

BETWEEN



A VISUAL STORY OF
BECOMING AND MEETING

**&
YOU**

PROLOGUE

JANUARY 2010, 10 AM

I lie on my back. The doctor rubs the gel around my flat belly with the ultrasound handle. Quickly, we find some grainy black and white images on the monitor. She draws some lines with the trackball and measures the kidney-bean shape on the screen. “Would you like to hear the heartbeat?” she asks. “Yes, but I didn’t know that’s possible,” I reply. “Of course it’s possible.” she says, “We can’t listen for long, but we can hear it from the umbilical cord.” I don’t know how she found the umbilical in the mess of lines and shades, but there it is, a vibration resonants in the room: a sound that resembles a machine sucking water out of a carpet (though I’ve never heard such machines).

This is the first time I “met” the being who would become my daughter.

APRIL 1, 2012. 1PM

I lie in my bed, elastic belt around the waist, two transducers on the belly under the belt. One for me, and one for him, the one who is becoming my son. Two wires are linked to a machine. The machine shows some numbers, draws wiggly green lines on the screen, and amplifies the sound of the heartbeat. From my past month’s daily ritual, I can tell that his sound is too rhythmic, his line too regular. So I tap on the belly, sending ripples inside. His heart races for a moment, he stretches his legs, turns his butt, and the beat returns to its regular pattern. I take off the transducers, the belt, and move the machine near a window. It makes fax-machine sounds and send the lines it has recorded to a midwife somewhere in Paris. My phone rings. “Your baby is not very reactive,” she says, “we should monitor the situation closely.” “Yes, I know. We are scheduled at the hospital this afternoon.” “Good,” she replies.

This is the last time I “met” my son in my belly in my home.

*There is no meaning if meaning is not shared, ...
because meaning is itself the sharing of Being.*

— Jean-Luc Nancy

INTRODUCTION

As a designer, I create tools which facilitate the communication between people. Someone has something to say, I gather the material, organize them, and present them in a way which transmits a message or a feeling effectively through a chosen medium.

The typeface, the image(s), the color palette, the composition, and even the choice of medium all play a subtle but crucial role in the visualization of the message. The appearance of what I design is not only a physical presentation of the message, but also a record of the meeting that can take place.

But how do we create physical objects that record experiences as strange as meeting one's unborn child? Or, how do we record the experience of meeting ANYONE at all, however mundane or extraordinary that meeting might be?

Who am I? Who are you? How do we meet in between? What is "in-between"?

The first part of my research shows different ways of representing the process of individuation of entities. How do we become someone or something? What are the forces that create the individual? What are the limits of the entity? The references included show different ways the pre-individual forces can influence the physical forms of entities.

The second part of the research talks about how various ways one entity can meet or confront another, and how this interaction or non-interaction between the two can be materialized and experienced.

The third part of the research is about how to use heartbeats to communicate between two entities.

My research is in no way a scientific and exhaustive study of a specific discipline. Rather, it is a stream-of-consciousness collection of examples in the fields of philosophy, literature, psychoanalysis, popular culture, art and design which illustrates the theoretical reflections on the human condition: of becoming and meeting. This approach seems to me to be more appropriate to the subject.

1

**BE-
COMING I**

FORCES, PROCESS AND FORMS

2

**MEETING
YOU**

CROSSING THE BOUNDARIES

3

**&
BETWEEN**

MEETING THROUGH HEARTBEATS

1 BE- COMING I

FORCES, PROCESS AND FORMS

FORCES, PROCESS AND FORMS

In order to have a meeting taking place between two entities, there must be at least one entity in the beginning. How does one become someone or something in the beginning? How do we go from nothing to something? How can this process take place?

Gilbert Simondon talks about the process of coming into existence in his work *The Genesis of the individual*. For him, the pre-individual, the being who will become someone or something, is suspended in state that is full of possibilities. There are various forces that will shape the pre-individual who will come into existence. Furthermore, these forces will continue to act on the individual even after individuation. Simondon sees the becoming of the individual as a continuing process.

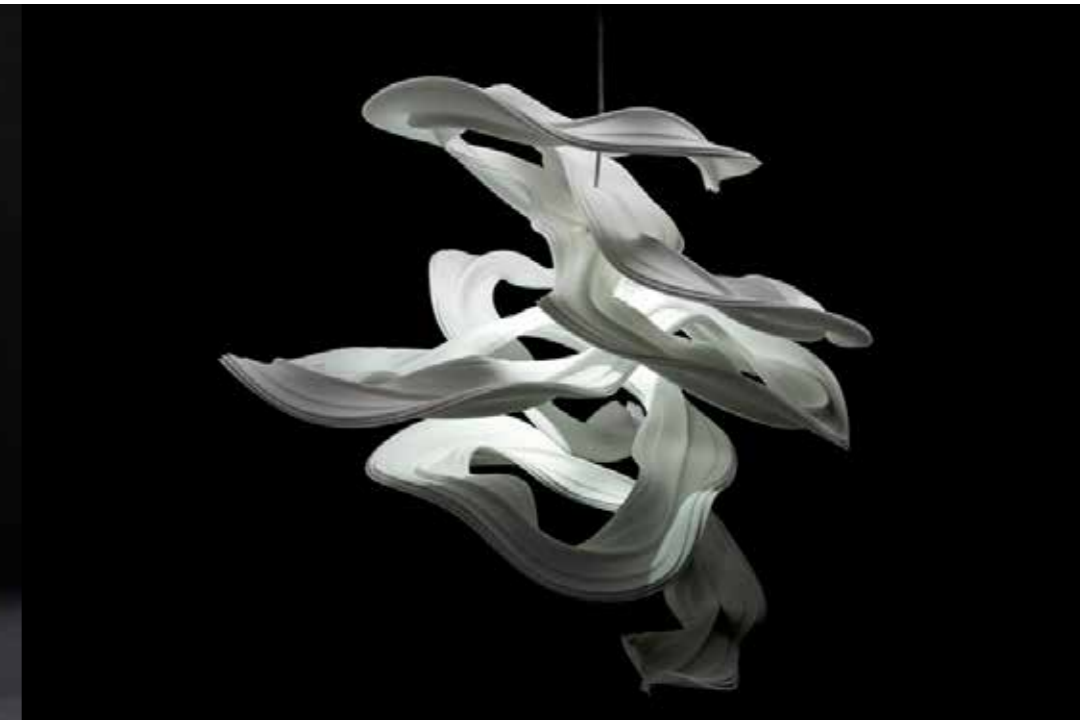
In this chapter, I will show examples of how one's physical form can be affected by exterior forces; how a form can go through different phases of transformation, and how form can also be extracted from an individual.

The process of individuation must be considered primordial, for it is this process that at once brings the individual into being and determines all that distinguishing characteristics of its development, organization and modalities. Thus the individual is to be understood as having a relative reality, occupying only a certain phase of the whole being in question — a phase that ... does not exist in isolation, since the individuation does not exhaust in the single act of its appearance all the potentials embedded in the preindividual state.

— Gilbert Simondon, *The Genesis of the individual*

TRANSDUCTION

The transportation or transformation of something from one form, place, or concept to another.



VAPOR II

PIEKE BERGMANS

2013

<http://www.piekebergmans.com/vapor-ii/>

To create this lighting installation, similar to glass blowing, Pieke Bergmans blows in plastic. By heating and rapidly inflating the PVC plastic, the final form is partly left open to chance. “I don’t like to design as a designer and be very precise about how things should look,” Bergmans says. “I prefer that shapes grow into their natural environment, so the only thing I decide is to add more or less air or maybe a few colours, time or material.”

DOGFIGHT

GEOFFREY MANN

Long Exposure series / Optical Cast Glass, sub-surface engraving / 15 x 10 x 35 (cm per block) / 75 x 10 x 35 (cm installation) / 2008

Vitrics, Paris

<http://www.mrmann.co.uk/long-exposure-series-dogfight>

In this series, Geoffrey Mann records the interwoven trajectory of two moths’ playful behaviour upon meeting. The engraved forms encapsulate the ephemeral echo of the moth’s erratic trail. The natural whispering creates movement within a static object. The glass is optical crystal and appears invisible allowing the forms to seem suspended in air.

ATTRACTED TO LIGHT

GEOFFREY MANN

Long Exposure series/ Mfr. Rp Nylon / 35 x 40 x 42 [cm]

<http://www.mrmann.co.uk/long-exposure-series-attracted-to-light-2>

This nylon piece finds its form as a result of the flight of a moth attracted to light. An ephemeral moment is captured by Geoffrey Mann and transformed into a physical object.

... So that each body is affected not only by those that touch it, in some way feeling the effects of all that happens to them, but also through their mediation feeling affected by those in contact with the former by which it is directly touched — it follows that this inter-communication extends to any distance, however great... Each body feels the effects of everything that happens in the universe.

— G. W. Leibniz, *Monadology*

IMPRESSION

A mark, indentation, figure, etc., produced by an external force.



LIGHT BULBS

PIEKE BERGMANS
2008

These blown glass bulbs exhibit signs of gravity. Their forms are a direct result of the forces that are exerted on them.

NEVERMIND

TONY CRAGG
stainless steel, 2013
<http://www.tony-cragg.com/>

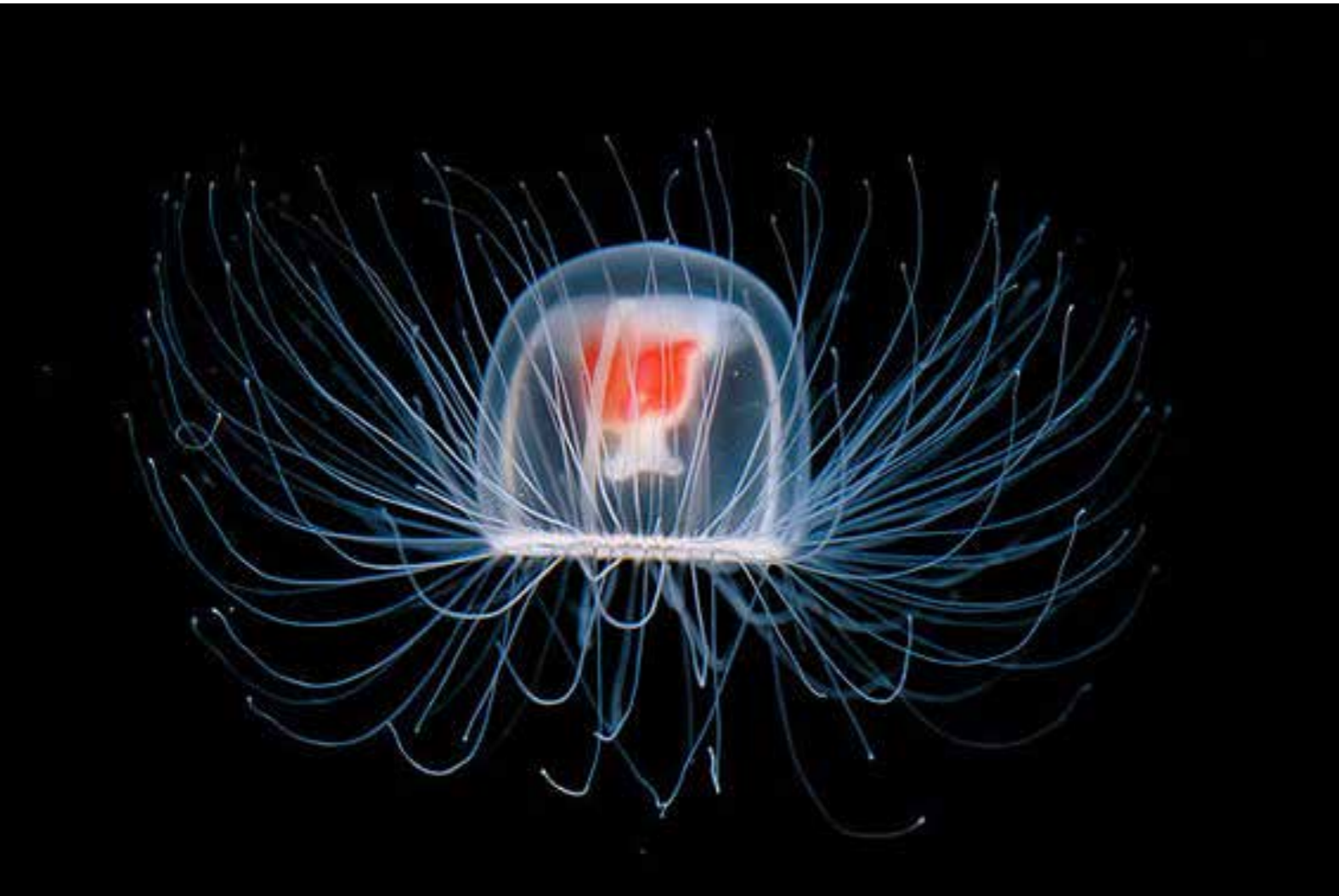
This sculpture by Tony Cragg is caught in the middle of the different pulling and pushing forces that surround it. The seemingly amorphous forms left behind record the process of the sculpture's becoming.

VAPOR

PIEKE BERGMANS
plastic blowing, 2013
<http://www.piekebergmans.com/vapor-6/>

Pieke Bergman blows plastic and hangs them to capture the movements of air in space. Six meters high, fragile mystical lighting-objects are hanging down from the ceiling, translucent and solid bodies that fades away to almost no substance.

IMPRESSION

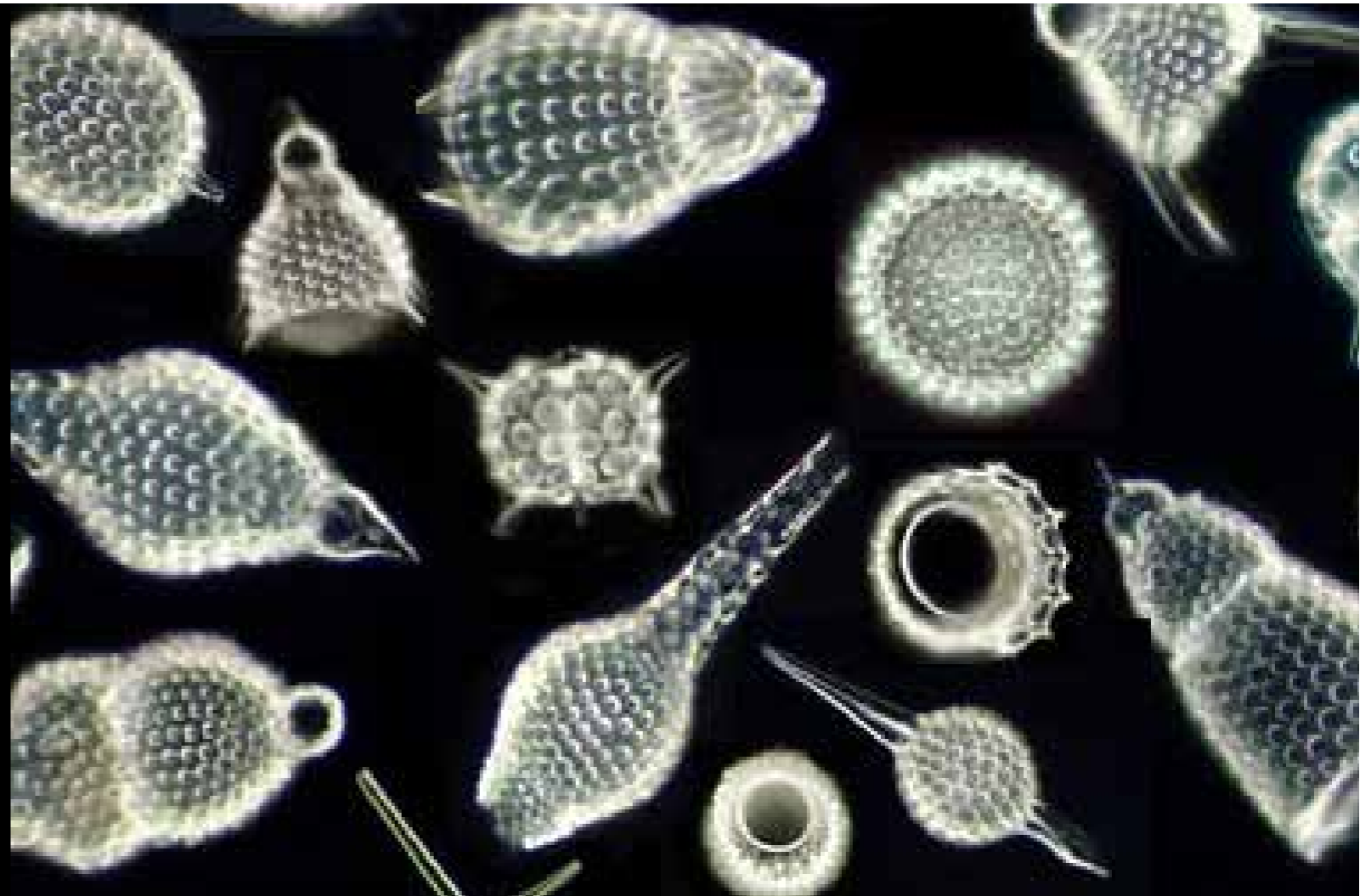


JELLY FISH

TAKASHI MURAI

<http://www.boredpanda.com/turritopsis-nutricula-immortal-jellyfish/>

This photo captures an ephemeral moment in the life of a jelly fish just before waves of water shape it into something else. The membranes of the jellyfish record the subtle changes in its environment.



