Encounter and Assemblage

-Design through contingency

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Master Thesis Spring 2019

CHALMERS

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Matter Space Structure

ABSTRACT

The human capacity of imagination can be claimed to be limited, at least when it is left to imagine by its own. In an early phase of the design process, when quantities of ideas are supposed to be encountered, evaluated and further assembled into a synthesis, opportunities therefore risk being missed. This thesis investigates ways of considering chance as a liberating and inspirational element, and is handled to explore and speculate the possible outcome of an early phase of the design process. It is about investigating the balance between comprehension and confusion, order and disorder, of sense and nonsense. And it is about evaluating consequences of chance when it is handled as a generative source, how it could be used to challenge intentions, as a sort of resistance, to consciously lose precision and leave the ability of control. With a starting point in theoretical work, which in different ways touches upon aspects of chance, a catalogue of techniques has been developed, suggesting ways to transfer the theory into a work process: handling both examples of how a contingent result could take form, and how it could be used and interpreted. Each technique is developed together with an instruction, and is both tested and evaluated on their own and as a sequence in a case study: an early stage of a library at Södra Hamnvägen 47 in Gothenburg. While drawing with additional resistance, the liberating aspects of chance appear: while manipulating intentions or while consciously losing the ability of precision, the gap between the expected outcome and the result expands and the expectations of the result are reduced. As the outcome of the techniques is compared with and used as unformed drawings, the possibility of chance appears. The unformed drawing, as well as chance, with its character of being disordered, speculative, and uncertain, could trigger a chain of associations, and form unexpected directions and outcomes.

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CONCEPT DIAGRAM

Chance/ Contingency

To help and to enrich the capacity of imagination

On a theoretical level:

Character of being inspirational/ could trigger the chain of associations:

Compared with the unformed drawing, with a character of being:

Disordered

Speculative

Uncertain

Mistaken

On a practical level:

Techniques handling chance, which informs the outcome; as generative and with liberating aspects)

Chance as the unpredictable and unexpected, discussed through aspects of:

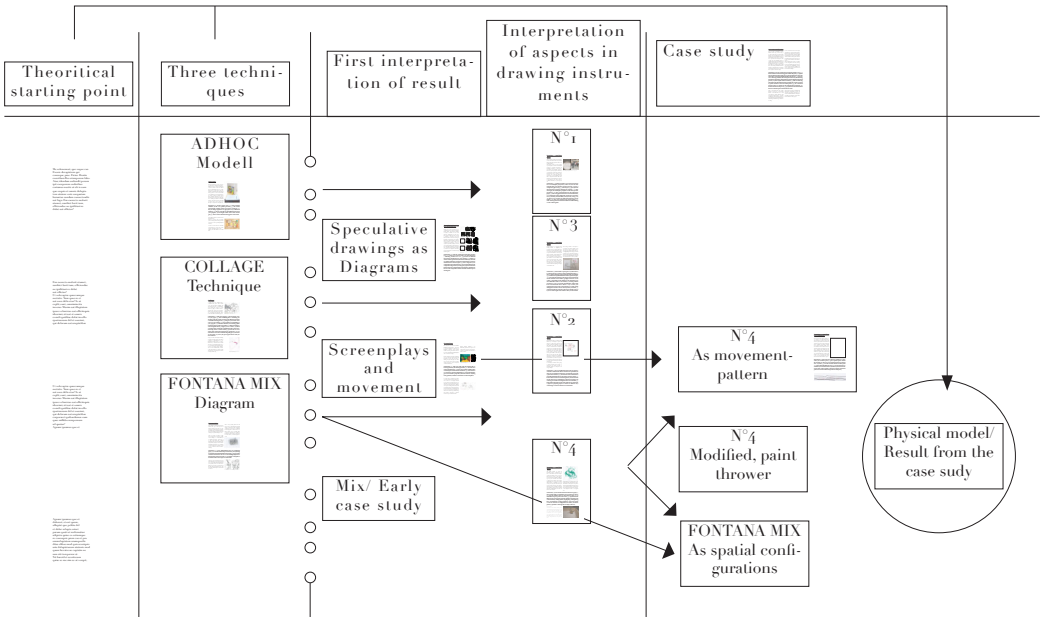
Intentions/ Expectations

Recistance

Precision

Confusion/ Mistaken

PROCESS DIAGRAM



DISCOURSE

INTRO MAIN OBJECTIVE

This work intends to investigate the early stage of the design process: the phase when you are assembling encountered ideas. Within this thesis I claim that the human capacity of imagination is limited, and that chance, as something liberating and playful, can be used to enrich that capacity. In an early stage of the design process, when quantities of ideas are supposed to be synthesized, tested and evaluated according to the analyze, opportunities risk being missed.

This work emphasizes the disordered unformed drawing, as something inspirational, as nuanced and open for various readings. The idea of this work therefore builds upon the hypothesis that chance, or contingency, can enrich the capacity of imagination through its liberating and inspirational character.

In one sense this work revolves around how those ideas could be stumbled upon; how certain actions, intentions, and in this case even misunderstandings, could trigger the chain of associations and lead to those ideas. Encountered ideas which together could lead to endless different possible paths, which later is compound into a synthesis.

In an another sense this work revolves around the role of the unformed drawing and its inherent possibilities; as not fully developed, as a balance between comprehension and confusion, order and disorder, of sense and nonsense, and as open for multiple interpretations rather than prescribed.

While transferring this theme into a work process, while searching for the unforeseeable, the method was, with a starting point in existing theoretical work, to develop a catalogue of techniques that in different ways touches upon aspects of chance. The aspects are discussed and highlighted through drawing instruments, and the outcome of the techniques is discussed through techniques of interpretation. A mix of the techniques is resulting in a case study: an embryo to a library, used to communicate a possible outcome.

”What chance really means is finding a different order from the one that was expected.”

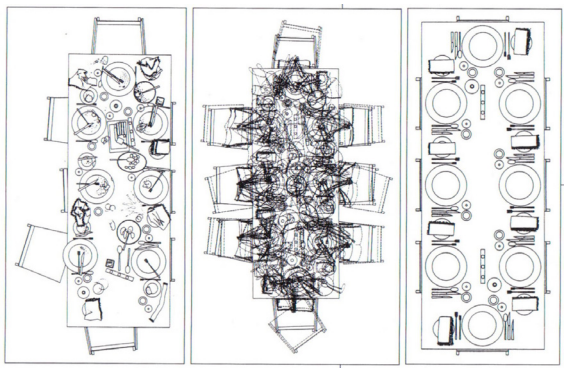
(Manolopoulou, Y. 2013)

The main objective in this work was to investigate how chance could inform and enrich the design process. This is done by on a theoretical level discussing the unformed, speculative and disordered drawing, and on a practical level showing how chance or contingency could be handled through ways of drawing. To accommodate the main objective I have posed the questions:

How can one transfer aspects of chance into a work process/ how can chance be a part of the design process; what will the consequences be, what could the result lead to, how could the result be read and how can one extend the intermediary state in the work process. This to answer the main question: How can chance/contingency being handled to inform the design process during an initial phase?

