in order to touch the human sensuality.

In the beginning of the project, there were some ideas of what I wanted to do after this overwhelming experience of the first semester in New York City in my life.

First idea :
I Live In An Invisible World Where People Can't See Me Unless They Want To.

Figure 12. Sketch of 'I Live In An Invisible World Where People Can't See Me Unless They Want To'

For this one, I would want to make many versions of myself in space as I got the feeling of losing some parts of me back home where I used to be a bassist in an Indie band and also I encountered with the strong feeling of how people here are so independent with their own world. As an interaction part for this project I would put myself in the exhibition space for the viewer to interact with.
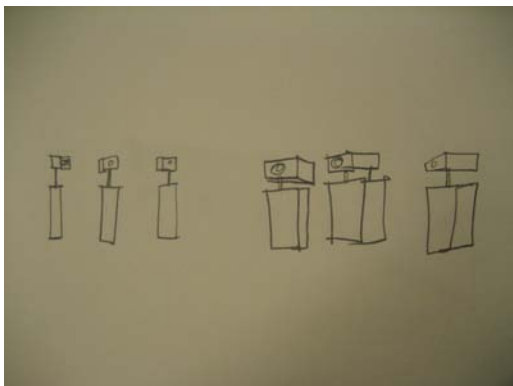
Second idea :
Keep An Eye (On You)

Figure 13. Sketch of 'Keep An Eye (On You)'

I'm interested in the role of vdo cameras relating to people in these days e.g. reality show, surveilance on the street or how people see themselves. Hence I created a project which many vdo cameras would move following by the person who passed by. Then, projected all images on the big wall.

Third idea :
Crawling Wall

Figure 14. 'Crawling Wall'

I used to experiment with a servo motor and tried to make a prototype for the bigger kinetic sculpture.This project quite fitted to my practice and it was what I was into. Hence I chose this idea to develop into the final piece.

Concept / Proposition

For this project, as in my practice, I would want to investigate in human perception and how would their emotion change, when materials are arranged and moved in the certain way.

Secondly, I still want to find the poetic aspects from the harshness of digital medium, and give them back human touch.

Precedents

These precedents exemplified kinetic arts, which used small units to create the big installations.

1. Ned Kahn

Most of Ned Kahn's works were confluences of Art and Science using small units

moving by natural force. [13]

Figure 15. Ned Kahn's works

2. Daniel Rozin

Rozin's works mostly investigated viewer self perception, and in his famous

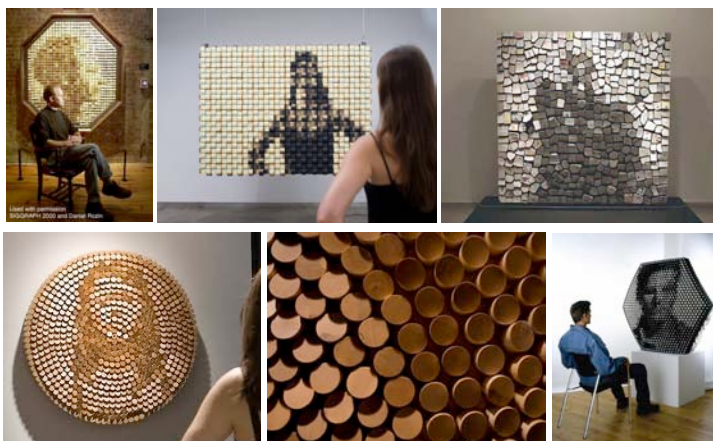'Wooden Mirror' piece, he tried to inflict digital order by using analog material like

wood [14]