RADIOLARIANS

http://www.radiolaria.org/what_are_radiolarians.htm

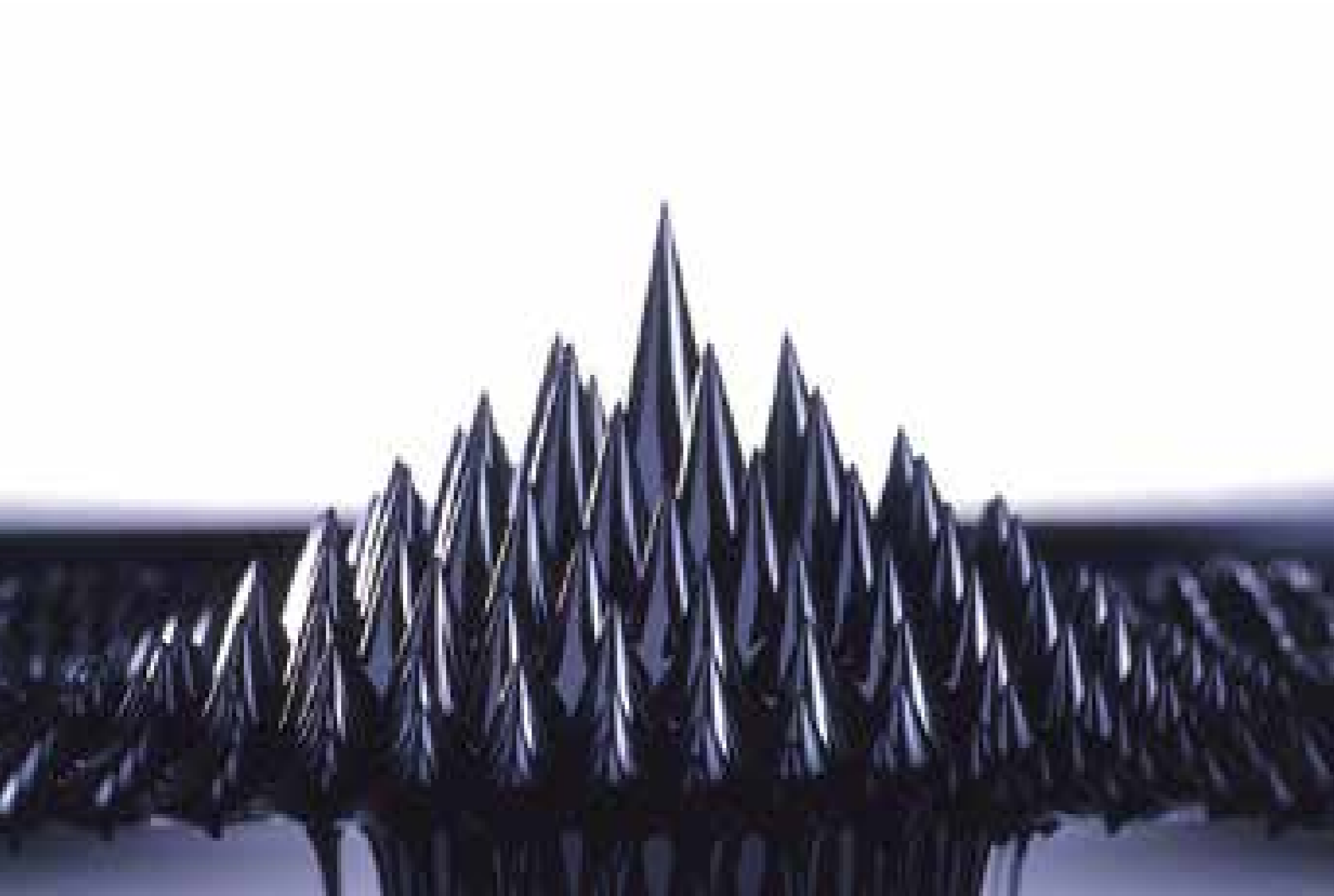
Radiolarians are part of the marine plankton. They occur in all oceans, including shallow seas, bays, fjords, etc., but almost invariably at salinities above 30 parts per thousand. Surface and subsurface geographic distributions of species are influenced by ocean climatic variables, with biogeographic provinces characteristically mirroring surface and subsurface water masses.

In water everything is “dissolved”, every “form” is broken up, everything that has happened ceases to exist; nothing that was before remains after immersion in water, not an outline, not a “sign”, not an event. Immersion is the equivalent, at the human level, of death at the cosmic level, of the cataclysm (the Flood) which periodically dissolves the world into the primeval ocean. Breaking up all forms, doing away with the past, water possesses this power of purifying, of regenerating, of giving new birth....

— Mircea Eliade

EMERGENCE

A process whereby larger entities, patterns, and regularities arise through interactions among smaller or simpler entities that themselves do not exhibit such properties.



MOUNTAIN

SASHIKO KODAMA

2001

[HTTP://SACHIKOKODAMA.COM/EN/WORK/](http://sachikokodama.com/en/work/)

The pull of a magnet above causes the rise of the ferro-fluid below into a mountain. The nano-particles in the fluid form patterns as a result of the forces above.



VENUS CHAIR

YASHIOKA TOKUJIN

<http://www.dezeen.com/2008/10/05/venus-chair-by-tokujin-yoshioka/>

The chair is “grown” in a tank as crystals form on a sponge-like substrate. It emerges from a “mother liquid” that is full of potentials. The substrate acts as a structure allowing the crystallization process to take place. “The crystal thus emerges as a result, an individuation which creatively resolves the tension between the disparate realms of the mother-liquor and the seed.” (Sauvanargues)

Quand un certain nombre de corps ... sont pressées par les autres de telle sorte qu'ils s'appuient les uns sur les autres ou bien; s'ils sont en mouvement,... qu'ils se communiquent les uns aux autres leurs mouvements selon un certain rapport précis, ces corps nous les dirons unis entre eux, et nous dirons qu'ils composent un seul corps ou Individu.

— Spinoza

RETICULATION

A pattern or arrangement of interlacing lines resembling a net.



HER SECRET IS PATIENCE

JANET ECHELMAN

2009

<http://artshearts.com/2011/10/04/is-it-a-bird-is-it-a-plane-janet-echelman/>

This floating sculpture reacts effortlessly to the wind, air and sunlight, transforming organically and taking on a performative role. It translates the movements in the environment into visible forms.

THE NEBULA

REUBEN HEYDAY MARGOLIN

2010 - 90'x50' 140' high. 14,064 bicycle reflectors, pulleys, aluminum, steel, and one electric motor.

<http://www.reubenmargolin.com/waves/Nebula/Front/>

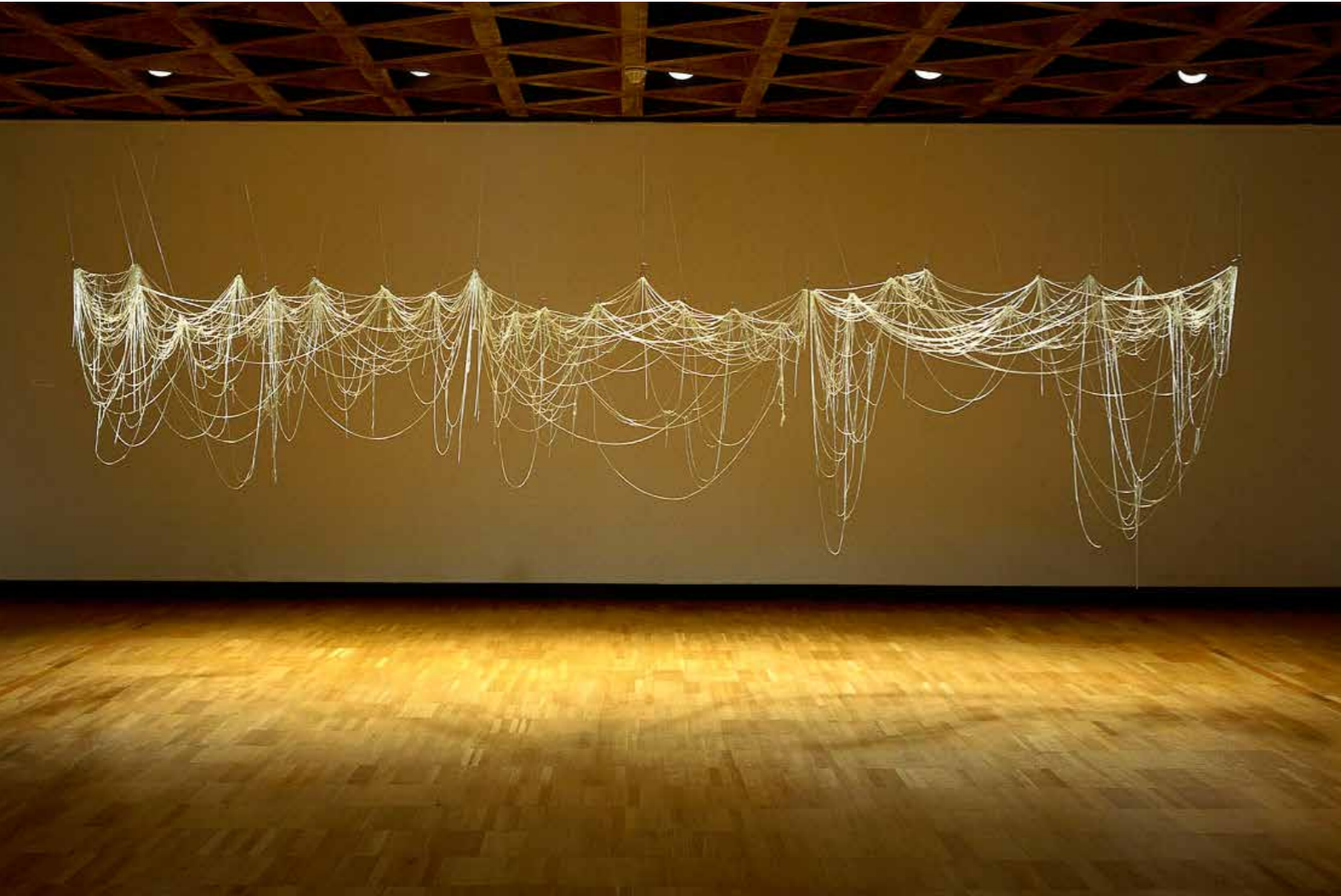
The Nebula, suspended from the ceiling above, has thousands of custom amber crystals organized in a multi-tiered, geometric pattern. The crystals are made from 14,064 bicycle reflectors and custom anodized aluminum cones and rods. The nebulous form undulates above, powered by one electric motor.

*Granted that disorder spoils pattern, it also provides the material of pattern....
So disorder by implication is unlimited, no pattern has been realised in it, but its
potential for patterning is indefinite.*

Formlessness is also credited with powers, some dangerous, some good.

— Mary Douglas

FORMELESSNESS



RIGHT AFTER

EVA HESSE / 1969

<http://studiofoundationspring09.blogspot.fr/2009/02/right-after-by-eva-hesse.html>

Reminiscent of a cloud in the sky, Hesse's piece seems to be caught in the middle of two opposite forces. As light shines on the white strings, we can appreciate the infinitely different shapes being created through the negative space within, as well as the subtle shadows in the pendent strings. The fact that there do not seem to be any loose ends gives a sense of continuity and completion.



LIQUID GLASS

JEAN BERARD

Photo

<http://www.jeanberard.com/Abstract/Liquid-Glass/1>

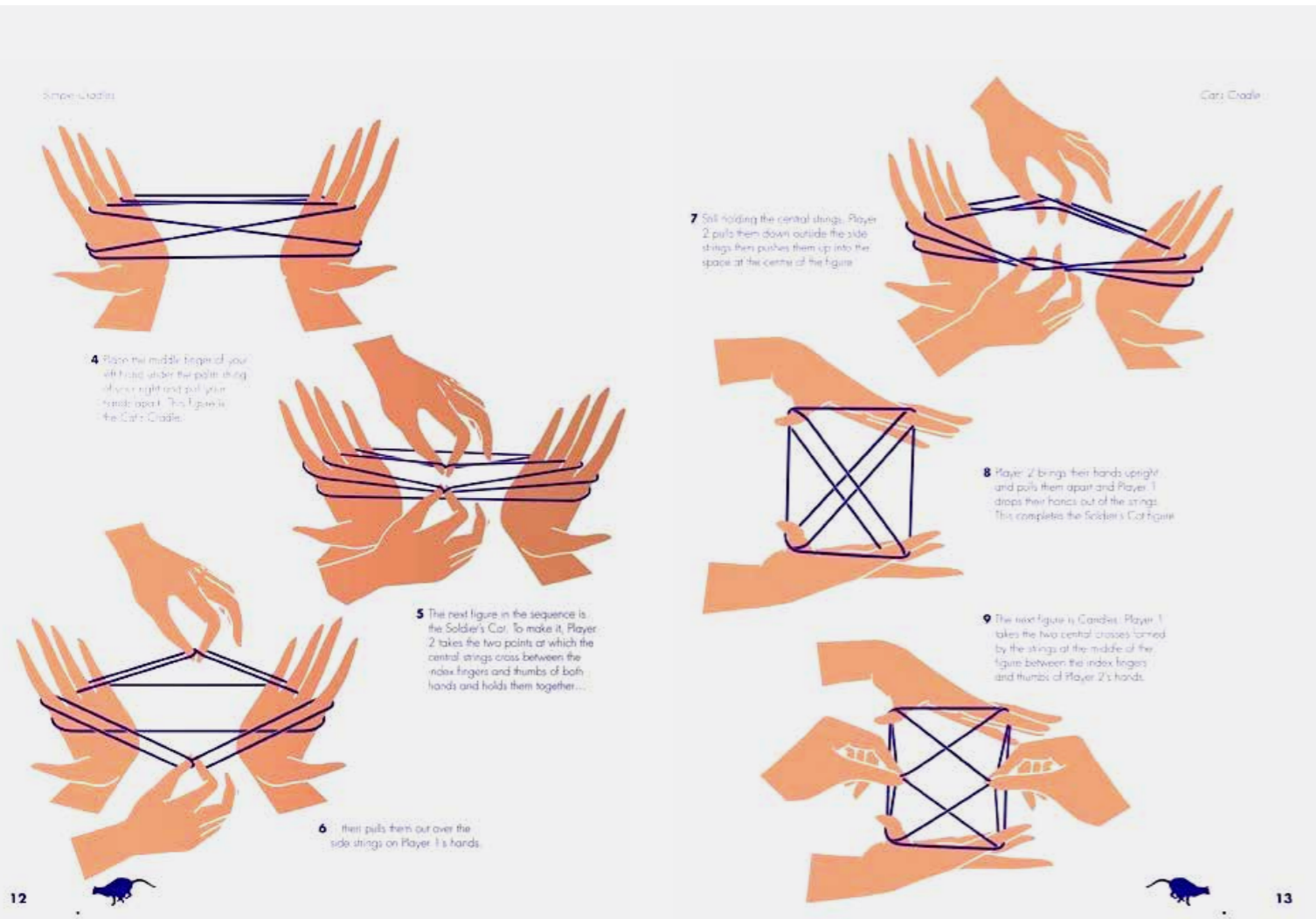
Photographer Jean Bérard turns solid glass objects into liquid by splashing water onto them. Objects seem to emerge from the formlessness of water.