INTRO CONTEXT

The thesis is driven by an interest of ideas taking shape through architecture, and how those ideas could be derived from a certain action, as a result of a certain method, theme or intention. It focuses on the process, where preconditions, subjectivity, circumstances, interpretations among several other factors are included, and where those together are processed over time. The actual outcome could be described as a result of a long chain of both predetermined and unforeseeable events and conditions. During this process, one is encountering several possible paths, where associations lead up to something which is assembled into a result. In that sense it is difficult to imagine architecture without contingency included in the process or in the result of the outcome. This, while both the process and the outcome could be described as something where this contingency is supposed being opposed. Investigating this chain of possible paths, this work aims to investigate possibilities in contingency, instead of defending against it.



Diller Scofidio, Dining Disorder

Uncertainty

In some processes this contingent situation however is somehow more desired than in others. While communicating initial or expanded ideas with yourself or with others, unformed drawings are an important tool for architects. The role of the unformed drawing, as Yeoryia Manolopoulou (2005) discusses in her text; *Unformed drawing: notes, sketches, and diagrams*, is ”a place where design imagination and critical thinking intersect. (...) Sketches work as intuitive devices, stimulating the imagination, entailing spontaneous action, but also posing questions and tempting one’s curiosity to explore things through longer processes.” And while the sketch-process during a project is about drawing speculations, and as the outcome of the design process is uncertain, I have in thesis tried to remain in this uncertainty, and searched for ways to draw those speculations. This by aiming at an outcome close to how Manolopoulou (2005) summarize the unformed drawing: ”as ambiguous rather than prescribed signs, they enhance collaboration, doubt and change.”

Daniel Spoerri’s Snare Pictures

Francis Bacon's Atelier

"I feel at home here in this chaos because chaos suggest images to me."

Francis Bacon on An anecdoted topography of chance (Spoerri, 1995)

The chain of associations

The chain of associations, especially in relation to the disordered unformed drawing, is somehow central in this thesis. The quote from Francis Bacon above reveals a subjective relation to the subject, and it might be that it is in a subjective level this could be discussed. What I am trying to describe is maybe something Louise Pasteur aimed at when he 1854 said "Where matters of observation are concerned, chance favors only the prepared mind". Even if, what I am aiming at, the ability to associate, is something more general, it could only favors a situation where something actually wants to be seen. We can see the man in the moon and figures in the clouds. But how much guidance the observer needs is a matter of subjective view. Where Francis Bacon is seeing a motif in his chaotic room, someone else might only see a matter for cleaning. This is somehow why this thesis places itself in the early phase of the design process: somewhere between the *analyze and synthesis*, as Lawson (1990) defines the different design stages. One can at least however conclude that there is such a thing as an ability to associate. And one can assume that this association more easily can take place when the material is not too figurative nor too unformed. Early I used the *Rorschach-test* as an illustration of this phenomena of searching for meaning in something unformed. The Rorschach test consists of symmetrical ink blots, in which one is asked to explain what one is seeing. The example reveal the necessity of an additional guideline while reading apparently random configurations. In the book *The sense of order*, Gombrich (1979) is discussing the phenomena of "reading elements as a large unit versus objects in its own right." The Rorschach test is in the book used as an example of where this balance between sense and nonsense is present, where Gombrich points out the symmetry as a reason for why we at all are searching for a meaningful description. Even if I, again am searching for something more general, widely discussed throughout the history, as Jormakka (2013) points out: "Aristotle comments on figures seen in clouds and Pliny tells of Protogenes who created paintings by throwing a sponge against the wall. Inspired by these classics, Leonardo remarked that a wall spotted with stains contains landscapes, battles, and faces. His comments were developed into a veritable theory of aleatorism in 1785 by Alexander Cozens, an English landscape painter..." (Jormakka, 2013, p. 84).

Rorschach-test, Hermann Rorschach, 1921

Disorder and chaos

The image of chance itself could be described as something disordered, irregular or chaotic, even if this not always needs to be the outcome. In the mid 20th century, chaos theory was a growing research field. One of the founding which led to this growing interest was the subjects connection to mathematical fractals, and that something with a so called chaotic behavior is having a strange *attractor*. Where an attractor is: ”in dynamical system: a set of numerical values toward a system tends to evolve”. And where an attractor is called strange when it is based on this fractal structure. (Attractor, Wikipedia, 2019) The fractal itself is nor disordered or chaotic, but infinite irregular. In this thesis however, I have interested me for the disordered as it stands for something suggestive; as a matter which could be open for interpretations and therefore inherent an exploratory character, and for chance because of its possibilities of generating this disordered result. A result where not ”the overall order makes them fuse into a larger unit” as E.H Gombrich (1979) describes the systemization of an ordered pattern.

”Every place where one feels comfortable- rooms, streets, and cities - has originated by chance”

Josef Frank on Accidentism (1958)

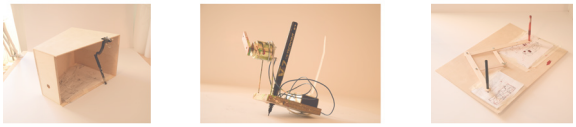
Chance as speculations

Trying to define chance often leads back to the probability theory, and it could be described as an expression used while the underlying causes are too complex to explain or to calculate in that specific situation. But using chance in this thesis as an overall theme is most of all to refer to a playful approach: as the seeking in a sketch process, during a project is about drawing speculations, and as the outcome of the design process initially is uncertain, I have in this thesis tried to remain in this uncertainty, and searched for ways to draw those speculations. Even though we tend to as fast as possible rush away from this uncertain state. Talking about chance in this work is in terms of reaching the unpredictability by separating the intentions from the result, through lack of precision and confusion, separately or brought together. With the purpose to search for an unforeseeable result, a different understanding of the conditions; through processing the material, or by finding unexpected connections and meanings. The interpretation of the outcome is somehow therefore central, which also serves as an example of this indeterminate factor, which inherent a contingency in its own.

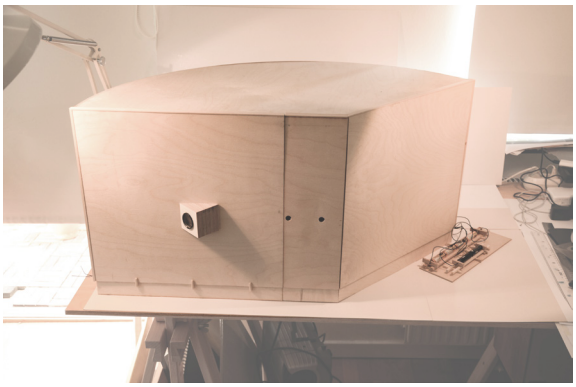
Pictures made in the preparations-course. Inspired by dadaism techniques: Soufflage, Grattage and Parsemage.

With a starting point in a literature study, I transferred three themes into three techniques. The first one was derived form John Cage, and especially his work Fontana Mix from 1958. Cage was an American composer who used chance or indeterminacy to create and discuss music. The second technique was an interpretation of the adhoc expression, based on the book *Adhocism* written by Charles Jencks and Nathan Silver in 1968. In the book they use the term as a way to describe a design process where new problems are handled through existing systems, as well as for an architectural criticism. The third one is some sort of a Collage technique, inspired by Perry Kulper: an architect who is exploring the drawing language, with ambiguous motifs searching for ways to expand what could be communicated with drawings, through an imaginary and open result.