Figure 16. Daniel Rozin's works

3. Zimoun

Zimoun is a visual and sound artist. He used small motors to make sound from each unit in his installation[15]
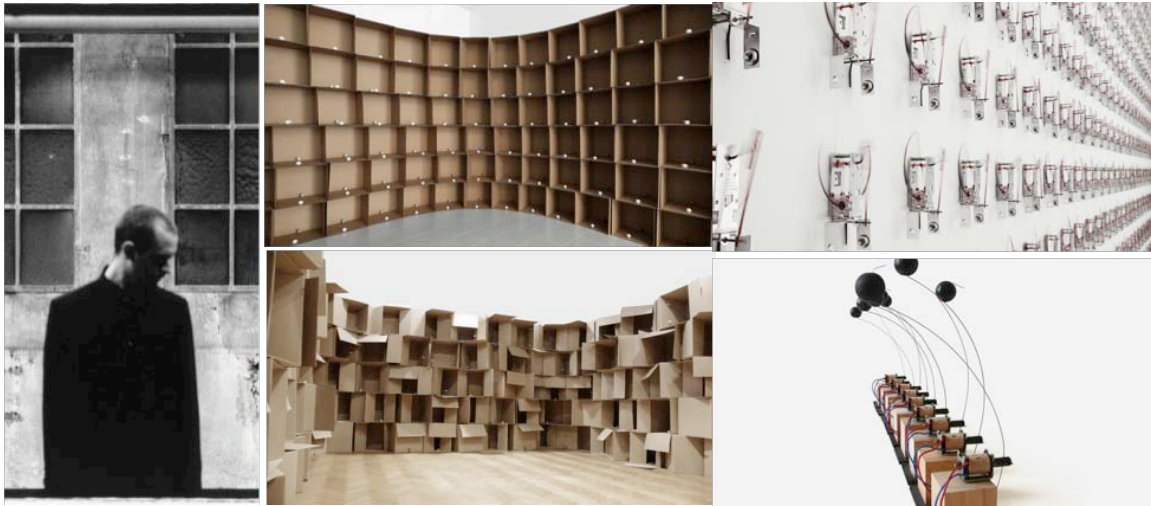

Figure 17. Zimoun

Prototype Process

In the process of prototyping this project I tried to use different materials in different space. The hardest part for this project for me was the mechanical part, since I didn't have much experience in physical computing, coding or electronics.

First prototype

I tried to stretch a fabric in different forms to experiment with how the effect of light and space would be. In the school studio I thought of doing a site specific piece on the corner of one wall or under the ceiling. Then I tried some various places for a while, yet it did work. In this image (figure 18), I used the tension from two

moveable partitions to capture the tension moment. However, it didn't give interesting effect enough that I should carry on.

Figure 18. First prototype

Second prototype

In this second prototype, I found some industrial metal frames in the studio so I thought I should try to change its roughness and cold looking to be softer and made an installation out of them. In the meanwhile, I could connect five servo motors underneath the fabric to see how it would look. But, the system wasn't really stable, and sometimes some motors weren't functional.

Figure 19. Second prototype

Third prototype

 In this prototype, I explored on how to make the system stable with many motors. Hence I found out that I need to have more power supplies and arduinos to keep everything stable. I tried from 3 motors to 5 motors and added a 9v battery and they worked quite well.
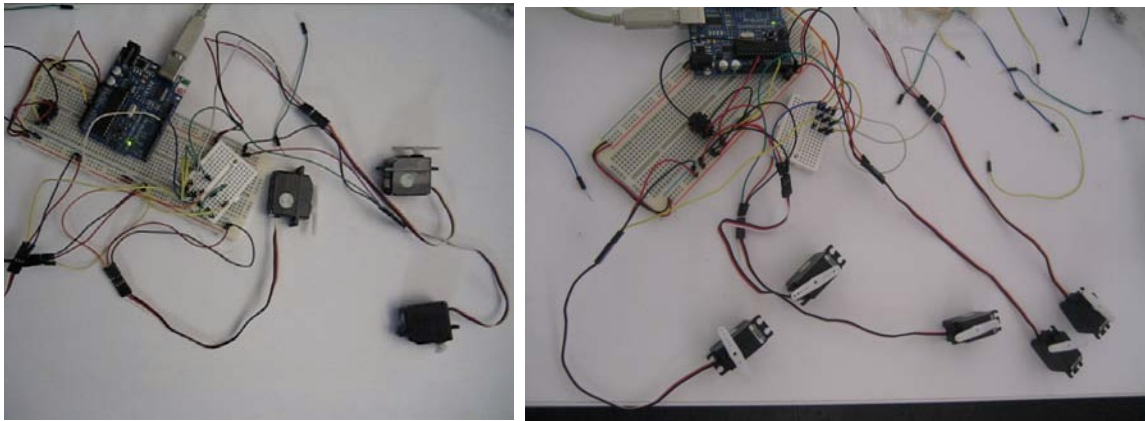