Danger lies in transitional states, simply because transition is neither one state nor the next, it is undefinable... There is power in the forms and other power in the inarticulate area, margins, confused lines, and beyond the external boundaries.

— Mary Douglas

TRANSFORMATION

A noticeable change in character, appearance, function or condition.



CAT'S CRADLE

The popular children's game shows us that a simple string can transform into flowers, towers, fields, and cradles. The game is a physical record of the interaction between the two players in a moment of creation and open possibilities. Will the forms come into being or will it break? The naming of the different steps as objects shows the string as an entity that is constantly in transformation.

LE VOYAGE D'ALICE

MIRJAM FRUTTIGER

Villa Medici Rom, Notte Bianca, 2005 und Istituto Svizzero, Visioni del Paradiso

<http://www.fruttiger.ch/le-voyage-d-alice>

Mirjam Fruttiger's hanging installation is always in movement. It changes from a simple rectangular sheet to a dress in front of the visitors' eyes. There is a rare moment when the viewer is suspended with the fabric, the moment during the transformation when he is not sure what form the fabric will take next. Gravity, against the pull of the strings attached to the fabric, makes the transformation possible.

From an existential point of view, the distinction between inside and outside refers to the opposition between being and appearing, between the in-itself of things and the multiplicity of their appearances.

— Françoise Dastur

INSIDE VS OUTSIDE



ATMOSPHERIC REENTRY

MAIKO TAKEDA

2013

<http://www.maikotakeda.com/>

These plastic tentacles create a filter for the person wearing the headpiece. He or she can look at the world from a different perspective. However, they also make it difficult for the person outside to communicate with the person inside.



BEYOND THE BODY

IMME VAN DER HAAK

2012

<http://www.immevanderhaak.nl/>

These second skins make us question the identity of the person wearing them. They highlight the idea of skin as barrier. Does our exterior appearances define what is inside?

2 MEETING YOU

CROSSING THE BOUNDARIES

CROSSING THE BOUNDARIES

To meet, one must first take conscience of its own being, be confronted with its own image and essence and then confront others. Once the “self” is formed, we can reach out and meet others.

In his book *Être singulier pluriel* (Being Singular Plural, 2000), Jean-Luc Nancy believes that “we” is plural, and not singular. He believes that there is no being without “being-with,” that “I” does not come before “we”. In other words, there is no existence without co-existence. If a body can only exist in relation to others, how does it cross the spaces in between, the *l’entre-lieu-des-corps*? How do we become we? How do we meet one another? How do we learn to cherish the space in between?

There can be many different ways of meeting another being. We must first traverse the different types of boundaries that define us. There will be different degrees of ease: some boundaries are more permeable than others. Sometimes, there might even be too many options or obstacles that prevent

the meeting from taking place. Other times, we are not sure of who or what we are encountering. Or, we can have the strange experience of being grafted on a foreign object, creating one entity by combining two different ones. Or, even when we establish a contact with someone, the relationship between the two can be so fragile that even the slightest movement will upset the equilibrium of the meeting. Sometimes, the most simple meeting might be the most complex one.

In this chapter, I will show examples of meeting one’s self, and the possibilities and impossibilities of meeting others.

Le corps n'est pas un objet comme un autre: il est cet objet dont je suis le sujet, ou qui est à lui-meme son propre sujet moi, que je ne dirige ou qui ne se dirige lui-meme qu'autant que j'en resulte.

— Jeanne-Marie Roux

MEETING ONE'S SELF



SCANNER ROOM

KAROLINA HALATEK

<http://cargocollective.com/karolinahalatek/KAROLINA-HALATEK>

The user enters this room and is confronted with a light resembling that of a scanner. Usually, scanning is used to represent images or to read encoded, written messages. This exposure to light may be treated as a potential introspection, a state of concentration, a meeting and exchange with one's own self. Its intensity develops with time and may get you close to meditation, but it can also take the form of a momentary flash of light, a transient feeling or image.



AUTOPOIESIS

RAFAEL LOZANO-HEMMER

2010

<http://www.lozano-hemmer.com/autopoiesis.php/>

"Autopoiesis" consists of a small mirror with an embedded computerized surveillance camera running face-recognition algorithms. When people look at themselves in this mirror they see the word "Autopoiesis" projected on their forehead.

*What is necessary, after all, is only this: solitude, vast inner solitude.
To walk inside yourself and meet no one for hours—that is what you must be
able to attain.*

—Rainer Maria Rilke, “Letters To A Young Poet - #6”

MEETING ONE'S SELF



THE BRIDGE

MICHAEL CROSS

<http://www.michaelcross.eu/bridge1.html>

In this installation, the person is almost walking on water, as the steps appear and disappear as soon as one steps forward. In this way, he is suspended in the middle, as he meets his own reflection below.



INSTALLATION OF EXPERIENCE

VALIA FETISOV

<http://www.palaisdetokyo.com/fr/exposition/valia-fetisov>

The viewer is locked in the room and is told that the only way to get out is to find a certain attitude inside. In fact, he is only let out once he keeps still during one minute. This approach to stillness is another way to inspect one's interior space.

Étendus, les corps sont par nature espacés. Mais cet espace, alors; comment le traverser? Sommes-nous condamnés à la solitude et au silence? Solitude et silence; il s'agit surtout de les repenser. Car il existe une manière de sortir de la solitude; c'est le toucher. .. Car le toucher c'est ce qui permet de sortir de l'isolement sans fusionner avec l'autre; de ne plus être seul, sans pour autant être seul; sans pour autant être un seul.

– Jeanne-Marie Roux

EXTRACTED FROMS



E.17 Y.40 A.18 C.28

X.40 O.13,5

BERDAGUER & PEJUS

<http://cbmp.fr/>

Psychoanalysis patients are asked to draw a tree. These drawings are then translated to three-dimensional sculptures. The physical objects represent forms that exist in the individual that are otherwise invisible.

COLD SOULS

SOPHIE BARTHES

The protagonist in this movie finds his soul weighing him down. He visits a soul storage facility to have his soul extracted. Much to his dismay, he finds that his soul takes the form of a chick pea. The idea of being able to extract one's essence of being is fascinating. Everyone's soul is different, they all have different forms: some are big, some are small; some are simple, other are complex. What shape would your soul be? How would you feel if you can meet your soul one day?

The membrane thus defines the leap from the chemical to the living, and promotes the emergence of this new property: the difference between exterior and interior, the result of its differentiating action. There is nothing more profound than the skin.

— Anne Sauvanargues

POROUS MEMBRANES



TRISTAN AND ISORE

CHIHARU SHIOTA

2013

<http://www.chiharu-shiota.com/en/>

The screen obscures, but also leaves light passing through. The complex forms created by the multiplicity of simple lines make a barrier that is semi-porous.



VITRA ALGUE

RONAN AND ERWAN BOURULLEC

<http://www.stardust.com/mm5/graphics/00000001/vitra-algue.jpg>

The organic-looking modular forms create a mesh, allowing light and air to pass through. At the same time, it is a protective cocoon that separates an inside and an outside.



... For Merleau-Ponty, on the other hand, the human experience of space is the experience of envelopment. That is why it is a question for Merleau-Ponty of an encompassing and topological space, and why he therefore returns to the ancient idea of topos, of the envelope — for space can be truly given only to whom is in it.

— Françoise Dastur

IMPERMEABLE MEMBRANES



TT1 LONDON

RICHARD SERRA

http://www.frieze.com/issue/article/metal_works/

Richard Serra's imposing sculptures divide spaces but also create protected moments of reflection and pure sensory experience. The impermeability of steel makes passing through the membranes impossible. In this way, the inside and the outside are separated and fundamentally different.



TAPE

NUMEN / FOR USE

2014

<http://www.numen.eu/>

The plastic membranes of this installation transform the exhibition space into a sort of organism having separate vessels and membranes. Though the people inside the sculpture are visible, they cannot converse with the spectators outside.

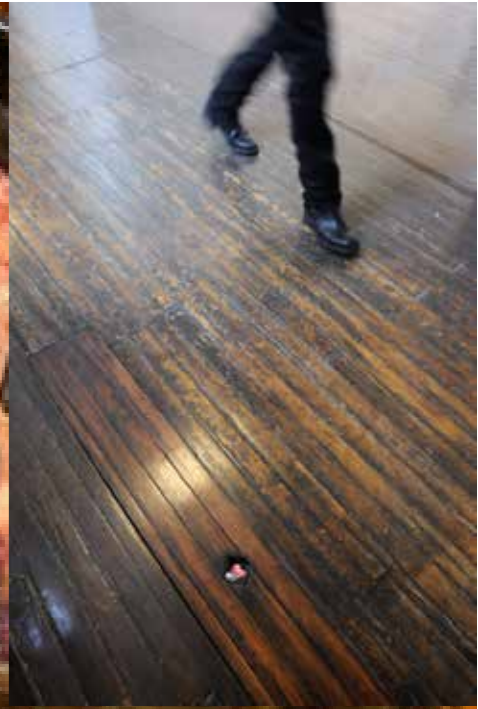


SELBSTLOS IM LAVABAD

PIPILOTTI RIST

<http://momaps1.org/exhibitions/view/169>

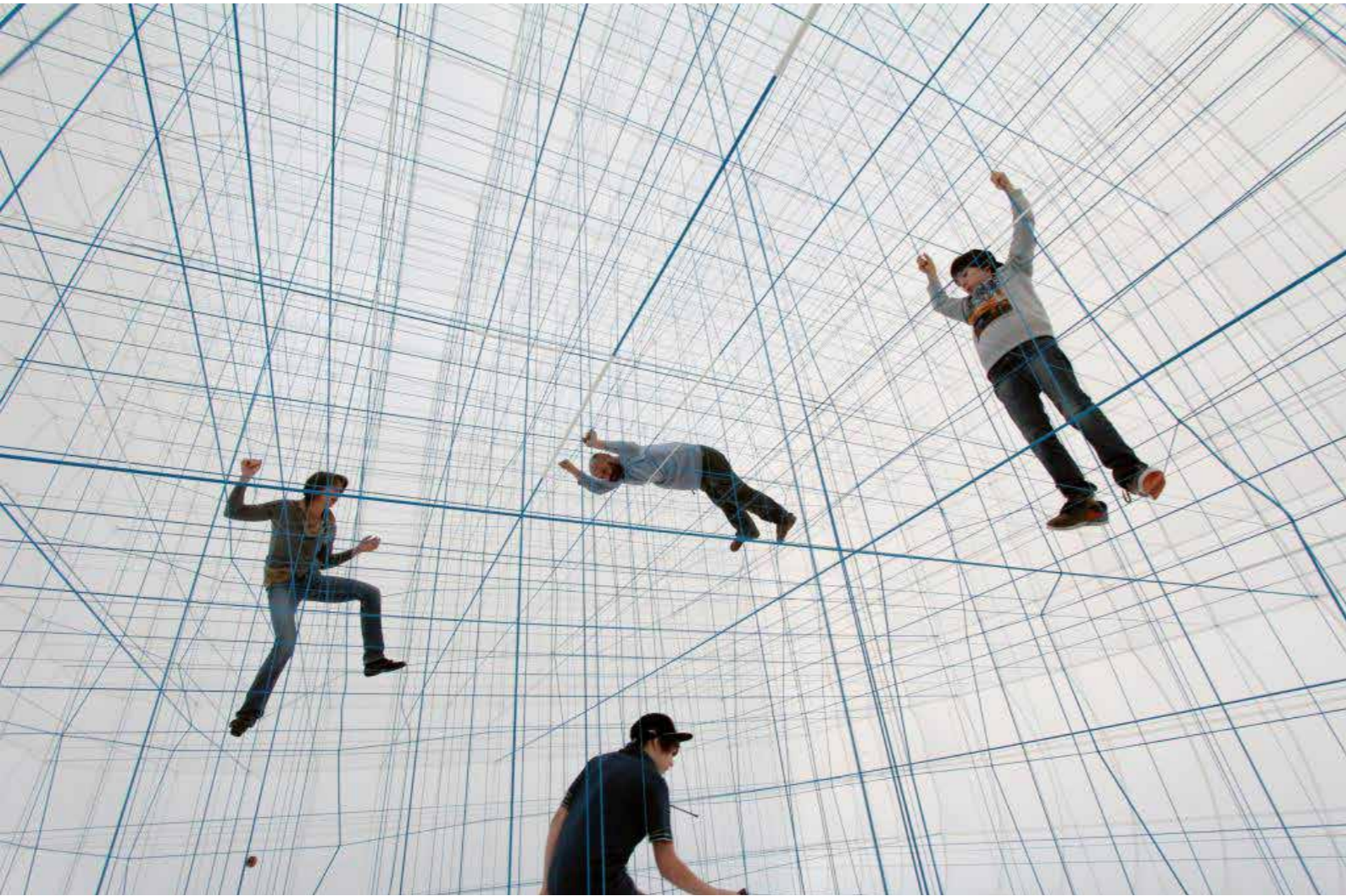
A video near the entrance of PS1 in New York, Pipilotti Rist's installation transforms the floorboards into a real membrane, separating the imaginary world of the video and that of the world above. The woman in the video tries to contact the viewers above. But this contact is impossible because of the medium and the physical barrier between them.



The mind is sharper and keener in seclusion and uninterrupted solitude. Originality thrives in seclusion free of outside influences beating upon us to cripple the creative mind. Be alone—that is the secret of invention: be alone, that is when ideas are born.

— Nikola Tesla, quoted in Thomas P. Hughes's *American Genesis: A Century of Invention and Technological Enthusiasm*

SUSPENDED



STRING VIENNA

NUMEN / FOR USE

2014

<http://www.numen.eu/>

Suspended, isolated, but still sharing a common experience: participants navigate a different kind of space inside a white inflatable cube. Perhaps contact is still possible?



NET

NUMEN / FOR USE

2014

<http://www.numen.eu/>

The nets create different passages, dividing space into different pockets of possibilities and difficulties. Meeting another would be possible, though difficult in a space like this. However, these nets can also provide a safe, supported space for introspection, a moment to meet one's self..

Criss crossed by hundreds of streams and constantly thought from outside, the topological space of the network is never in things or in people, but in the impossible verisimilitude of what lies between them: encounters, the proximity of what is most distant, the absolute dissimulation in our very midst.

— Michel Foucault, Maurice Blanchot, *The Thought from Outside*

TOO MANY POSSIBILITIES



OTHER SIDE

CHIHARU SHIOTA

2013

<http://www.chiharu-shiota.com/en/>

Chiharu Shiota presents a myriad of different choices, different doors which open to possibilities that are only possible in the minds of the viewers. The passage through all of these doors would be impossible, as one can only choose one door at a time. Even so, the chosen door would be closed and inaccessible.