These three techniques were complemented with three drawing instruments and two drawing machines, used to highlight the aspects of chance the techniques touch upon; as precision, resistance and intentions. Ways of interpreting the result are then discussed with two separate techniques, based upon Bernard Tschumi's *Manhattan Transcript Records*, and Erle Loran's ways of drawing diagrams in his book *Cézannes Compositions*. Three of the techniques are then gathered in a case study, where the result could be seen as a speculative composition of a library, presented with drawings and in a physical model. The model, where the configuration is inspired from Marcel Duchamp's *Étant donnés* from 1966, is used to further speculate about how one could see upon the result; through additional resistance and parallactic registration. Each technique is then described through and developed together with instructions.



Drawing instruments/machines



The peep-show model

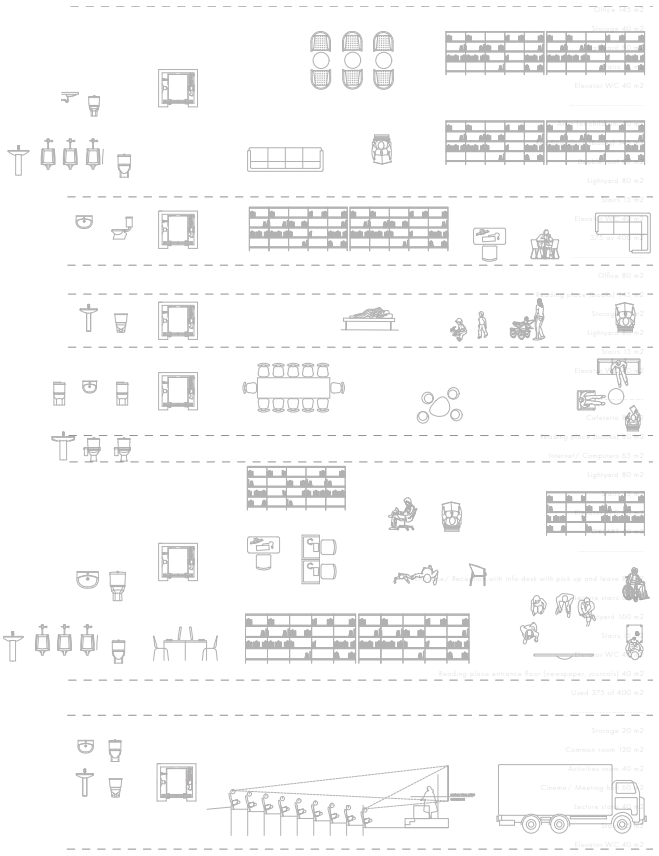
Eleven techniques with instructions.

Program/ Library

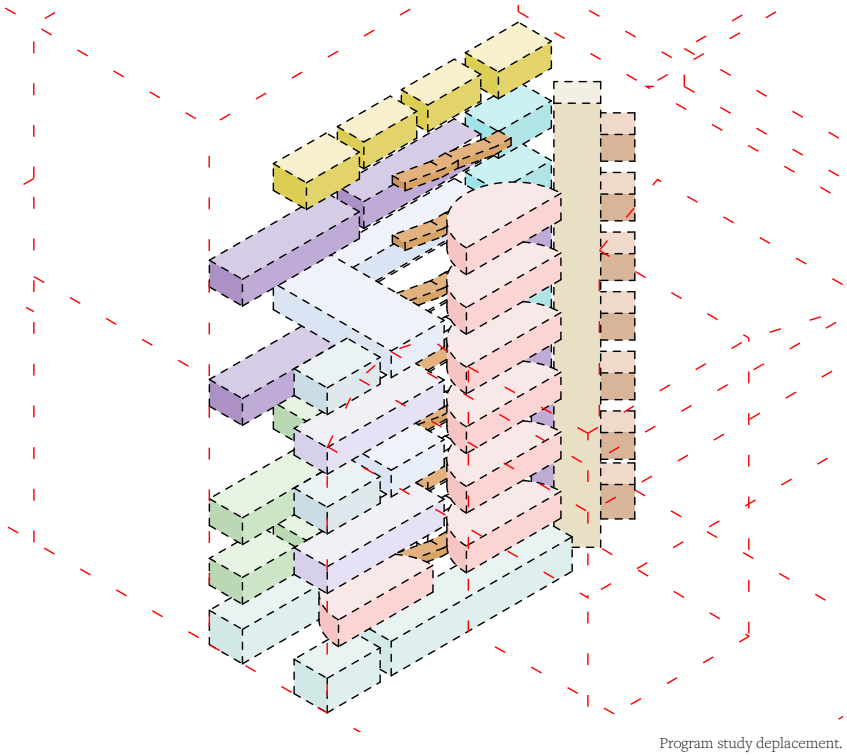
To explore this in a relevant approach, to frame and to test the outcome, the material is applied on and examined through a library-project on a site next to Brunnsparken in Gothenburg.

The idea is to expand and give the existing library 300 m2 new facilities. The library 300 m2 is known for its contribution to expand the spectra of users, and contributes to an discussion about usability and approachability. The design methods, connected with chance, are to be considered as a tool to investigate a first possible configuration of this library; an embryo in which one further could discuss usability and content.

There are also suitable possibilities in the typology of a library; the, often, one or several bigger open spaces, and the relationship between the surrounded spaces. The room-sequences, which connections could be investigated and gesticulated in a playful way, and which configurations chance could have a possibility to discuss and investigate.



Program study content.



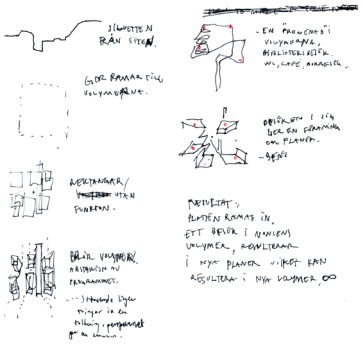
Program study deplacement.

RESULT

The role of the instructions

The usage of instructions in this work has several reasons. It is framing and addressing the result, and giving it a pedagogical character. It is also providing a possibility to repeat and redo the techniques. With a starting point in theoretical work, which in different ways touches upon aspects of chance, a catalogue of techniques has been developed, suggesting ways to transfer the theory into a work process: handling both examples of how a contingent result could take form, and how it could be used and interpreted. The idea came while I was examining possible ways of using the collage technique, as a way of communicating and framing different steps, as it also turns the inspiration from the theoretical work into usable handles.

Among the references I come across during this process, there are several examples of where instructions are published together with the piece or as a following work: Lars Vilk's *Arx; a book about the unspeakable*, Marcel Duchamp's *La Boite Verte*, Sol Le Vitt's work *Proposal for wall drawing* etc.



Instructions from the Collage-technique

Drawing instruments

Discussing chance as the unforeseeable, unexpected or mistaken, ways to reach this is to remove precision, to manipulate intentions or to draw with resistance. The purpose with the drawing machines is to pinpoint and lift out these certain aspects of chance.

Inspiration was taken from ways of drawing croquis, where interpretations of the human body are explored through several techniques and tricks, and are resulting in an exercise of seeing and representing the body. Those croquis-techniques could be to draw the background, or spaces in-between the model, with your eyes closed or with your wrong hand, which also could be described as ways of seeking an unexpected representation of what is there but is not always seen. While drawing what you see, the eye and the hand are linked together, trying to work together with the technique chosen. In each connection there is a part of resistance embedded. Drawing with additional resistance gives a possibility to reach other ways of representing the object, as these techniques also work as liberating examples.