Figure 20. Third prototype

Fourth prototype

Eventually I could make 15 motors work from changing the arduino code and add two more arduinos. This time I made a board to arrange those motors in system and combine all the system in one breadboard
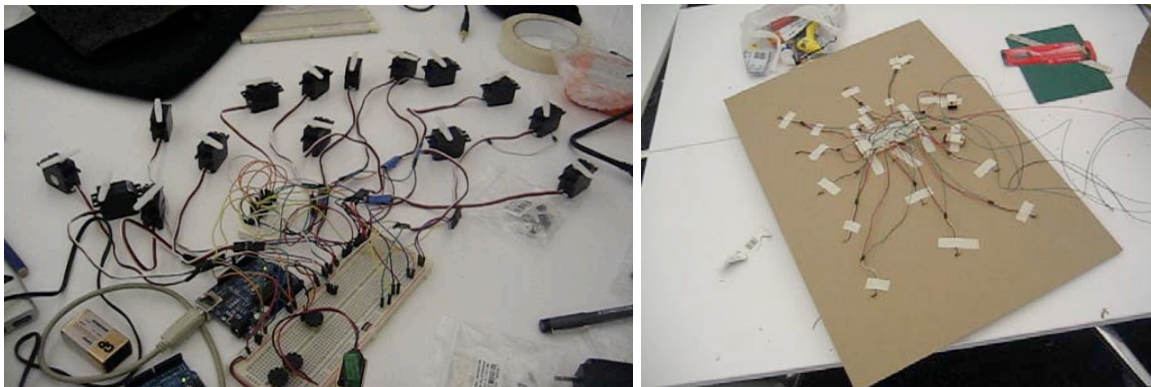

Figure 21. Fourth prototype

Fifth prototype

As I could make the system work, now I tried with different surface. I experimented with hair texture on the surface, black fabric, and white fabric. In the end, white fabric was the best because it conveyed the sensual I wanted. And I figured the size of the frame and how to make the frame in this prototype too

Figure 22. White spandex fabric surface of the fifth prototype

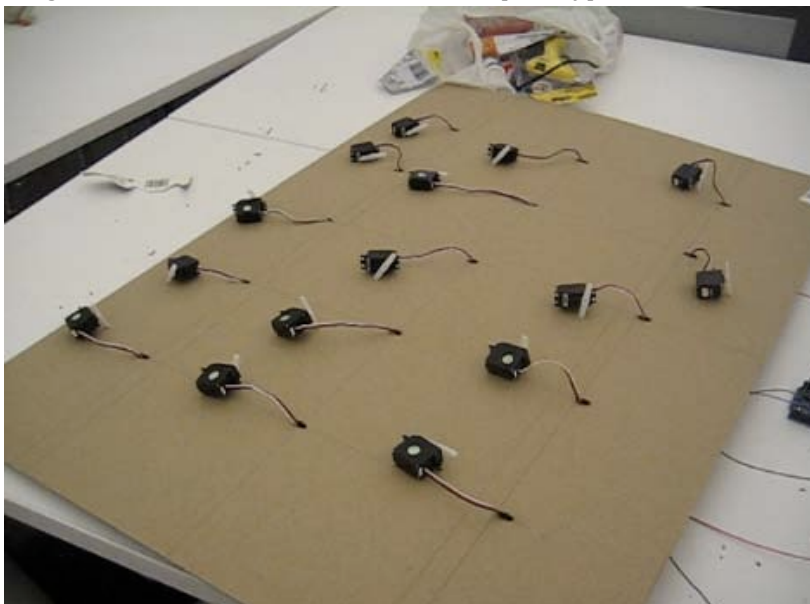Figure 23. Hair texture surface of the fifth prototype

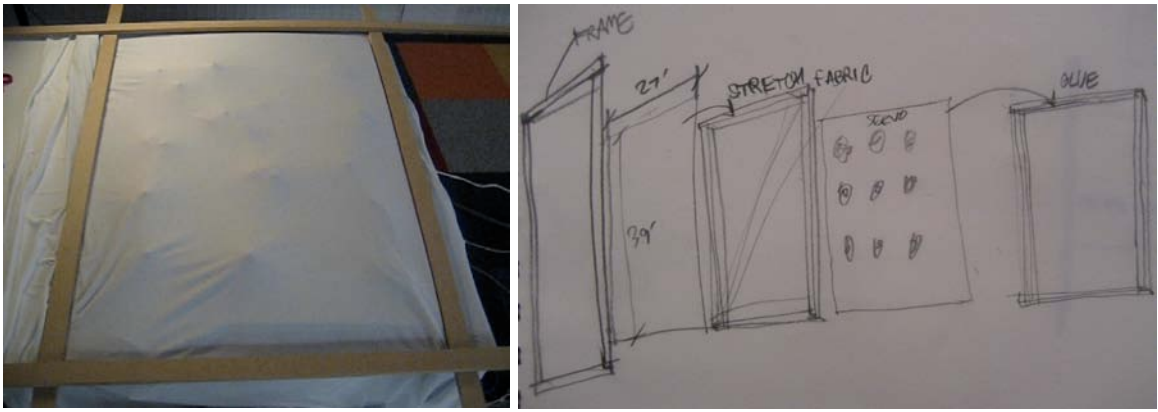

Figue 24. Servo motors arrangement of the fifth prototype

Figue 25. Frame details of the fifth prototype

Sixth prototype (Final)