A ROOM OF MEMORY

CHIHARU SHIOTA

2013

<http://www.chiharu-shiota.com/en/>

In this installation, hundreds of picture frames evoke the various memories one can store in his mind. The frames are blank and empty, leaving the viewer imagining the different contents that can be held in these containers.



JARDIN D'ADDICTIONS

BERDAGEUR & PEJUS

2009, Glass, metal and perfume, Perfumers: "Les Christophes" (Christophe Laudamiel & Christoph Hornetz)

http://cbmp.fr/articles_52_en.html

The fragrances that emanate from the glass plant are created from the smells of various substances (alcohol, cocaine, weed, opium...) all responsible for a state of dependence for human beings. But which ones to choose? There are too many options making the choice impossible.

There is power in the forms and other power in the inarticulate area, margins, confused lines, and beyond the external boundaries.

— Mary Douglas

AMBIGUITY



BLUR BUILDING

ELIZABETH DILLER

<http://www.dsrm.com/#/projects/blur-building>

One crosses a bridge to go into this manmade fog. Where does the building end? Upon entering Blur, visual and acoustic references are erased. There is only an optical “white-out” and the “white-noise” of pulsing nozzles. Blur is decidedly low-definition and ambiguous. In this exposition pavilion there is nothing to see but our dependence on vision itself.

Ellen Tongzhou ZHAO, 30mar2015



SPACE REPLAY

**ROYAL COLLEGE OF ART STUDENTS JULINKA EBHARDT,
FRANCESCO TACCHINI AND WILL YATES-JOHNSON**

<http://ied.rca.ac.uk/de-computation/space-replay>

A black ball floats in space and replays sounds from previous environments in which it traversed. The dissociation between space and sounds create an ambiguous and disconcerting experience. It makes us question the here and the now.

Badiou is describing a paradox that is at the core of “love”: if there is only one humanity, how can there be two positions, man and woman, which are radically disjunct?... So, love is precisely the place where this paradox is negotiated, the paradox that there is a radical disjunct between the sexes, that there is no third term, and that there is a generic truth supported by one humanity... Love, he says, makes truth of this paradox.

— Lisa Baraitser

EQUILIBRIUM



REST ENERGY WITH ULAY

MARINA ABRAMOVIC

1980

<http://www.theguardian.com/artanddesign/2010/oct/03/interview-marina-abramovic-performance-artist>

A couple finds themselves in equilibrium. If one moves, the results could be catastrophic.



KISS OF THE EGG

GABRIEL OROZCO

1998

<http://www.colectiva.tv/wordpress/lang/en-us/jumex/>

An egg is hung at the intersection of metallic circles. It finds itself at a delicate crossing of different forces.

The graft seems to be a concept essential for understanding human psychology. In my opinion it is the human stamp, the specifying mark of the human imagination...

It is the graft which can truly provide the material imagination with an exuberance of forms, which can transmit the richness and density of matter to formal imagination.

— Gaston Bachelard

GRAFT



HOLLINGER

VERA ROHM

http://www.verarohm.com/images/hollinger13b_gr.jpg

Acrylic pillars are grafted on wood pillars. The site of the graft, where two different materials meet, becomes the center of attention. New pillars are formed with properties of both materials.



MASSIVE INFECTION

PIEKE BERGMANS

2008

<http://www.piekebergmans.com/>

Pieke Bergmans blows hot glass directly on top of the table to create a new form, marked by the meeting of the two materials. She sees these events as infections, the glass acting like virus, inject their own DNA in the host, the table. The third entity created, the table with glass and burnt marks is a record of the meeting between the two.

Once the realization is accepted that even between the closest human beings infinite distances continue, a wonderful living side by side can grow, if they succeed in loving the distance between them which makes it possible for each to see the other whole against the sky.

— Rainer Maria Rilke

CONNECTED



CONNECTED

REUBEN HEYDAY MARGOLIN & GIDEON OBARZANEK

35' X 10' X 20' HIGH PAPER, MAGNETS, STRING, STEEL, WOODEN RING, 88 PULLEYS, ONE MOTOR.

<http://www.reubenmargolin.com/contact.html>

The sculptures of Reuben Margolin meet the dancers choreographed by Bideo Obarzanek. The sculptures physically react to the dance, and are connected in a harmonious interaction.



THE ARTIST IS PRESENT

MARINA ABRAMOVIC

2010

<http://www.moma.org/visit/calendar/exhibitions/965>

During three months of her exhibition at MoMA, Marina Abramovic sits in front of one visitor at a time. No words are exchanged, they look at each other in the eye (or not), and a connection is made. A table and two chairs, in the immense atrium of the museum become a trace of these meetings between the artist and the other.

3

&

BETWEEN

MEETING THROUGH HEARTBEATS

MEETING THROUGH HEARTBEATS

The heart is a four chambered organ controlled by electrical impulses. It produces a pumping action that enables the flow of blood through the human body.

The heart has long been considered the center of the being. It is thought to be the master of all other organs, controlling the essential functions and also emotions. The heartbeat is a sign of life and also of individuality. It is a type of pulsation that every human being can feel and relate to. It is essential to protect the heart at all means, because without it, there would be no life.

Through its contractions and dilatations, the rhythmic beating of the heart is an essential sign of life. Seeing, hearing, and feeling the heart can bring us closer to ourselves and to other people.

Visualizing the heartbeat is a way of visualizing the essential vital life force. In this chapter, I will present different techniques to “meet” the heart, and different ways the pulse can be interpreted, shown, and felt.

Through this pulsating meeting point, maybe we can find a better way of crossing the boundaries and sharing our human experiences with others.

*How can I describe
A God that's indescribable
How can explain
A love that's unexplainable
I'm at a loss for words.*

*Oh Oh Oh My heart sings Oh Oh Oh
Oh Oh Oh My heart sings Oh Oh Oh
Oh Oh Oh My heart sings Oh Oh Oh*

— William MacDowell, *My Heart Sings*

HEART IN ANCIENT TIMES



WEIGHING OF THE HEART

BOOK OF THE DEAD

www.egyptian-scarabs.co.uk/weighing_of_the_heart.htm <http://thethinkingmasses.blogspot.fr/2011/10/quote-from-ancient-egyptian-book-of.html>

The ancient Egyptians considered the heart to be the center of thought, memory and emotion. It was thus associated with intellect and personality and was considered the most important organ in the body. Unlike other internal organs, it was never removed because its presence in the body was crucial in the passage to the afterlife. If the deceased was found to have done wrong and the heart weighed down the scales, he or she was not thought to enter hell, but to cease to exist.



CHINESE CHARACTER FOR THE HEART

<http://en.wiktionary.org/wiki/%E5%BF%83>

In Chinese ideogram, the character for the heart has evolved from a drawing of the heart (organ) to mean the center and the core of things.

*Well, since my baby left me
Well, I found a new place to dwell
Well, it's down at the end of Lonely Street
At Heartbreak Hotel
Where I'll be--where I get so lonely, baby
Well, I'm so lonely
I get so lonely, I could die*

— Elvis Presley, *Heartbreak Hotel*

HEART AS EMOTIONS



CUPID POURING WATER ON A BURNING HEART

ANONYMOUS, ITALIAN, FIRST HALF OF THE 18TH CENTURY

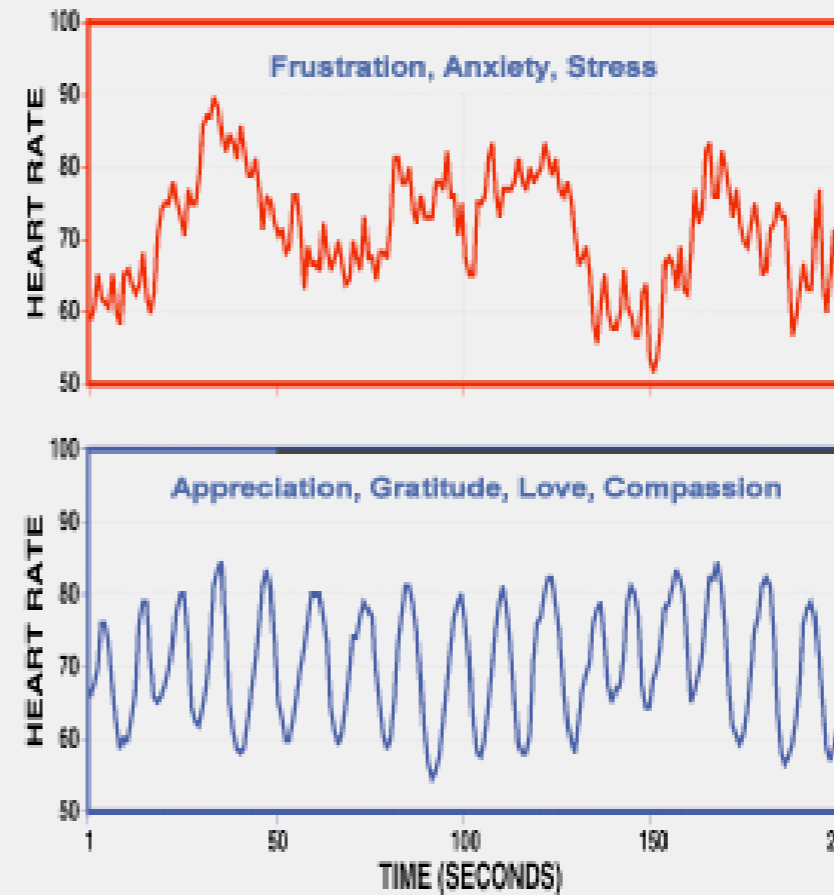
metropolitan museum

Date: 18th century / Medium: Red, black and yellow chalk / Dimensions: Oval: 12-3/4 x 9-3/8 in. (32.4 x 23.8 cm)

Classification: Drawings / Credit Line: Gift of Cornelius Vanderbilt, 1880 / Accession Number: 80.3.325

<http://www.metmuseum.org/collection/the-collection-online/search/342152?=&imgno=0&tabname=object-information>

In western traditions, the heart also represents emotions.



Incoherent heart rhythm pattern

Stressful "negative" attitudes and emotions, like frustration and anxiety cause chaotic heart rhythms - leading to increased cortisol level and disruptive sleep rhythms

Coherent heart rhythm pattern

Positive attitudes and emotions, like appreciation, create smooth coherent heart rhythms - leading to more restful and revitalizing sleep.

Copyright 2009 Institute of HeartMath

HEART MATH

ROLLIN MCCRATY

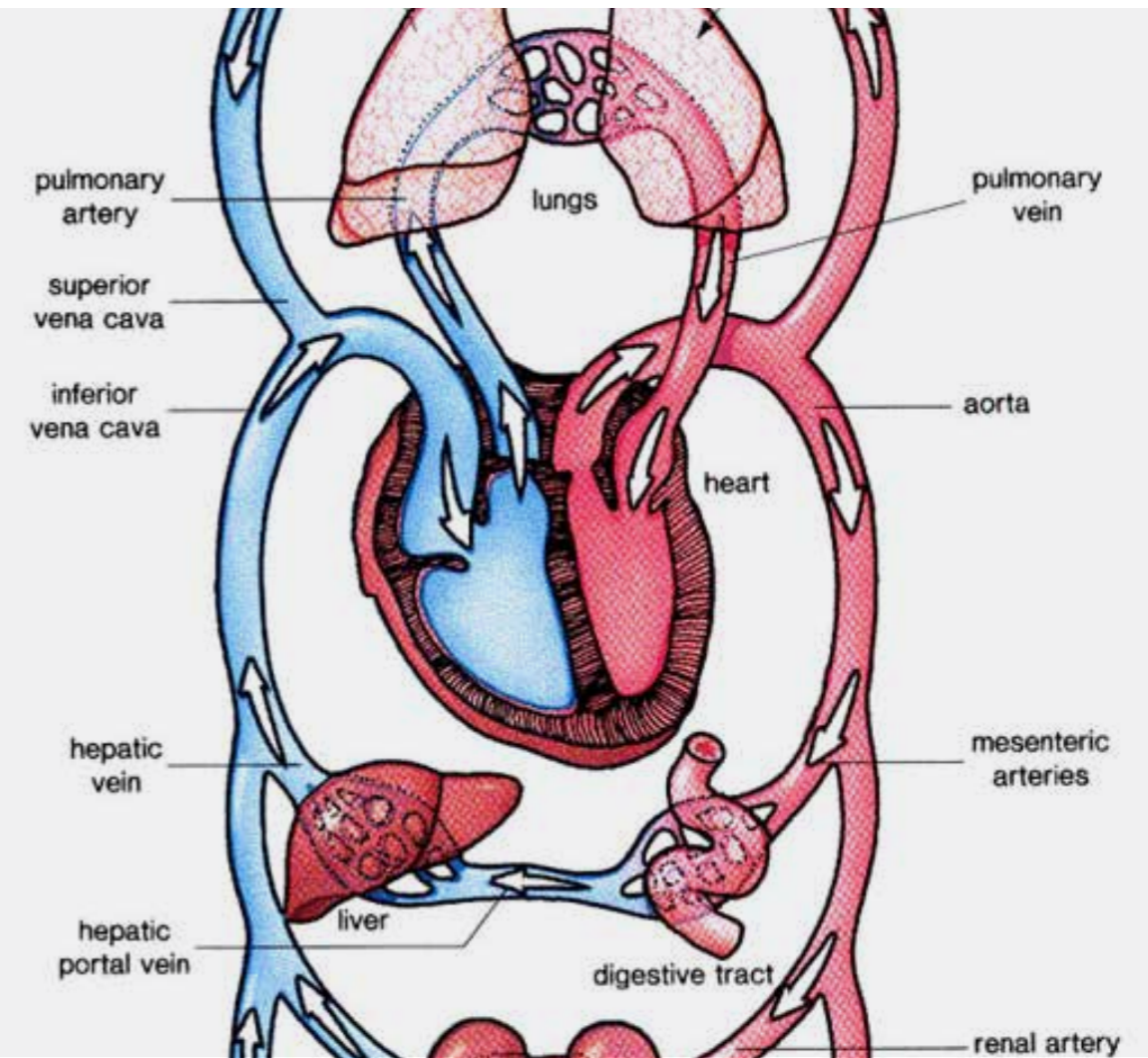
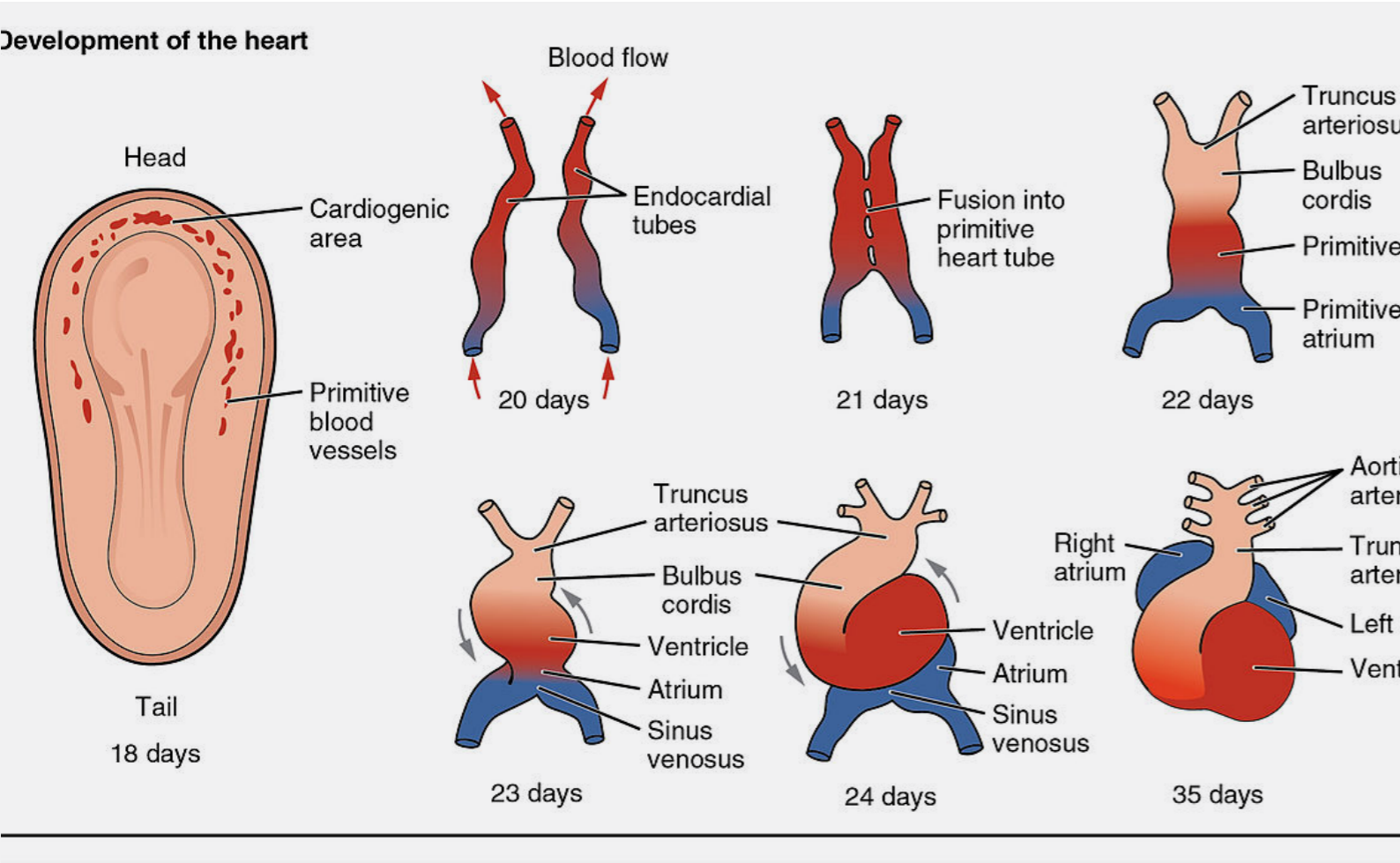
<http://menalive.com/heart-coherence/>