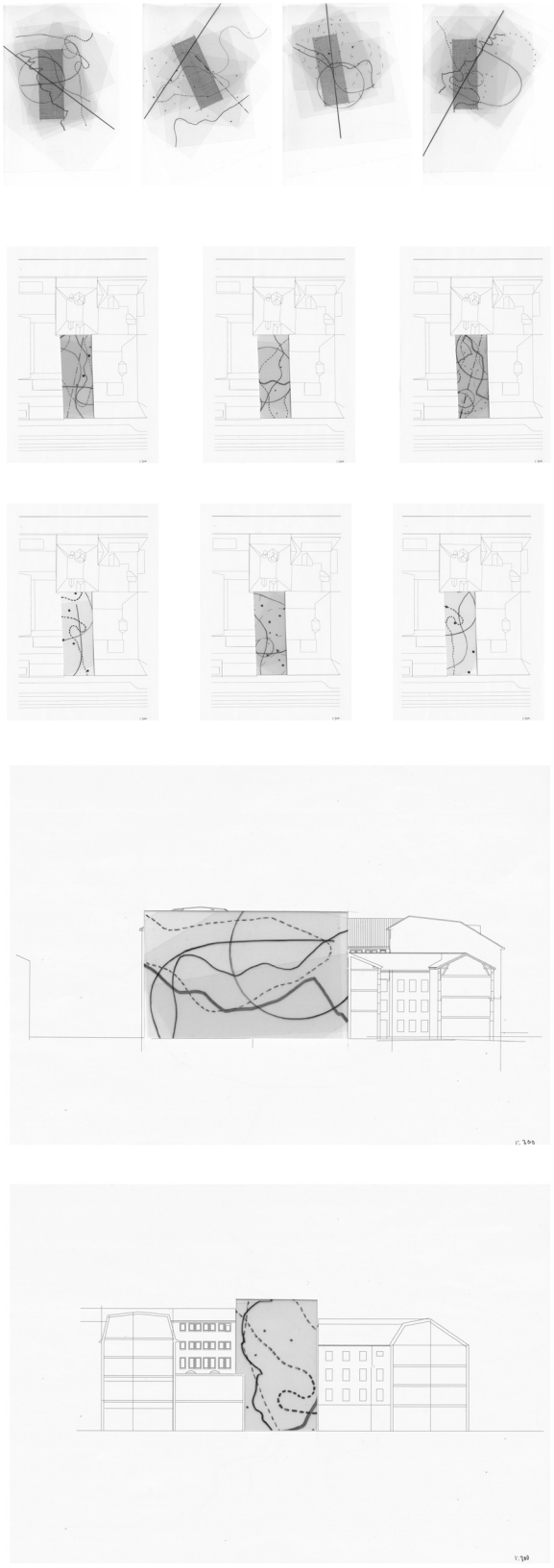
DESCRIPTIONS AND INSTRUCIONS OF THE TECHNIQUES

Fontana Mix

This technique is derived from John Cage's *Fontana Mix* (1958). John Cage was an American composer who in his late carrier used chance or indeterminacy to investigate and challenge the very foundation of music. I have used a technique based on instructions John Cage set up for the making of a score:

"The score consists of 10 sheets of paper and 12 transparencies. The sheets of paper contain drawings of 6 differentiated (as to thickness and texture) curved lines. 10 of these transparencies have randomly distributed points... By superimposing these transparencies, the player creates a structure from which a performance score can be made: one of the transparencies with dots is placed over one of the sheets with curved lines." John Cage

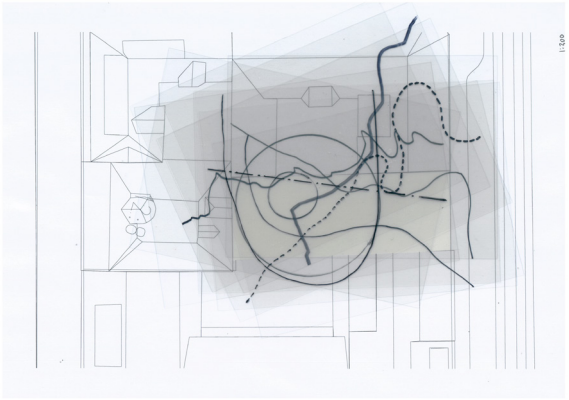
Instructions: (1.) Draw differentiated lines on transparent paper, (2.) let 10 sheets fall on top of each other, (the etymologi of accident comes from the latin cadere: to fall) (3.) place a sheet somehow anchored in the site or surroundings adjusted to inform about planes, sections or facades. (4.) investigate consequences of if the lines take the form of spaces or of movement patterns.

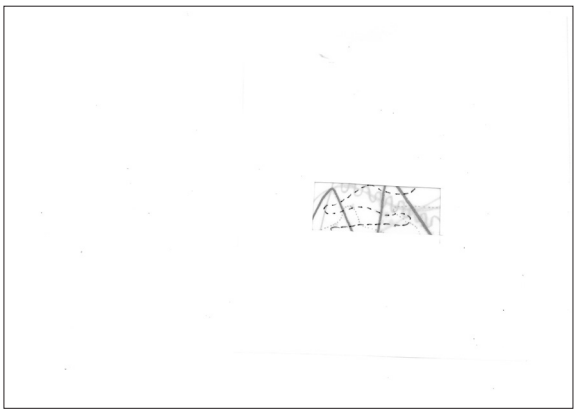


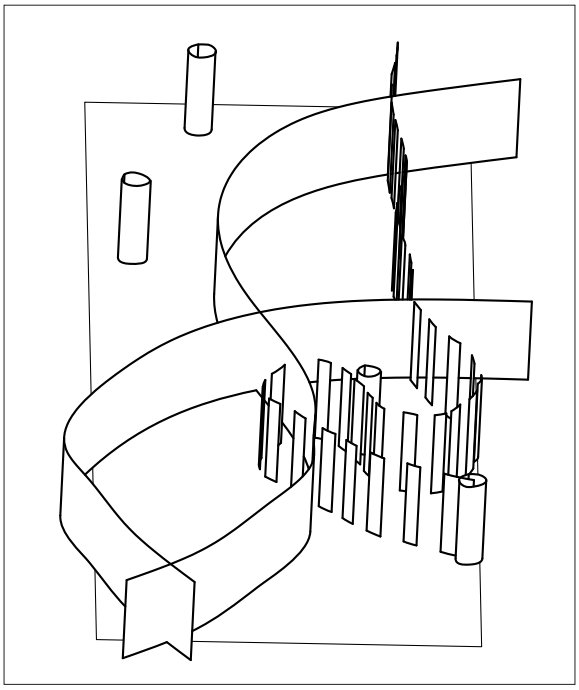
Result from Fontana Mix.

John Cage used a straight line and a grid system measuring 2 x 10 to connect the result to an external point through measurements (not specified). I have so far used the site measuring 13x33 meters to frame and scale the lines, also by printed sections, planes and facades with the expected volume of the site cut out and placed on the lines.

This is a way to quickly generate lines and dots to relate to, and could give information about the rough outlines of your project while investigating consequences of the directions or spatialities the lines suggest. It could be seen as raw-material, where you in a second phase need to accept and neglect lines according to the function of the site, or as motions, diagrams or events.







Early interpretation of Fontana Mix.

Adhocsim:

Ad hoc literally means 'to this', and refers in a wider sense 'to this particular purpose'. Adhocism is used as a term in architectural criticism by Charles Jencks' and Nathan Silver's book Adhocism from 1968 , where they describe a design process where new problems are handled or dealt with through existing systems. It is said in the book that "It is a method of creation relying particularly on resources which are already at hand". This technique is handling with chance in terms of twisting the intentions, and is concerning aspects of improvisation and spontaneity,
as when one is stumbling over a material, of which the character affects the outcome in a way that is partly out of the creators control.