This last prototype was meant to give it a final touch e.g. framing, stretch layers of white fabric on the right position, which wasn't too tight so motors could move easily. For the circuit I developed it to be more stable by separating 15 motors on 3 breadboards for three arduinos. After all the experimental, white spandex fabric as I used in the initial idea gave the feeling that related to ambiguous threatening sensual and sexual somehow, I believe.
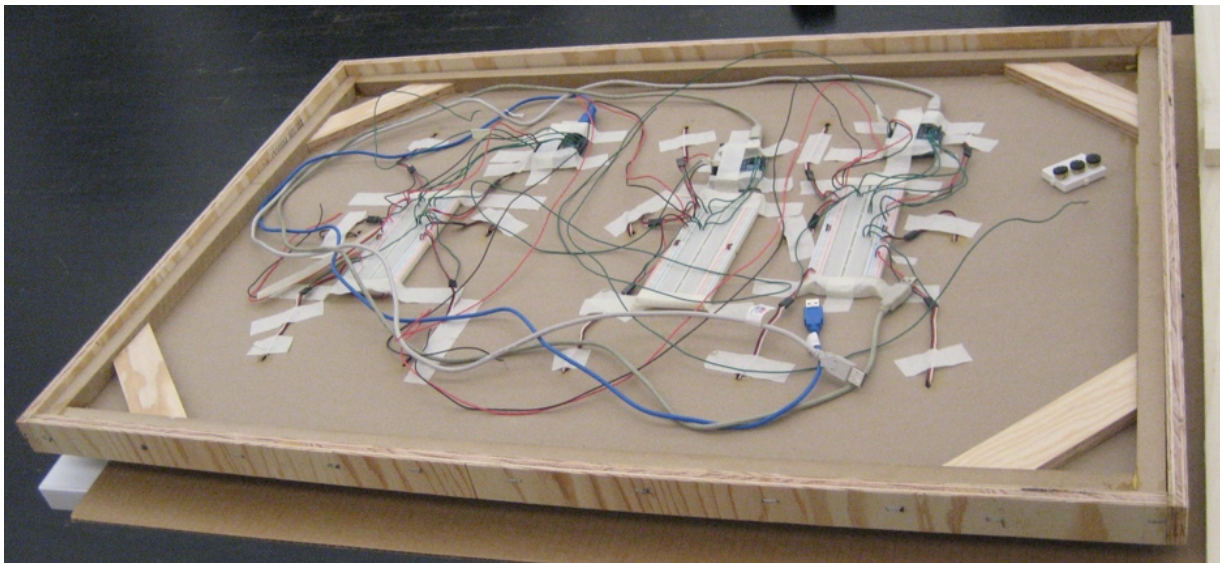

Figure 26. Circuit part of the sixth prototype

Figure 27. Installation view

Conclusion

I remember what one of the teachers in Design For The 21st Century class said that once you enhance the same problem to the different scale, you would have to fix many new problems like starting over again. I tried to improve this project from a single servo motor prototype and I found out lots of problems from the mechanical systems, power supplies, composition, limitation of materials and how to deal with bigger space and installation. There were some unexpected incidents during the project all the time and luckily I could get it done in the end.

What I would want to develop after this

1. Improve interaction part of this piece
2. Experiment more on materials and installation the piece
3. Make the system better and very stable

Lastly big thanks to anyone, supporting me in this project, I feel so grateful.

Endnotes

1 Smith, David Woodruff, "Phenomenology", The Stanford Encyclopedia of Philosophy (Fall 2011 Edition), Edward N. Zalta (ed.). Accessed Dec 18, 2011. http://plato.stanford.edu/entries/phenomenology/

2 "Barcelona Pavilion", Wikipedia, the Free Encyclopedia. Last modified Dec 13 2011. Accessed Dec 18, 2011.
 http://en.wikipedia.org/wiki/Barcelona_Pavilion

3 "Top Changtrakul at Lance Fung", Artnet.com. Accessed Dec 18, 2011. http://www.artnet.com/Magazine/reviews/ebony/ebony(10)3-20-01.asp

4 "Clement Greenberg", Dictionary of Art Historians. Accessed Dec 18, 2011. http://www.dictionaryofarthistorians.org/greenbergc.htm