Over the years the researchers at the Institute of HeartMath have experimented with different psychological and physiological measures, showing the heartbeat as most dynamic and reflective of inner emotional states and stress. It became clear that negative emotions lead to increased disorder in the heart's rhythms and in the autonomic nervous system. In contrast, positive emotions create increased harmony and coherence in heart rhythms and improve balance in the nervous system.

One needs to see nature as “the reality of the possible” — that is, as what is likely to cause something to exist.

— Gilbert Simondon

BECOMING THE HEART



Partitioning of the heart into four chambers

HEART DEVELOPMENT

WIKIPEDIA

http://en.wikipedia.org/wiki/Heart_development

image: <http://cnx.org/>

The heart is the first functional organ in vertebrate embryos. In human, the heart beats spontaneously by week 4 of development.

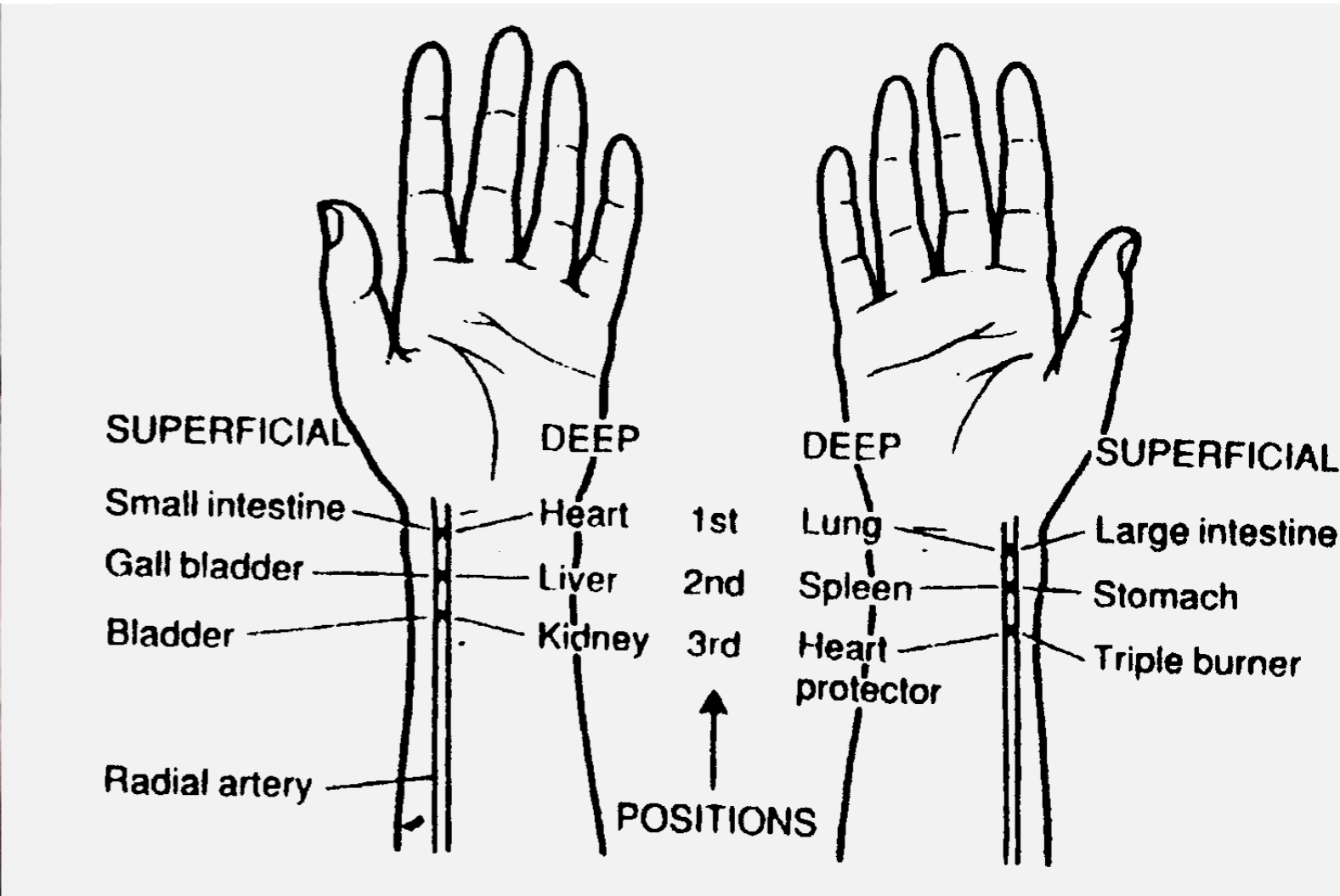
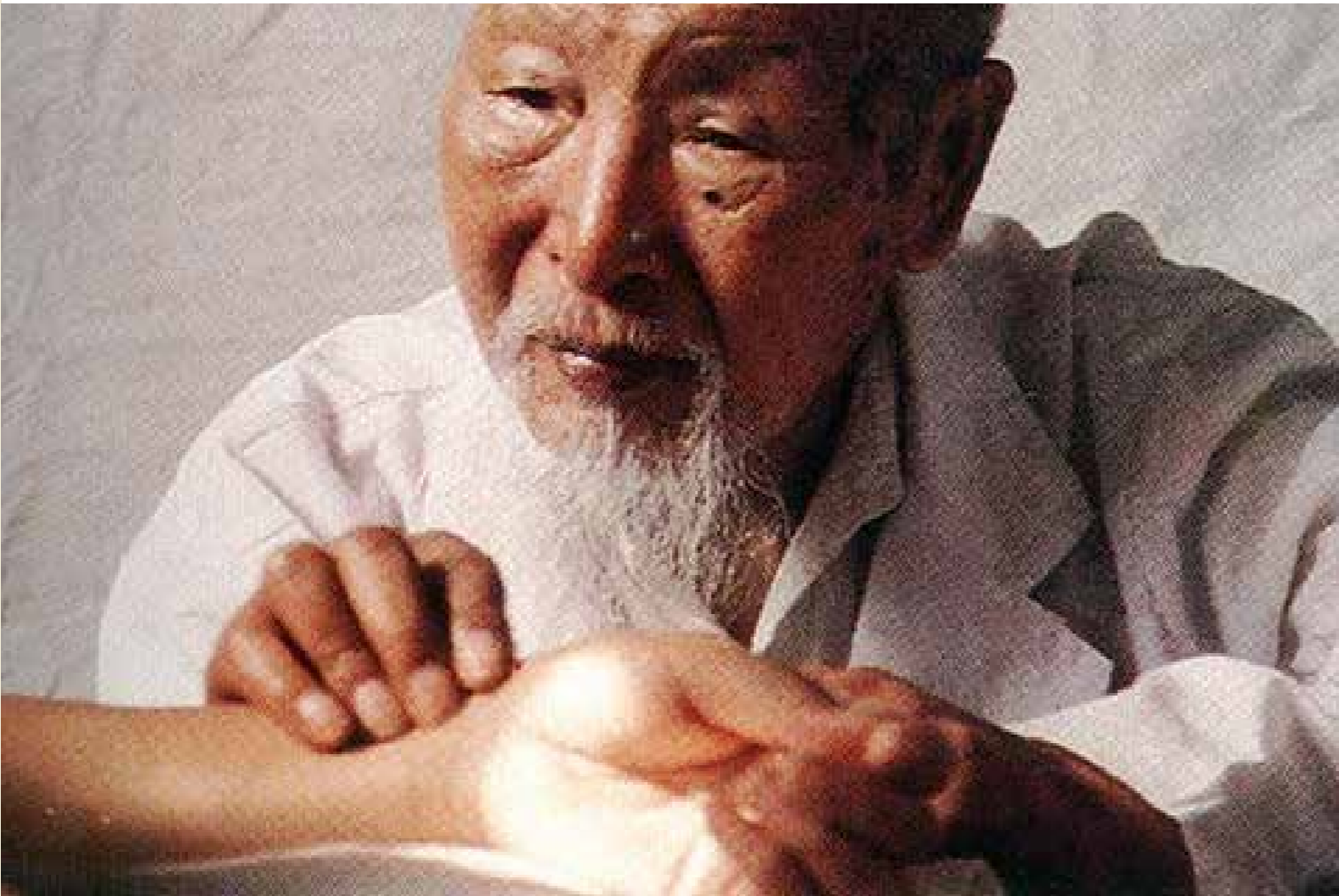
CIRCULATION SYSTEM

The English doctor William Harvey was the first person to describe in detail the circulation of blood in the human body in 1628. He was able to follow the flow of the blood from the heart without a microscope. It was a few years after his death that the Italian doctor Marcello Malpighi observed through the microscope the system of capillaries which completed the knowledge about how the blood flowed through the whole system. Before Harvey, the Greek Praxagoras was able to distinguish arteries and veins, but he thought the arteries transported air. In 1242, the doctor Ibn al-Nafis also described the circulation of blood, but only between the heart and the lungs.

The poet speaks on the threshold of being. Therefore, in order to determine the being of an image we shall have to experience its reverberations..

— Gaston Bachelard

MEETING THE HEARTBEAT



TAKING THE PULSE

<http://www.itmonline.org/arts/pulse.htm>

The aim of pulse diagnosis in Chinese medicine is to obtain useful information about the body. The pulse can reveal the nature of a syndrome, which of the humors (qi, moisture, blood) are affected, and which organ systems suffer from dysfunction. In order to make these determinations, the physician must feel the pulse under the proper conditions-following the established procedures-and must then translate the unique pulse that is felt into one or more of the categories of pulse form.

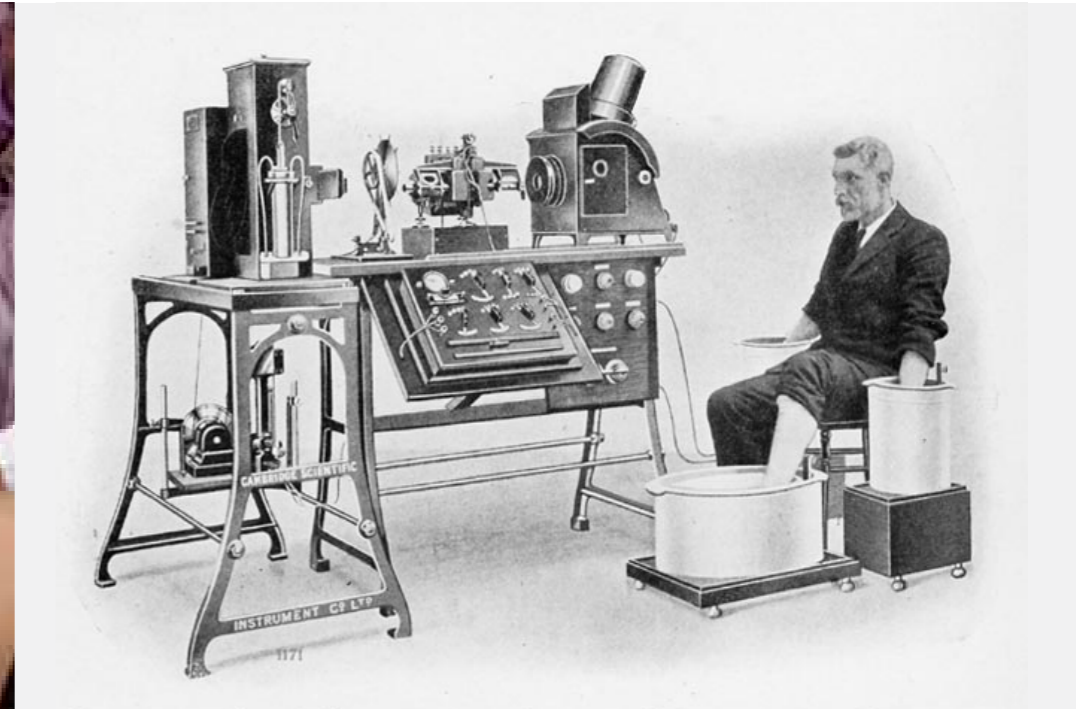
Ellen Tongzhou ZHAO, 30mar2015

29 KINDS OF PULSES IN CHINESE MEDICINE

<http://ultraculture.org/blog/2013/08/19/out-of-body-experience/>
<http://www.sciencedaily.com/releases/2013/08/130814124852.htm>
<http://www.sacredlotus.com/go/diagnosis-chinese-medicine/get/4-pillars-pulse-images-tcm-diagnosis>

There are 29 different kinds of pulse in traditional Chinese medicine that can be used to diagnose different conditions. The doctor places three fingers on the wrist of the patient without any instruments. Conditions such as pregnancy, infections, hemorrhages can be diagnosed through this method.

MEETING THE HEARTBEAT



STETHOSCOPE

http://www.sellesmedical.co.uk/product_images/0001/3252/STEW324.jpg
<http://www.bc.edu/schools/son/aboutus/international/ecuador.html> 1816

The stethoscope was invented in France in 1816 by René Laennec at the Necker-Enfants Malades Hospital in Paris. It was monaural, consisting of a paper tube. His device was similar to the common ear trumpet, a historical form of hearing aid; indeed, his invention was almost indistinguishable in structure and function from the trumpet, which was commonly called a “microphone”.

The stethoscope is an acoustic medical device for auscultation, or listening to the internal sounds of an animal or human body. It is often used to listen to lung and heart sounds. It is also used to listen to intestines and blood flow in arteries and veins. In combination with a sphygmomanometer, it is commonly used for measurements of blood pressure.