Instructions: (1.) Decide a proper scale, (2.) collect material available (in this case, plastic porcelain) (3.) the material should represent the relation/system you want to investigate, (4.) fix your things together in an appropriate way in different configurations, (5.) charge your objects with different parts from your program, (6.) investigate what consequenses each configuration gets , (7.) draw a section with the starting point in the result.

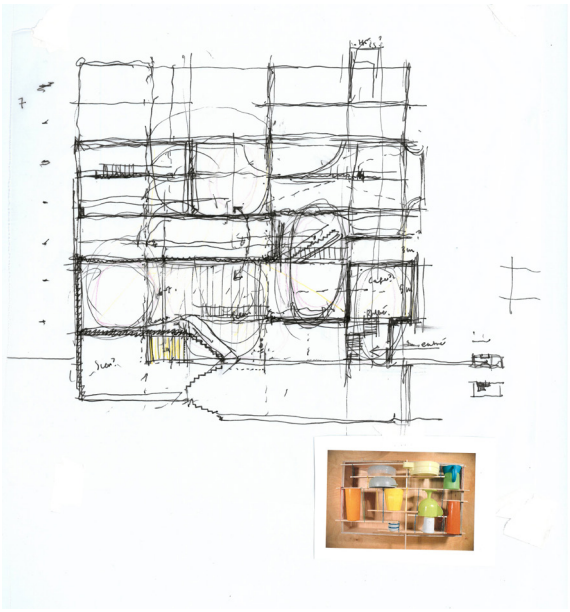
Interpretations of the adhoc technique.

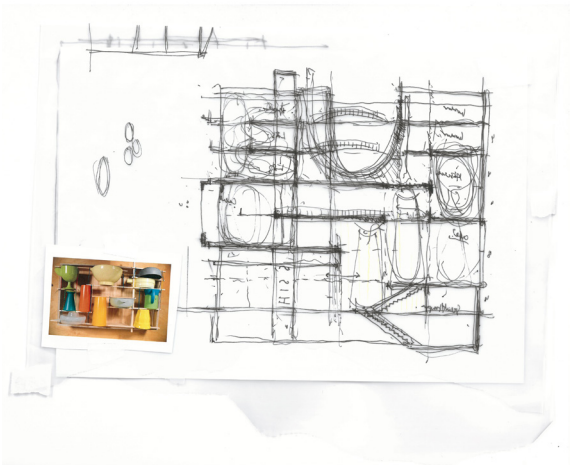
”Basically it involves using an available system or dealing with an existing situation in a new way to solve a problem quickly and efficiently.”

”In short it focuses on that rare time when creation takes place, just after two or more elements are brought together in a new synthesis, the birth moment, the eureka flash.”

From Adhocism Manifest by Charles Jencks and Nathan Silver (1972)

Situation picture Adhoc technique.



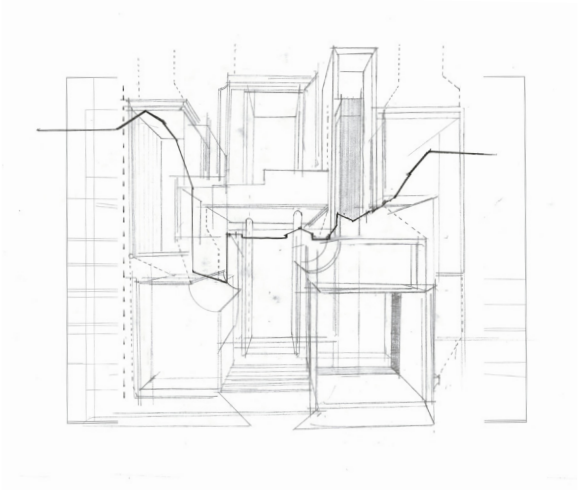


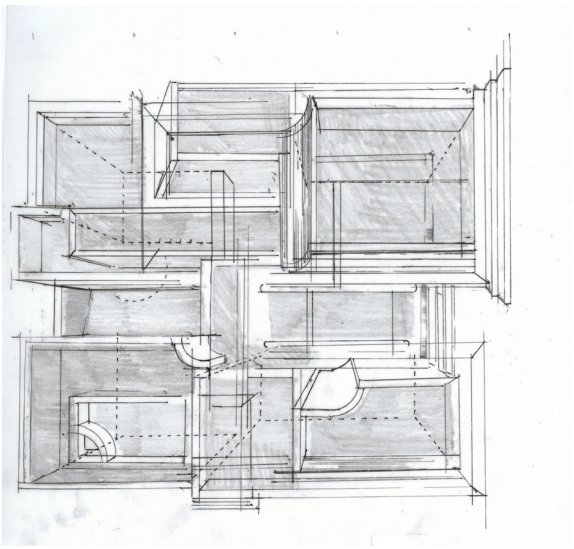
Result Adhoc technique.

Collage:

I wanted to use this technique both to communicate the process, where I wanted to use and play with the readability and interpretation, and also use it as a method where one is twisting the content of a certain material by giving it different frames while one is following the instructions. With a starting point in the program, this could be a way to investigate the relation between the volumes stated in the program.

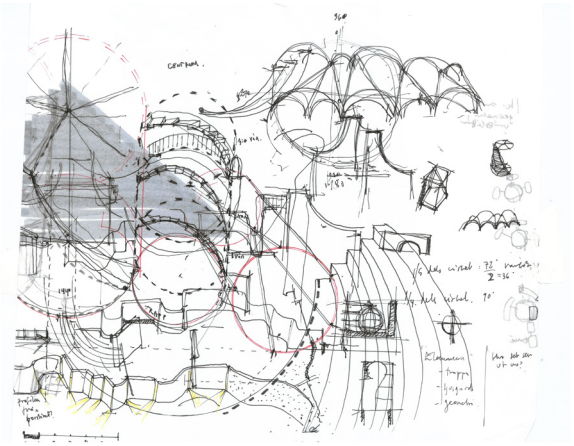
Instructions: (1.) Take your program, (2.) find a proper scale for your paper, (3.) draw something that is anchoring the drawing to the site (in this case, the silhouette from the sourounding roof) (4.) this gives you a frame and a scale for your volumes, (5.) draw volumes corresponding to your program, (6.) make an imaginary walk trough the library, imagine yourself as a visitor, (7.) mark each stop with red dots and the movement pattern with a yellow line. Each stop needs a certain content, (8.) draw this in a new sheet, focus on the plane, but draw it in perspective. (9.) Redo this with seven visitors. This gives you an idea of the usage of your building.





Interpretations of the collage technique, developped through instructions.