5 "Tomorrow Was Yesterday" Accessed Dec 18, 2011. http://tomorrow-was-yesterday.tumblr.com/

6 "Minimalism", Wikipedia, the Free Encyclopedia. Last modified Dec 13 2011. Accessed Dec 18, 2011. http://en.wikipedia.org/wiki/Minimalism

7 "Equivalent VIII 1966", Tate Online. Accessed Dec 18, 2011. http://www.tate.org.uk/servlet/ViewWork?workid=508

8 "Richard Serra. Circuit II. 1972-86", MOMA Multimedia. Accessed Dec 18, 2011. http://www.moma.org/explore/multimedia/audios/46/939

9 "Postminimalism", Wikipedia, the Free Encyclopedia. Last modified Dec 6 2011. Accessed Dec 18, 2011. http://en.wikipedia.org/wiki/Post-minimalism

10 "Tom Friedman", Designboom. Accessed Dec 18, 2011. http://www.designboom.com/portrait/friedman.html

11 "21 December 2010 post: Rachel Whiteread, Selected Sculptures & Interview" , fARTiculate. Dec 21, 2011. Accessed Dec 18, 2011. http://farticulate.wordpress.com/2010/12/21/21-december-2010-post-rachel-whiteread-selected-sculptures-interview/

12 "Dada", Wikipedia, the Free Encyclopedia. Last modified Dec 19 2011. Accessed Dec 19, 2011. http://en.wikipedia.org/wiki/Dada

13 "Ned Kahn", Ned Kahn. Accessed Dec 19, 2011.
 http://nedkahn.com/

14 "Wooden Mirror", Daniel Rozin Interactive Art. Accessed Dec 19, 2011. http://www.smoothware.com/danny/woodenmirror.html

15 "Zimoun", Zimoun. Accessed Dec 19, 2011.
 http://zimoun.ch/about.html

Bibliography

Smith, David Woodruff, "Phenomenology", The Stanford Encyclopedia of Philosophy (Fall 2011 Edition), Edward N. Zalta (ed.). Accessed Dec 18, 2011. http://plato.stanford.edu/entries/phenomenology/

"Barcelona Pavilion", Wikipedia, the Free Encyclopedia. Last modified Dec 13 2011. Accessed Dec 18, 2011.
 http://en.wikipedia.org/wiki/Barcelona_Pavilion

"Top Changtrakul at Lance Fung", Artnet.com. Accessed Dec 18, 2011. http://www.artnet.com/Magazine/reviews/ebony/ebony(10)3-20-01.asp

"Clement Greenberg", Dictionary of Art Historians. Accessed Dec 18, 2011. http://www.dictionaryofarthistorians.org/greenbergc.htm

"Tomorrow Was Yesterday" Accessed Dec 18, 2011. http://tomorrow-was-yesterday.tumblr.com/

"Minimalism", Wikipedia, the Free Encyclopedia. Last modified Dec 13 2011. Accessed Dec 18, 2011. http://en.wikipedia.org/wiki/Minimalism

"Equivalent VIII 1966", Tate Online. Accessed Dec 18, 2011. http://www.tate.org.uk/servlet/ViewWork?workid=508"Richard Serra. Circuit II. 1972-86", MOMA Multimedia. Accessed Dec 18, 2011. http://www.moma.org/explore/multimedia/audios/46/939

"Postminimalism", Wikipedia, the Free Encyclopedia. Last modified Dec 6 2011. Accessed Dec 18, 2011. http://en.wikipedia.org/wiki/Post-minimalism

"Tom Friedman", Designboom. Accessed Dec 18, 2011. http://www.designboom.com/portrait/friedman.html

"21 December 2010 post: Rachel Whiteread, Selected Sculptures & Interview" , fARTiculate. Dec 21, 2011. Accessed Dec 18, 2011. http://farticulate.wordpress.com/2010/12/21/21-december-2010-post-rachel-whiteread-selected-sculptures-interview/

"Dada", Wikipedia, the Free Encyclopedia. Last modified Dec 19 2011. Accessed Dec 19, 2011. http://en.wikipedia.org/wiki/Dada

"Ned Kahn", Ned Kahn. Accessed Dec 19, 2011.
 http://nedkahn.com/

"Wooden Mirror", Daniel Rozin Interactive Art. Accessed Dec 19, 2011. http://www.smoothware.com/danny/woodenmirror.html

"Zimoun", Zimoun. Accessed Dec 19, 2011. http://zimoun.ch/about.html