PINARD HORN

http://www.sellesmedical.co.uk/product_images/0001/3252/STEW324.jpg
<http://www.bc.edu/schools/son/aboutus/international/ecuador.html>
http://en.wikipedia.org/wiki/Pinard_horn

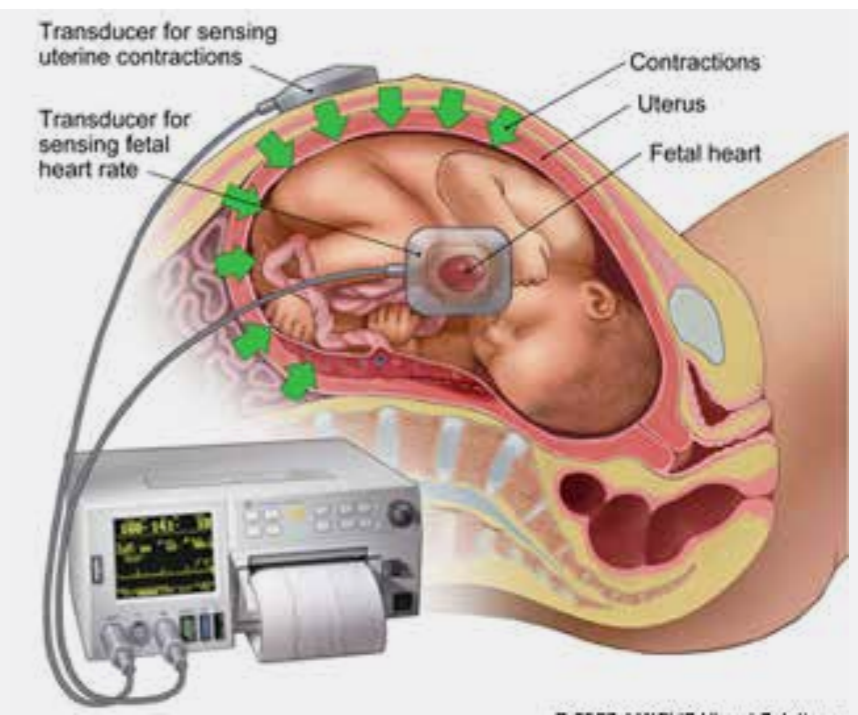
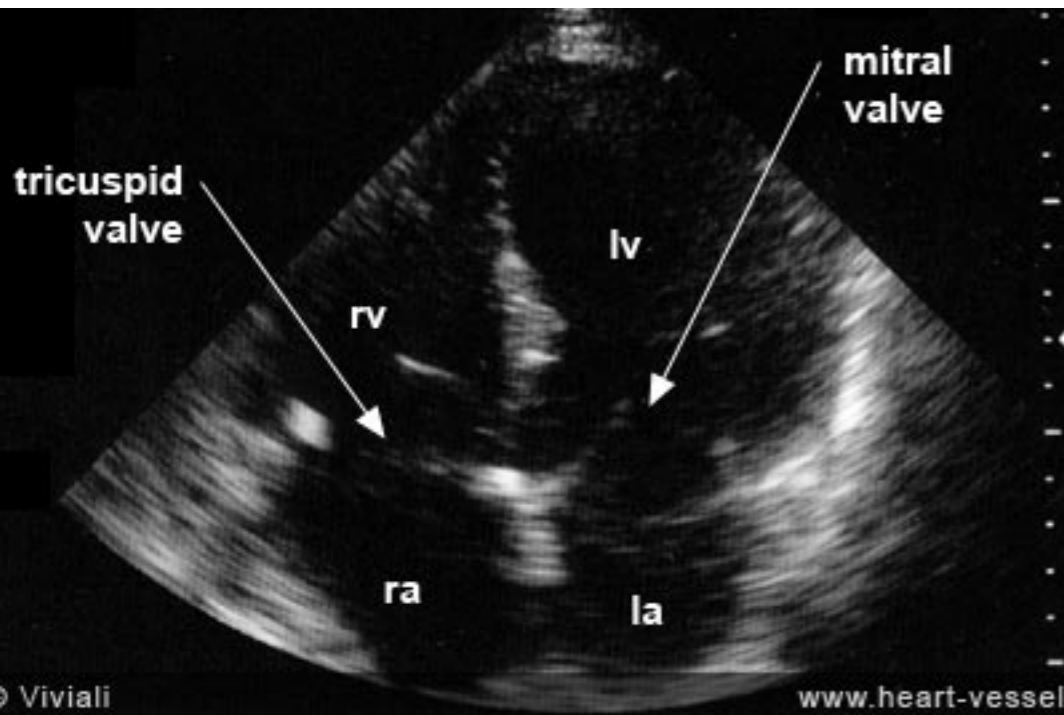
A Pinard horn is a tool used to listen the heart rate of a fetus during pregnancy. It was invented by Dr. Adolphe Pinard, a French obstetrician, during the 19th century. Pinard was an early supporter of advancements in prenatal care, including closer fetal health monitoring. It is a type of stethoscope, formerly called a “fetoscope”. The horn is often made of wood or metal and is hollow. It is about 8 inches long. It functions similarly to an ear trumpet by amplifying sound. The wide end of the horn is held against the pregnant woman’s belly, while the doctor, nurse, midwife or partner listens through the other end.

ELECTRO-CARDIOGRAPH

<http://en.wikipedia.org/wiki/Electrocardiography>
http://en.wikipedia.org/wiki/String_galvanometer

In 1887, English physician Augustus D. Walker was the first to detect electrical activities of the heart on the skin of a patient. It was not until 1903 that the modern electrocardiograph was invented by Willem Einthoven. The first machine weighed 272 kg, was housed in 2 rooms, and needed 5 operators. The patient sat with 2 arms and the left leg immersed in saline solutions to obtain the waves that represented the conductivity of the skin associated with heart muscle activity.

MEETING THE HEARTBEAT



ULTRASOUND

<http://en.wikipedia.org/wiki/Ultrasound>

Acoustics, the science of sound, started as far back as Pythagoras in the 6th century BC, who wrote on the mathematical properties of stringed instruments. Sir Francis Galton constructed a whistle producing ultrasound in 1893. The first technological application of ultrasound was an attempt to detect submarines by Paul Langevin in 1917. The piezoelectric effect, discovered by Jacques and Pierre Curie in 1880, was useful in transducers to generate and detect ultrasonic waves in air and water.

FETAL DOPPLER

http://www.meditech.cn/meditech-edu/Fetal_doppler.asp

Fetal Doppler technology is based on the Dopplshift principle. This theory was first discovered by Christian Doppler, an Austrian physicist in 1842. Doppler discovered that sound waves from a moving source would be compressed or expanded, or that the frequency would change. Doppler work on the principle of listening to reflections of small, high frequency sound waves (ultrasound). These ultrasound waves are generated by microscopic vibrations of piezoelectric crystals. When the waves are reflected from moving objects, such as a foetal heart the frequency changes slightly. It is this change that is analysed by the electronics of the Doppler and converted into a sound that you can hear or a digital display of the heart rate.

FETAL MONITORING

http://www.fetalmonitorstrips.com/learn_more.html

An external ultrasound transducer placed on the mother's abdomen conducts the sounds of the fetal heart to a computer. The rate and pattern of the fetal heart are displayed on the computer screen and printed onto special graph paper. Internal monitoring may be used when external monitoring of the fetal heart rate is inadequate, or closer surveillance is needed. Internal fetal heart rate monitoring uses an electronic transducer connected directly to the fetal scalp, sometimes called a spiral or scalp electrode. Internal monitoring provides a more accurate and consistent transmission of the fetal heart rate than external monitoring because factors such as movement do not affect it.

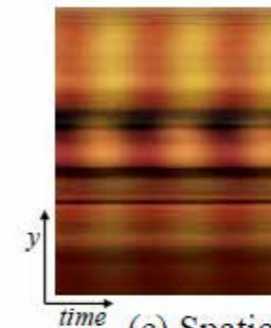
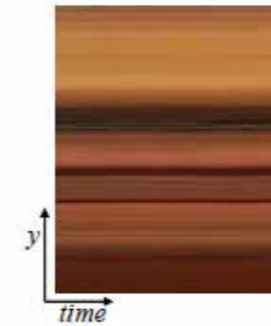
MEETING THE HEARTBEAT



(a) Input



(b) Magnified



PULSE OXIMETER

http://www.bioseb.com/bioseb/anglais/default/item_id=802_cat_id=3_Pulse%20Oximeter%20and%20Plethysmography%20Sensor.php

The Pulse Oximeter measures the amount of oxygen in blood indirectly by determining the oxygen saturation level (SpO₂) of the hemoglobin in blood. Hemoglobin exists in the blood in two different forms, oxygenated (oxyhemoglobin) and deoxygenated (deoxyhemoglobin). Oxygenated hemoglobin absorbs more infrared light and allows more red light to pass; whereas, deoxygenated hemoglobin absorbs more red light and allows more infrared light to pass. Therefore, the absorbance of each wavelength of light depends on the saturation or desaturation of hemoglobin, and can be used to determine the oxygen saturation level of the hemoglobin.

EULERIAN VIDEO MAGNIFICATION (EVM)

<http://people.csail.mit.edu/mrub/vidmag/>

<http://www.extremetech.com/extreme/149623-mit-releases-open-source-software-that-reveals-invisible-motion-and-detail-in-video>

MIT originally developed the software to measure the vital signs of neonatal babies without physical contact. Not only can EVM detect changes in color, but it can also exaggerate movements — such as a crane or building swaying in the wind, or the tiny movements made by your eyes as they scan an environment. The micro-vibrations in the image captured by the camera can be used to interpolate the heartbeats of the subject.

NYMI BAND

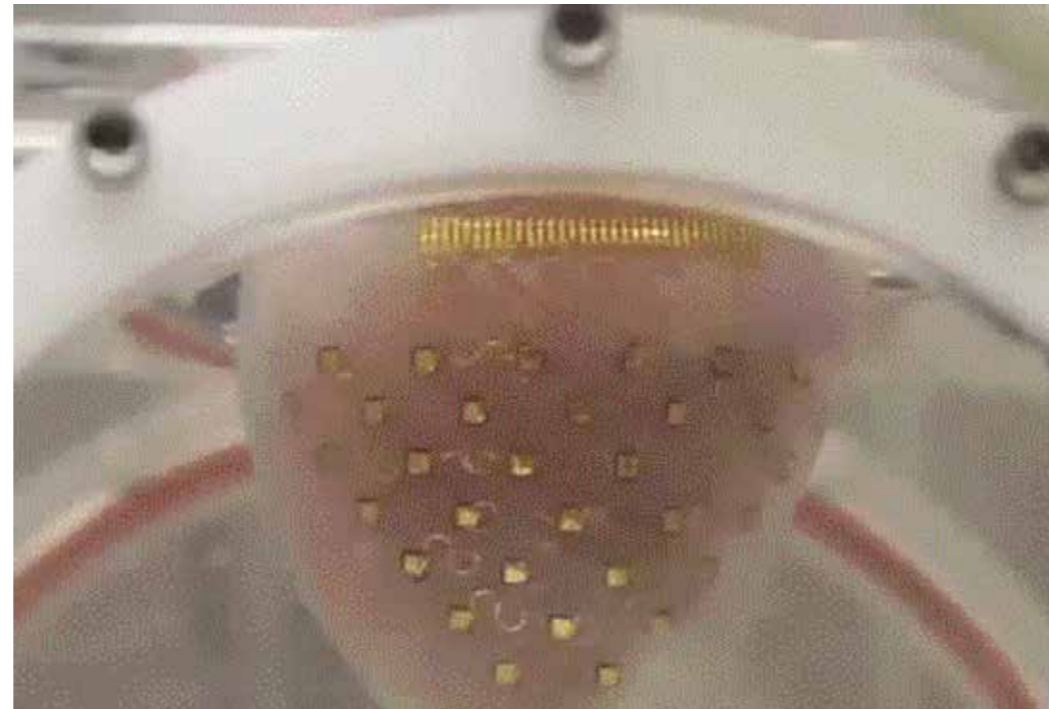
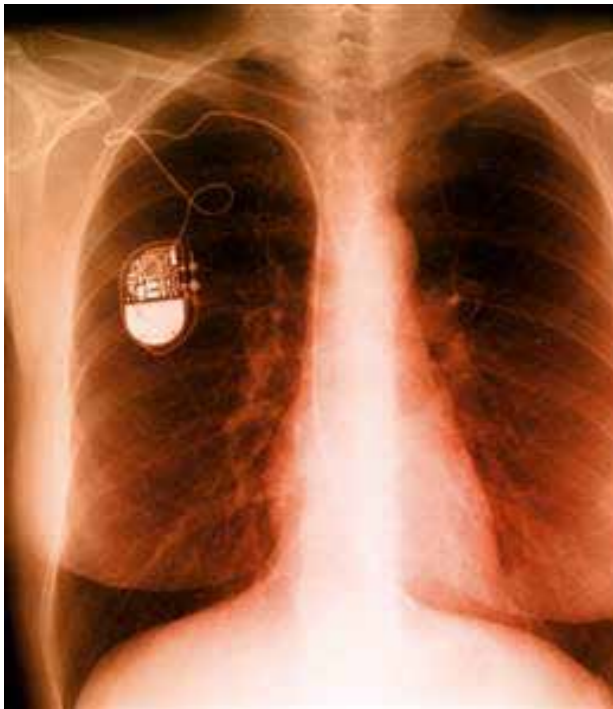
<https://www.nymi.com/>

Apparently, each person's heart has its own special way of beating. So special that the identity of the person can be determined just with an ECG. The Nymi band is a wrist band that contains sensors that detect the ECG of the person. This way, the signature of the person is hidden in the waves of his heartbeats. By placing a finger on the wrist band, the person unlocks his mobile devices by entering a heartbeat that is specifically his.

*O my heart of my mother! O my heart of my mother! O my heart of my different forms!
Do not stand up as a witness against me, do not be opposed to me in the tribunal,
do not be hostile to me in the presence of the Keeper of the Balance, for you are my
ka which was in my body, the protector who made my members hale. Go forth to the
happy place whereto we speed, do not make my name stink to the Entourage who
make men. Do not tell lies about me in the present of the god. It is indeed well that you
should hear!*

— *Book of the Dead*, spell 30B

PROTECTING THE HEART



PACEMAKER

<http://healthinformatics.wikispaces.com/Pacemaker>

The artificial pacemaker is a medical device that uses electrical impulses to modulate heartbeats. John Hopps developed the first external pacemaker in 1950 when he used a vacuum tube to provide transcutaneous pacing. In 1957, engineer Earl Bakken produced the first wearable external pacemaker. It had controls that allowed the user to adjust the pace of the heart with a remote. The first internal pacemaker was created in 1958 by Rune Elmqvist and inserted by Ake Senning. The device only worked for three hours until surgeons had to implant another one which only lasted 2 days more. The first patient, Arne Larsson, would receive 24 more pacemakers until his death in 2001.

PACEMAKER

POPULAR SCIENCE

<http://www.popsci.com/article/science/pacemaker-membrane-can-keep-heart-beating-perfectly>

You're looking at what might be the pacemaker of a decade from now: a custom-made membrane, developed by researchers at the University of Illinois at Urbana-Champaign and Washington University in St. Louis, that slides over a heart and keeps it regulated by a network of sensors and electrodes.

This is a rabbit's heart, but the building process would be similar for people: a team computer-modeled the heart, 3-D printed a mold, and created a membrane tailored to the organ. The sensors make sure the heart stays beating at a proper rate, and the electrodes automatically correct any discrepancies, like an arrhythmia.

HEART AMULET

EGYPT

Period: New Kingdom / Dynasty: Dynasty 18-19 / Date: ca. 1550-1186 B.C.

Geography: From Egypt / Medium: Glass / Dimensions: H. 2.1 cm (13/16 in); w. 1.9 cm (3/4 in)

Credit Line: Gift of Helen Miller Gould, 1910 / Accession Number: 10.130.1782

<http://www.metmuseum.org/collection/the-collection-online/search/545417?=&imgno=0&tabname=related-objects>

For the ancient Egyptians, the heart was the source of intelligence, feelings, and actions. A person's memory was also housed in the heart. At the judgment ceremony (Weighing of the Heart) in the afterlife, the heart was able to speak on behalf of the deceased, accounting to Osiris a lifetime of deeds. Heart amulets were used on the mummy to protect the owner's organ and to ensure that his heart gave a positive response at judgment.