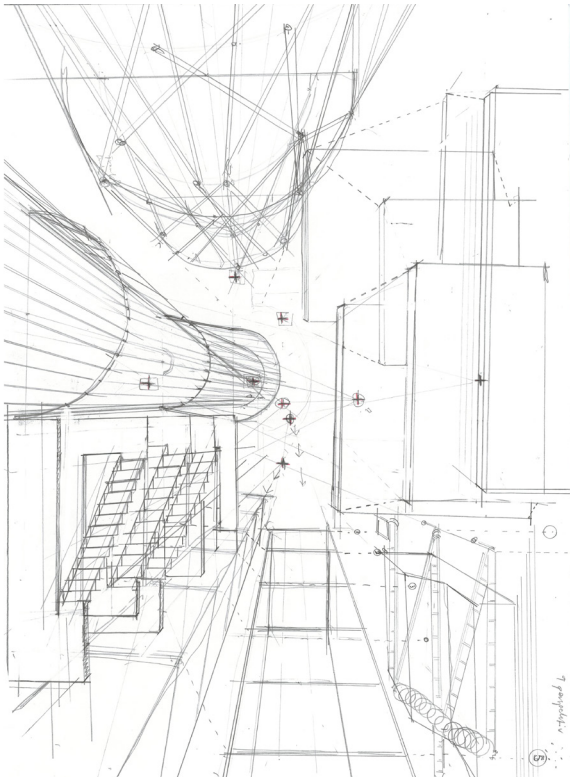
In aspect of chance this technique is exploring the inherent contingency of interpretation. As a two-dimensional drawing wants to be three-dimensional, a construction line or dashed lines, like in an exploded drawing want to be read technically and assembled together, even if not always possible. Fragments that are almost understandable, or with various understandings, are together with the instructions used to give the content an unexpected meaning.



Early interpretation collage technique

As a reference I have studied Perry Kulper: ”It is my interpretation of Perry’s drawings that they deliberately (or is it that they cannot help themselves?) posit a series of components that play games with each other and certainly play games of hide-and-seek with the normally expected language of functioning elements that illuminate a section or a plan.” (Chard, 2013)

What the technique could give is the outlines for the library project. This technique force one to think and draw in both section and plan at the same time, to literally break down the volumes. To think about sequences, proportions, spatial relations, and distribution. And to originate this from a future imaginary visitor. While working with transparent layers, parts are gathered into a whole. What I was aiming at was something ambiguous, where the drawing together with the observer creates the meaning. And doing this with a drawing language close to a technical understanding. A language close to understandable, but which is still leaving a space for interpretations.



Early interpretation collage technique

Techniques to interpret

To be enable to use the material, to be able to see where these method/techniques could be relevant and somehow inform the design process, I have throughout the process discussed different approaches, concluded in two techniques with instructions as well:

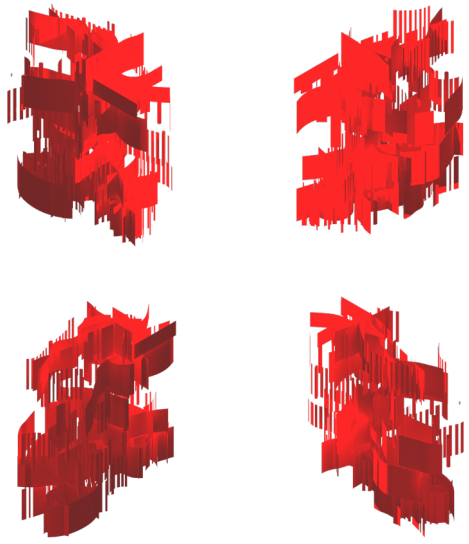
Screenplays:

With inspiration from Bernard Tschumi's Manhattan Transcript project, I have tried to use his diagrams in a similar way. In Manhattan Transcript project Bernard Tschumi discusses the relation between space, event and movement through diagrams, close to cinematic screenplays:

> ***"My starting assumption was that architecture actually begins with movement. In other words, one enters a building, one passes through it, one climbs stairs, one goes from one space to another, and that network of routes is really what constitutes architecture."***
>
> (Walker, 2006)

In a similar way as in Tschumi's screenplays, I tried to used the diagrams as movement as well as some sort of screenplays. Tschumi seems to have been started from an event, which then was transformed into movement, and after that interpreted into a building/object/space. Each diagram is not always seen in the same perspective, but they all

Early mix of the techniques



The inside generated through the Fontana Mix, placed in the Adhoc generated outside.

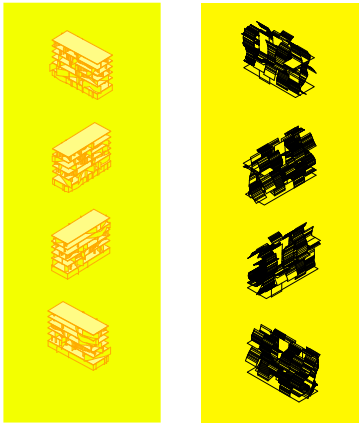
seems to describe the same object. Tschumi's diagrams seems to be presented in an opposite way, which creates an interesting result discussing both relations and absence of relations between the space and the movement. What this gave me was most of all a way to discuss the result as movement rather than extruded walls, pillars and slabs, which I later used in the case study.

Instructions: (1.) Take your result from the Fontana Mix or Drawings made by the drawing machine, (2.) Treat the lines as movement pattern, (3.) Draw a space which could have that certain impact on that certain movement. (4.) Treat the lines as a set up for a spatial configuration (6.) Draw that situation given as an interior perspective, that lines could be anything from gradients, windows or directions to walls and pillars.

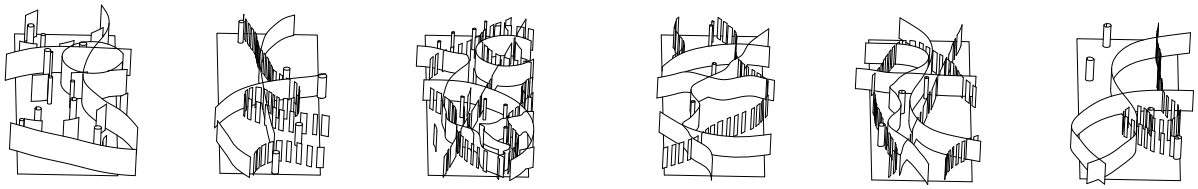
"I tried to show that space and event may be mutually exclusive but nevertheless interdependent. They always qualify one another but they do not define one another."

(Walker, 2006)

A situation drawn from the extruded Fontana Mix result.



Result combined from the Fontana Mix.

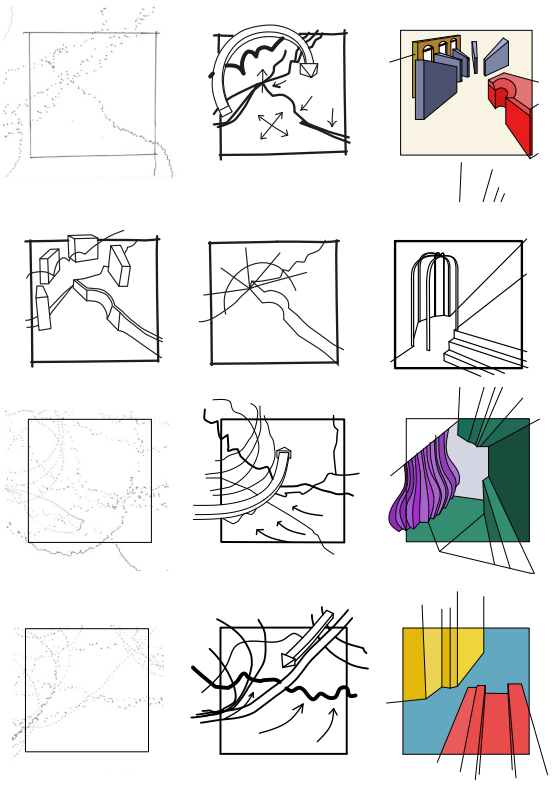


The result from the Fontana Mix technique extruded into situations.

Speculative Drawings as compositions

While searching for way to draw diagram used to inform a space, I stumbled over the book Cézannes Compositions by Erle Loran. With black and white diagrams the book is discussing the composition of a selection of the work made by Cézanne. The book is focusing on pictorial movement, created between two and three dimensional volumes and planes, which was used by Cézanne to create tension in the composition of the drawings. I used it to explore the possibility of interpret the result of the drawing machine, which ended up in three dimensional configurations. This while the lines generated from the drawing machine n°4 was the basis for the compositions, and whose configuration was handled through similar diagrams as Erle Lorans.

Instructions: (1.) Take the result from the drawing machine no°4, (2.) Find a part of the drawing your find interesting (measuring around 10x 10 cm), (3.) Search for different movements and directions in your material, it could be as surfaces meeting each other, directions from lines: by them self or together with others, as junctions or intersections, search for situations more and less explicit. (4.) Draw a diagram of your composition given the material (6.) Then draw a three dimensional composition originated in your diagram, experiment with the balance between comprehension and confusion, how the composition could be changed but still somehow express the diagram.



Speculative drawings drawn from the result from the drawing machine n°4.

DRAWING INSTRUMENT N°1

The first drawing machine was developed to seek for the relation between the eye and the hand, exploring the gap between what is seen and what is drawn.

The machine consists of a box, a drawing which represents the site (drawn in an anamorphic perspective), a peep-hole from where the anamorphic perspective is drawn (a point where the anamorphic perspective turns into a parallel perspective), and finally a pen. The idea is to extend the gap between the hand and eye, striving for a larger resistance and a result more difficult to predict. This as the eye is seeing something else than what is comprehended with the hand and in the memory stored in the muscles, in relation to that perspective. One needs to draw five centimetres with the hand while the eye is perceiving only one.

Instructions: (1.) Transfer the object you want to investigate into an anamorphic perspective (in this case, the site seen from the front, as an elevation, section or facade), (2.) place a transparent paper on top, (3.) take the pen (4.) place yourself observing the perspective through the peep-hole, (5.) from this angel, the anamorphic perspective looks like a parallel perspective, (6.) draw your initial ideas on the transparent paper, (7.) notice the gap between what is seen and what is felt, as a consequence of the anamorphic perspective (8.) this is a way to trick your hand and the memory stored within it, to trick your intentions and preconceptions, (9.) while drawing what is not intended a different understanding or idea could originate.

From sketch workshop, first drawing instrument.

DRAWING INSTRUMENT N°2

Drawing machine n°2 is developed from the drawing machine n°1 and is highlighting the conscious search for confusion while losing the ability of precision. The machine consists of two drawing planes and a mechanical arm holding two pencils. The machine is transferring one picture into another, through the mechanical arm, giving its particular character to the result.

In one of the planes an existing drawing is placed which is to be the material for the tracing. In the other a blank paper is placed, this is where the drawing is drawn. The mechanical arm can be adjusted to make a copy of the original, or be adjusted the give a more twisted result, depending on the angle and the length of the mechanical arm.

This drawing machine is somehow developed to correspond to the ad-hoc method in that sense that it is using an existing system to investigate new possible solutions. This is also highlighting the liberating aspects of the theme. As a result of that the drawing is made through the mechanical arm rather than directly from your hand, the expectations of what you are drawing are less present.

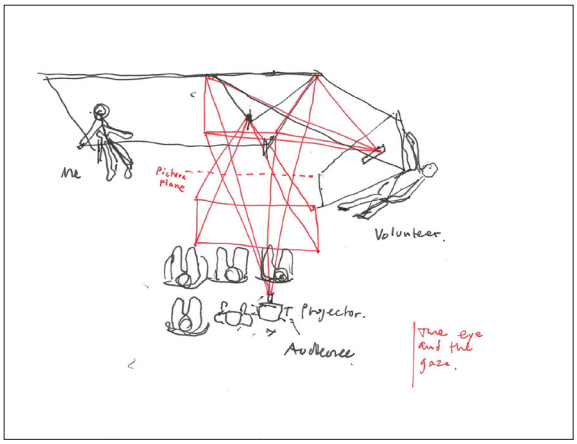
Instructions: (1.) In the smaller square, place a system of lines: it could be a picture you like or a planning you find interesting, (2.) place a paper in the bigger square, this will be the picture plan, (3.) trace the lines represented in the smaller square with a pen, (4.) the result will be drawn in the bigger square transferred via the mechanical arm which is giving its' particular character to the result, (5.) depending on the position of the mechanical arm, the result will be more or less twisted, (6.) drawing without precision is a way to reach the unpredictable, which could lead to unforeseeable ideas. This is a way to lower your expectations of the result as the drawing is a result passed through the machine and not directly from your hand. (7.) Experiment with the outcome, redraw the outcome and see if you are achieving the same result as what you started with.

Drawing instrument 2.

DRAWING INSTRUMENT N°3

With drawing instrument n°1 as model, drawing instrument n°3 is developed to explore the intention of what is drawn and how the drawing could inform about something else then what initially was intended. The instrument consists of a wooden-structure enabling two perspectives: one from where the drawer is drawing, and one from where the observers are observing. The frame is framing what the drawer is seeing (in this case a transverse section), and placed with an angle to allow the picture plane to fit into the frame. The observers' observations are framed by the surroundings, which makes it possible for the drawing to represent whatever you want it to represent, seen from above. The drawer intends to draw in a section, but the result is represented from above.

In its attempt to shift the content, by giving it meaning through external frames or instructions, this drawing instrument is developed somehow to correspond to the collage technique.

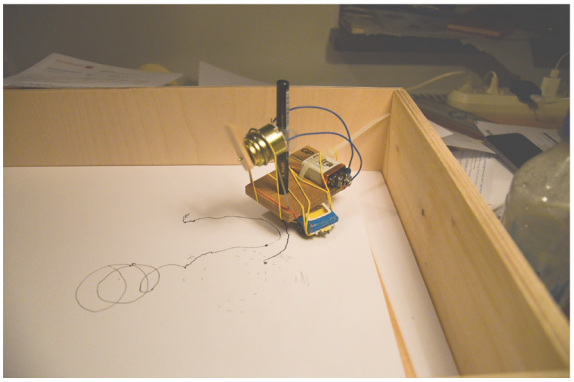


Pricipile sketch, drawing instrument 3.

Instructions: (1.) Place two different frames i the two squares, somehow connected to what it is intended to represent (in this case, an elevation from the site, seen from the front, and a plane seen from above), (2.) let the drawer draw with the lines provided, intended to draw a elevation, section or facade, (3.) let the observers observe what is being drawn. As the frame for the observers is something else than for the drawer, the content gets another meaning than what was intended. (4.) Experiment with other frames, this could also be done with a projector projecting objects or frames in different ways connecting it to situations or circumstances.

DRAWING MACHINE N°4

The drawing machine n°4, called the autonomous architect, is developed to be able to draw whiteout any external impact or help. The machine consists of an electric motor driven by a battery, a half propeller and a cradle allowing attachment of different types of pencils or brushes. The machine is vibrating itself forward, and is drawing unpredictable lines consisting of several dots of which the character is depending on the type of the pencil, the power of the battery, the size and the rotation direction of the propeller. The drawing plane is limited by a wooden frame, which gives the plane a small hill where the drawing machine cannot climb, and therefore turns away from. With its character of producing more or less unpredictable lines and compositions of lines, this machine is developed to correspond to the Fontana Mix technique, where the result in it self neither has frames or a predetermined meaning.