Wizard of Oz: *As for you, my galvanized friend, you want a heart. You don't know how lucky you are not to have one. Hearts will never be practical until they can be made unbreakable.*

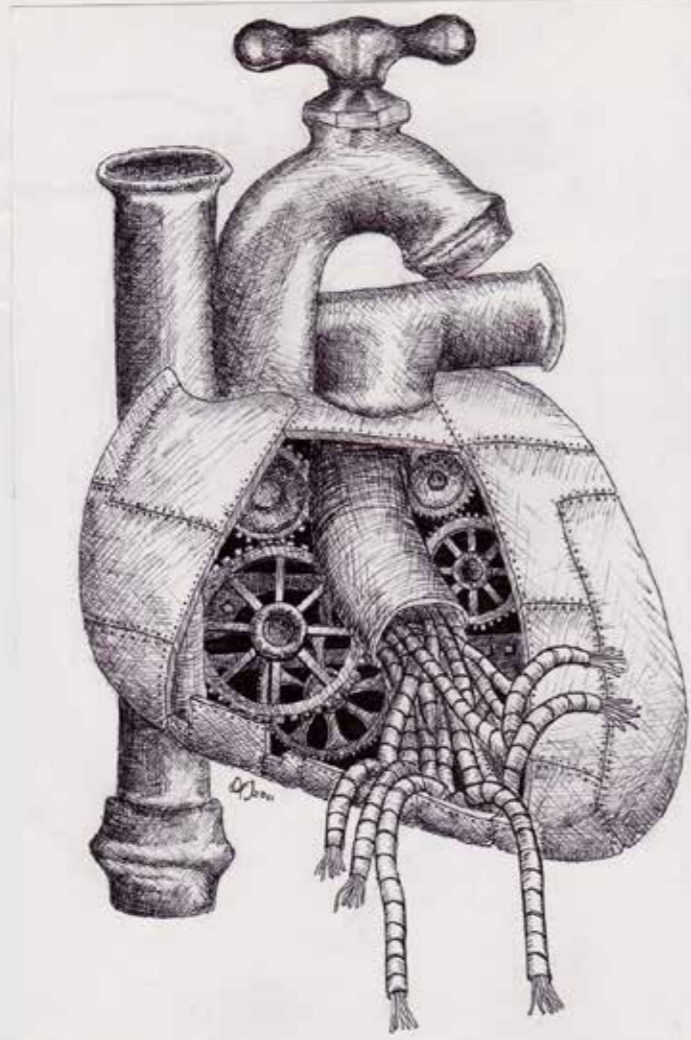
Tin Woodsman: *But I still want one.*

...

Tin Woodsman: *Now I know I've got a heart, 'cause it's breaking...*

— The Wizard of Oz

MECHANICS OF THE HEART

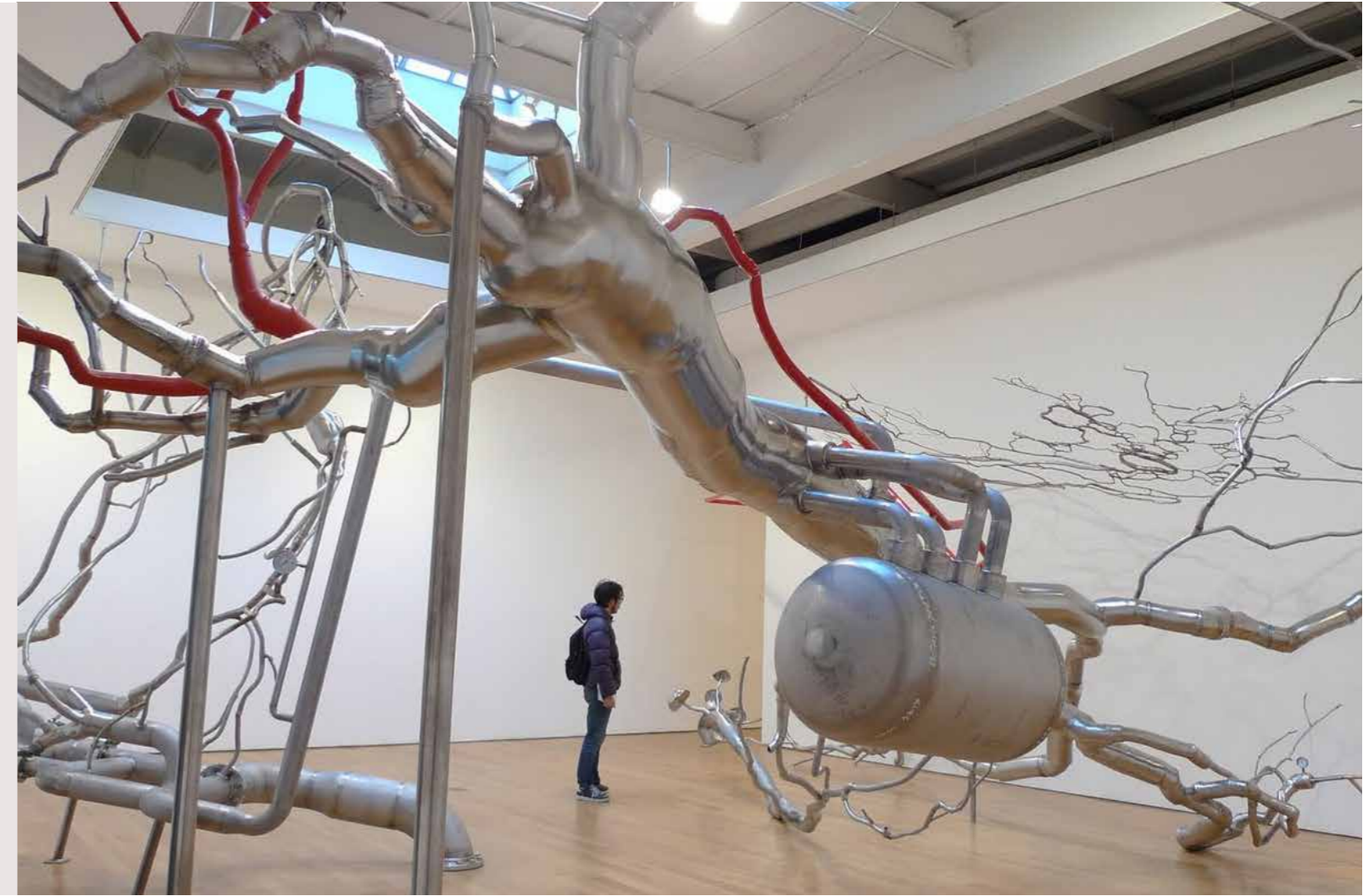


MECHANICAL HEART

OH THE RANDOMNESS

<http://oh-the-randomness.deviantart.com/art/Mechanical-Heart-273232701>

The heart is considered to be a machine that makes the body run. A heart beat is a vital sign, however, it is not the only sign that makes life possible.



DISTILLATION

ROXY PAINE

<http://www.theoffbeatsessions.com/2010/12/heartbeat.html>

This installation by Roxy Paine draws a parallel between the heart as a pump that makes the networks around possible. It is impossible to miss the Paine's installation as the vein-like roots expand throughout and across the room. These roots, some painted red appeared to be very vibrant as if we can feel or see the distilling process occurring as we walk pas by it.

*(at the door of the house who will come knocking?
open door, we enter
A closed door, a den
the world pulse beats beyond my door.)*

— Pierre Albert Birot

HEARTBEAT IS LIFE



HEARTBEAT HOUSE

LAURA LAPPI

2013 / Site-specific installation / wood, animated light
<http://lauralappi.com/heartbeat-house>

Heartbeat House deals with loneliness and isolated people locally and globally. Installed on a rocky outcropping in a remote forest in Asikkala, Finland, the piece consists of a life-size wooden house containing an animated light. Its title refers to the Elvis Presley song “Heartbreak Hotel”, and the light is animated to pulse to the rhythm of that song.

Ellen Tongzhou ZHAO, 30mar2015



ONE BEAT, ONE TREE

NAZIHA MESTAQUI

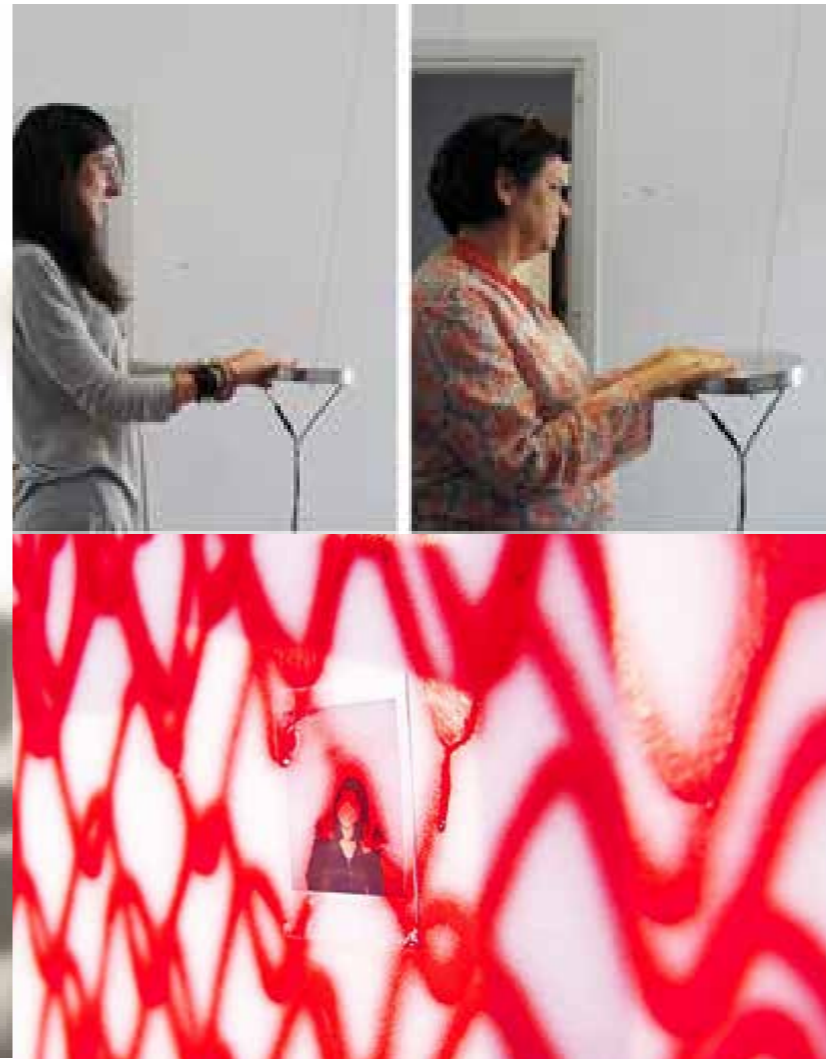
<http://thinkability.com/2014/07/04/dance-to-the-rhythm-of-the-heartbeat-of-a-rose-bush/>

Watching a tree grow is an activity for a patient person: it takes years for a tree to mature. In this installation, a virtual tree grows before the eyes of the viewer, blossoming to the rhythm of heartbeats. A heartbeat sensor is connected through a person’s smartphone and the virtual tree blossoms to the person’s heartbeat.

Thus we cover the universe with drawings we have lived. These drawings need not be exact. They need only to be tonalized on the mode of our inner space.

— Gaston Bachelard

HEARTBEAT IS IDENTITY



THE HEART ARCHIVE

CHRISTIAN BOLTANSKI

Text: <http://www.designboom.com/art/christian-boltanski-the-heart-archive/>

Image: <http://www.haaretz.com/checking-out-christian-boltanski-s-library-of-hearts-1.450678>

The Heart Archive, on view at the Nahum Gutman Art Museum in Tel Aviv. Photo by Marc Damage

‘The Heart Archive’, is a collection of heartbeat recordings captured since 2005 from thousands of people. Through a computer screen, visitors are provided with information about the heartbeats that are being played. A secondary room allows users to search through the database holding all the heartbeats. Finally, a third space lets people record their own heartbeat.

Ellen Tongzhou ZHAO, 30mar2015

HEARTBEAT PORTRAITS

SASAKI

<http://www.heartbeatdrawing.net/project/portrait.html>

The artist Sasaki draws what he hears: heartbeats of the visitors behind him. The sounds of the heart becomes a kind of information that is transformed by the artist into visual forms. “People are being connected with one another through the heartbeat” Each participant’s heartbeats per 1-minute were drawn on the wall with their portrait photos.

Open up your heart and let the sun shine in.

— Stuart Hamblen, *Open Up Your Heart And Let The Sun Shine*

HEARTBEAT AS LIGHT



PULSE ROOM

RAFAEL LOZANO-HEMMER

http://www.lozano-hemmer.com/pulse_room.php

Pulse Room is an interactive installation featuring one to three hundred clear incandescent light bulbs. The bulbs are uniformly distributed over the exhibition room, filling it completely. An interface placed on a side of the room has a sensor that detects the heart rate of participants. When someone holds the interface, a computer detects his or her pulse and immediately sets off the closest bulb to flash at the exact rhythm of his or her heart.

Ellen Tongzhou ZHAO, 30mar2015



HEARTBEAT

GEOFFREY HICKS

<https://vimeo.com/11286684>

Heartbeat is an interactive light sculpture made from 151 incandescent light bulbs, each hanging individually from the ceiling. The installation reacts to the heartbeat of individuals who are connected to the system and pulses with their energy. Dancers perform underneath the sculpture with their heart rate controlling the speed, intensity, and size of the pulsing bulbs above. The audience is also able to control the installation with their own heart rate through the use of a finger clip monitor on an adjacent wall.

In every man's heart there is a secret nerve that answers to the vibrations of beauty.

— Christopher Morley

HEARTBEAT AS VIBRATIONS



PULSE TANK

RAFAEL LOZANO-HEMMER

2008

http://www.lozano-hemmer.com/pulse_tank.php

Heart rates of members of the public are detected by sensors and converted into water waves in a ripple tank. A light show is created by the resulting waves and their interaction. One puts his finger in the sensor, the pulse of the person is then transformed into water waves, and light on the ceiling.

Ellen Tongzhou ZHAO, 30mar2015



HEART CHAMBER MUSIC

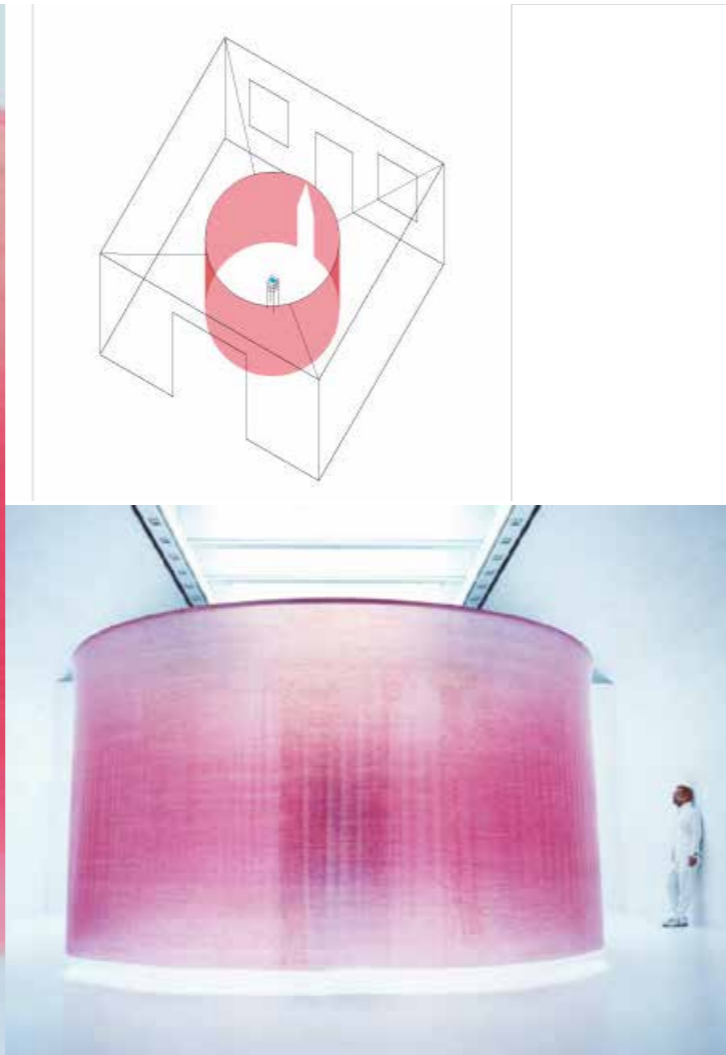
<http://we-make-money-not-art.com/archives/2010/08/heart-chamber-orchestra.php#.VMpHasaYQVU>

12 classical musicians's pulse are visualized behind them on the wall. A computer software analyzes the 12 hearts in real time and various algorithms turn the data into a 'living' musical score. While the musicians are playing, their heartbeats influence and change the composition and vice versa. Musicians and electronic composition are linked via the hearts in a circular, feedback structure. The resulting music is the expression of this process and of an organism forming itself from the circular interplay of the individual musicians and the machine.

They must participate in an inner light which is not a reflection of a light from the outside world. No doubt there are many facile claims to the expressions “inner vision” and “inner light.” But here it is a painter speaking, a producer of lights.

— Gaston Bachelard

MEETING OTHERS' HEARTBEATS



BEGINNING

SASAKI

http://www.heartbeatdrawing.net/installation_dr-p/beginning.html

The viewer steps inside the screen, and hears the sound of a heart beating. He realizes that the drawings on the screen are actual drawings of the sounds he is hearing. This way, the exhibition space itself also becomes a living space.

PULSE FRONT

RAFAEL LOZANO-HEMMER

2007
http://www.lozano-hemmer.com/pulse_front.php

Pulse Front was a matrix of light over Toronto's Harbourfront, made with lightbeams from twenty powerful robotic searchlights, controlled by sensors that measured the heart rate of passers-by. The metal sculptures detected the pulse of people who held them: the readings were converted into light pulses and also determined the orientation of the beams. The meeting of people otherwise separated in physical space is made possible by the crossing of lights.

JE est un autre.

— Arthur Rimbaud

MEETING ONE'S OWN HEARTBEAT



LITTLE BLACK BOX. EMPATHY BOX

MARIE-VIRGINIE BERBET

2009

<http://mvberbet.virb.com/>

The user places his hands on the box. The user's heart beat is captured using a plethysmographic sensor. The pulsation pattern of the box mimics the user's heartbeat. The perception of one's own heartbeat induces the person to breath in the same way, thus bringing the person into cardiac coherence.

Ellen Tongzhou ZHAO, 30mar2015



OUT OF BODY EXPERIENCES

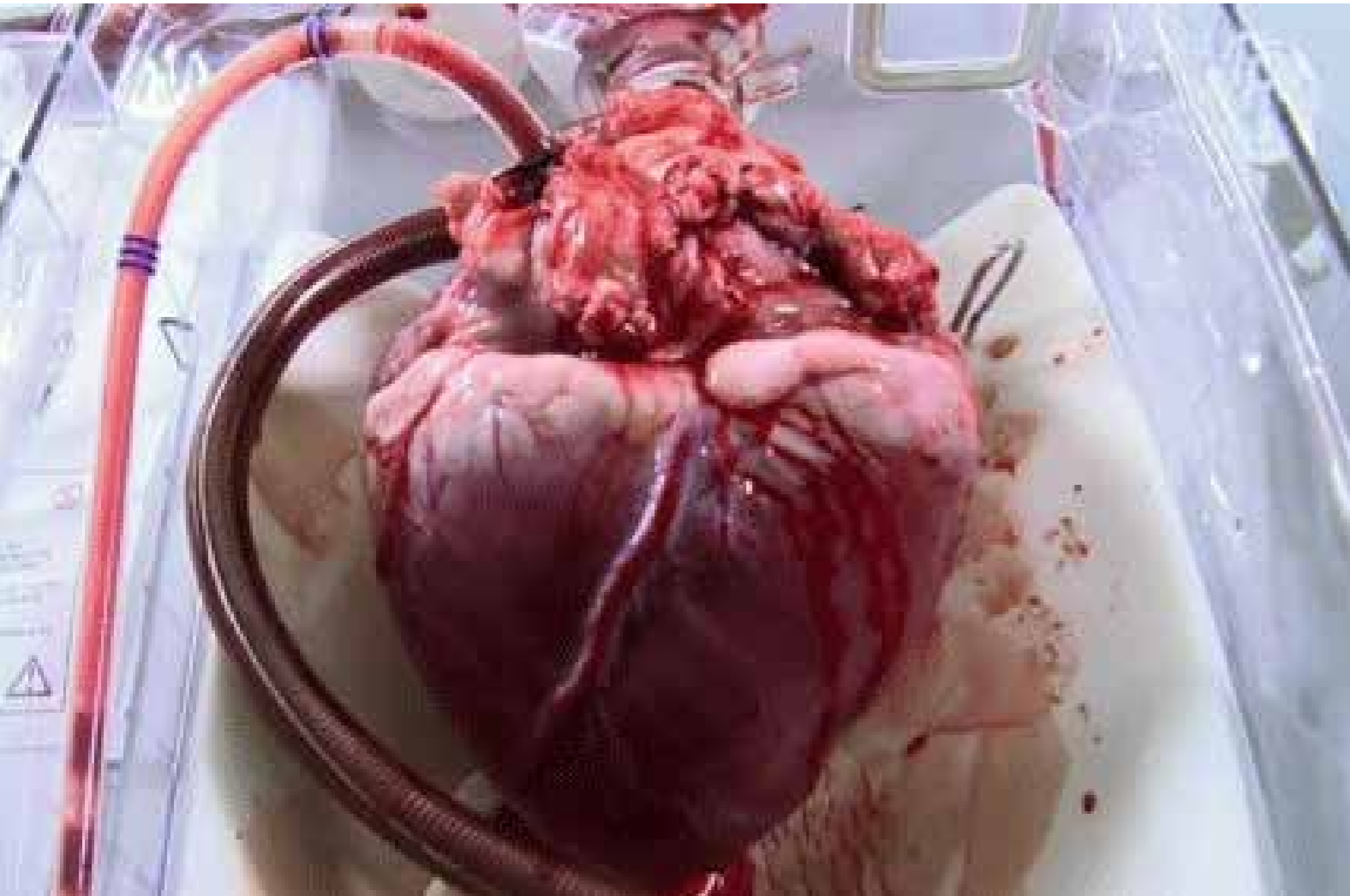
<http://ultraculture.org/blog/2013/08/19/out-of-body-experience/>
<http://www.sciencedaily.com/releases/2013/08/130814124852.htm>

Watching a visualization of your own heartbeat can lead to what researchers are calling an “out-of-body experience,” a new study says. In the experiment, volunteers were fit with a “virtual reality headset” that showed them their own body standing in front of them, along with a visualization of their own heartbeat. The study subjects regularly disassociated from their own body, instead beginning to attach their consciousness to the “projected” double.

My heart was becoming my own foreigner—a stranger precisely because it was inside. Yet this strangeness could only come from outside for having first emerged inside. A void suddenly opened in my chest or my soul—it's the same thing—when it was said to me: “You must have a heart transplant. . . .

—Jea-Luc Nancy, *L'intrus*

TRANSPLANT

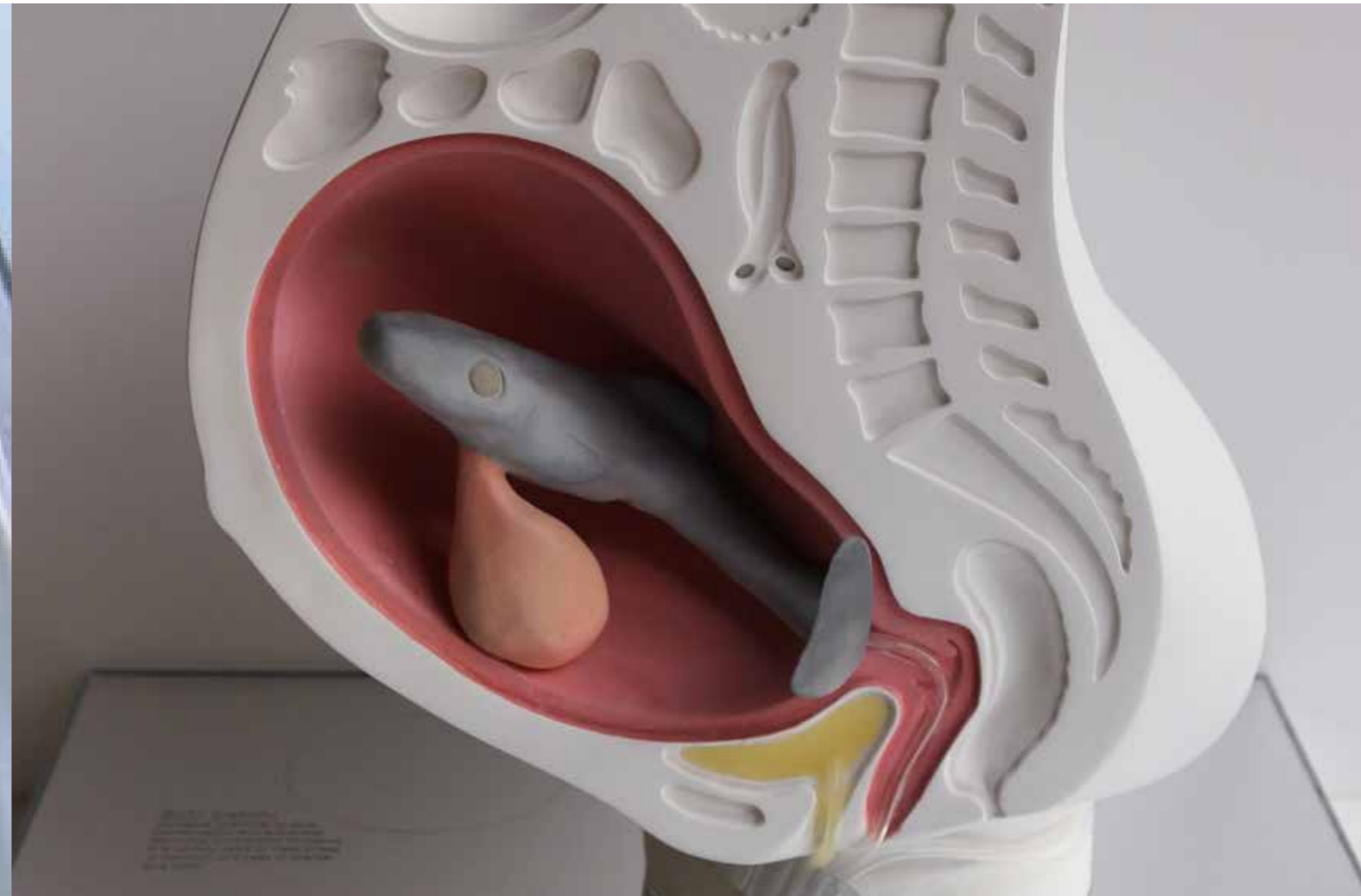


HEART TRANSPLANT

http://en.wikipedia.org/wiki/Heart_transplantation <http://history.com/this-day-in-history/first-human-heart-transplant>

A heart transplant is a surgical transplant procedure performed on patients with end-stage heart failure or severe coronary artery disease. As of 2008 the most common procedure is to take a working heart from a recently deceased organ donor and implant it into the patient. The patient's own heart is either removed, or, less commonly, left in place to support the donor heart. Post-operation survival periods average 15 years. The first heart transplant was performed on December 3, 1967, on a 53-year-old Lewis Washkansky in South Africa.

Ellen Tongzhou ZHAO, 30mar2015



I WANT TO DELIVER A SHARK

AI HASEGAWA

<http://aihasegawa.info/?works=i-wanna-deliver-a-shark>

Japanese artist Ai Hasengawa imagines giving birth to sharks, dolphins, and other animals. She writes, "We live in an age where the struggle to raise a child in decent conditions is becoming harder. We must also eat, and we are equally facing growing food shortages... By giving birth to an edible animal it might ... help prevent its extinction. But, would raising this animal as a child change its value so drastically that we would be unable to consume it because it would be imbued with the love of motherhood?"

BETWEEN



A VISUAL STORY OF
BECOMING AND MEETING

**&
YOU**

One is not born, but rather becomes, a woman.

— Simone de Beauvoir, *The Second Sex*

... the self marked by the other, the self returning from an encounter with the other, changed, thereby opening the possibility of a maternal subjectivity arising out of an encounter with alterity...

— Lisa Baraitser

EPILOGUE

While listening to my children's heartbeats, both mother and child are caught in an ephemeral moment of transitions. The woman is becoming a future mom, metamorphosing with a body that carries another. While the baby on the other hand, is becoming also, waiting to explore a new world outside.

As Simone de Beauvoir says about becoming a woman, one also has to transform to become a mother. Caught in the liminal states of becoming, as Mary Douglas has noted about the danger and power of transitional states, I realize that this ephemeral period of gestation for both the mother and the child is rich in sharing and exchanging.

Sharing a body is sharing a heartbeat. Sharing a heartbeat is also sharing a body.

Meeting the heartbeats of my children is a way for me to temporarily break the boundaries between us. Through the sharing of this experience of listening to and feeling heartbeats, we can sense the essence of the other person in a tangible way.

If we can find a way to communicate through heartbeats, to better represent the ways to share our human experiences, the problems of differences and difficulties in the world can surely be surmounted, one heartbeat at a time.

BIBLIOGRAPHY

GACHELARD, Gaston. *The Poetics of Space*. Boston: Beacon Press, 1994. Print.

BARAITSER, Lisa. *Maternal Encounters: The Ethics of Interruption*. East Sussex: Routledge, 2009. Print.

BOURRIAUD, Nicolas. *Relational Aesthetics*. Dijon: Les presses du réel, 1998. Print.

Dastur, Françoise. "Space and Dwelling." *Palais #20*, 2014. 70-75. Print.

Dautrey, Jehanne, and Emanuele Quinz, eds. *Strange Design: du design des objets au design des comportements*. Villeurbanne: It: éditions, 2014. Print.

Douglas, Mary. *Purity and Danger*. London and New York: Routledge Classics, 1966. Print.

Ettinger, Bracha. *The Matrixial Borderspace*. Minneapolis: University of Minnesota Press, 2006. Print.

Grosz, Elizabeth. "Identity and Individuation: Some Feminist Reflections." *Gilbert Simondon: Being and Technology*, ed. Arne De Boever, et al. Edinburgh: Edinburgh University Press, 2012. 38-56. Print.

ROUX, Jeanne-Marie. *Le corps: De Platon à Jean-Luc Nancy*. Paris: Eyrolles, 2011. Print.

PICKOVER, Clifford. *The Medical Book: From Witch Doctors to Robot Surgeons, 250 Milestones in the History of Medicine*. London: Sterling Milestones, 2012. Print.

SAUVANARGUES, Anne, translated by Jon Roffe. "Crystals and Membranes: Individuation and Temporality." *Gilbert Simondon: Being and Technology*, ed. Arne De Boever, et al. Edinburgh: Edinburgh University Press, 2012. 57-60. Print.

NOTE

This research is conducted as a part of my project
in Paris at ENSCI - Les Ateliers, Mastère Spécialisé
Création et Technologie Contemporaine 2014-2015.

For more information, please contact me at
ellen@buro-gds.com