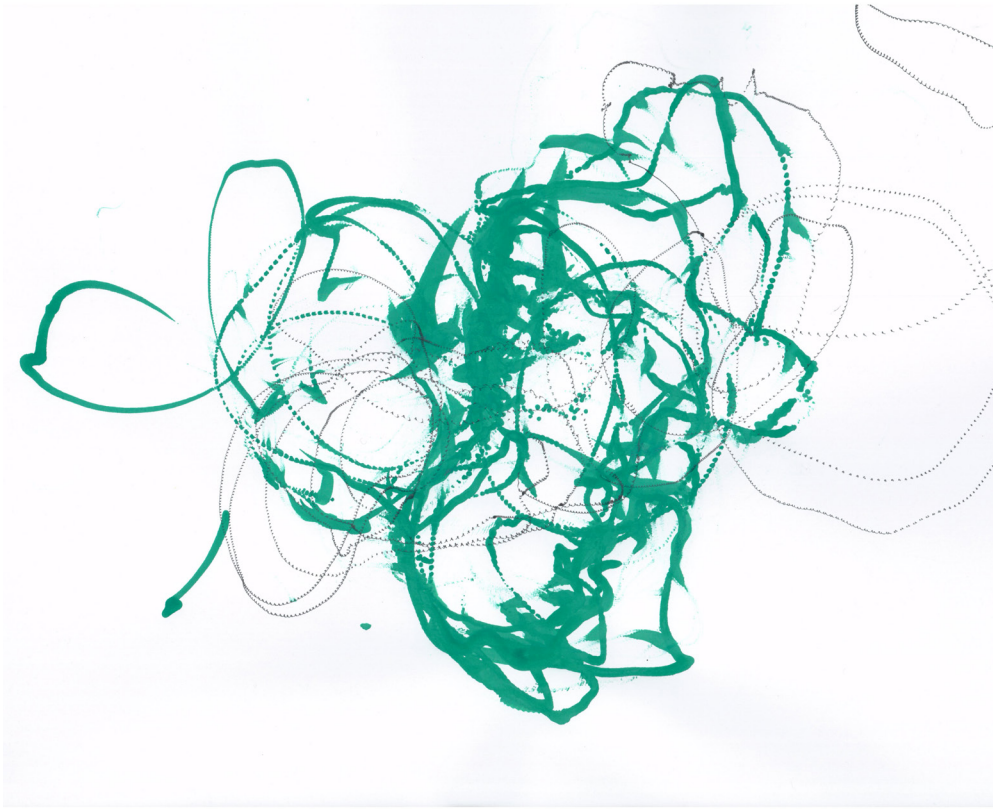


Drawing instrument 4.

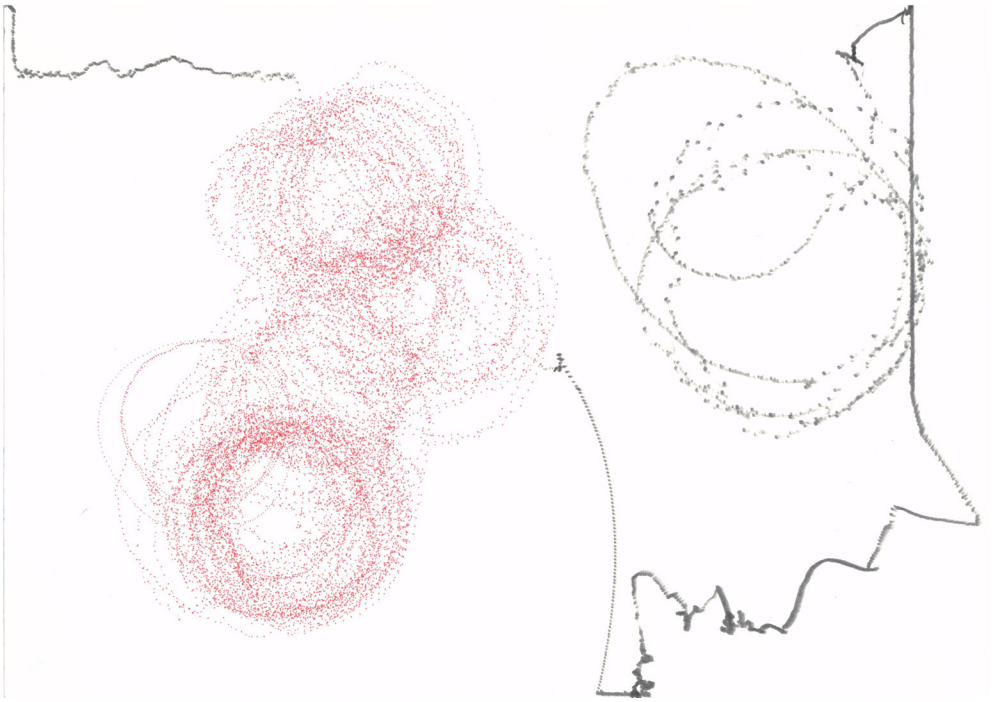
Notes from 13/2 2019

The autonomous-architect machine is drawing its ideas resolute, determined to draw forth the library project. The outcome is for now hard to decipher. But something is clearly there, could it be a landscape, movement pattern, pillars, trees, GPS-track, stones, a scheme over suggested walls or usage of a program. I still don't know. But I'm trying to read it little by little, frame by frame. Through diagrams of composition, as surfaces, movements or reading instructions.

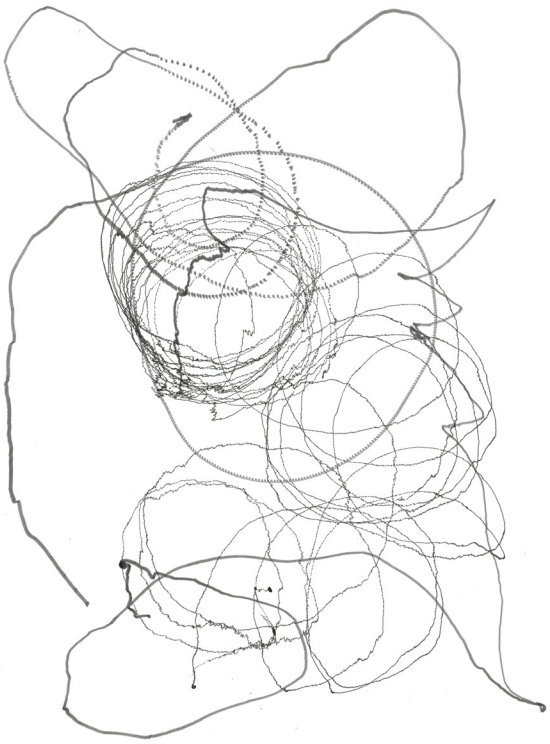
Instructions: (1.) Place the autonomous architect on a paper, (2.) place the frames under or around the area you want to be drawn, (3.) start the machine and let it draw forth its ideas, (4.) try with different pens, pencils and colors, (5.) experiment with different ways of interpreting what the machine is drawing. This could be done by adding symbols, highlighting and neglecting lines, or using it as material for a collage technique. (I have so far tested to use the outcome as configuration for motifs, movement patterns, speculative drawings and as screenplays)

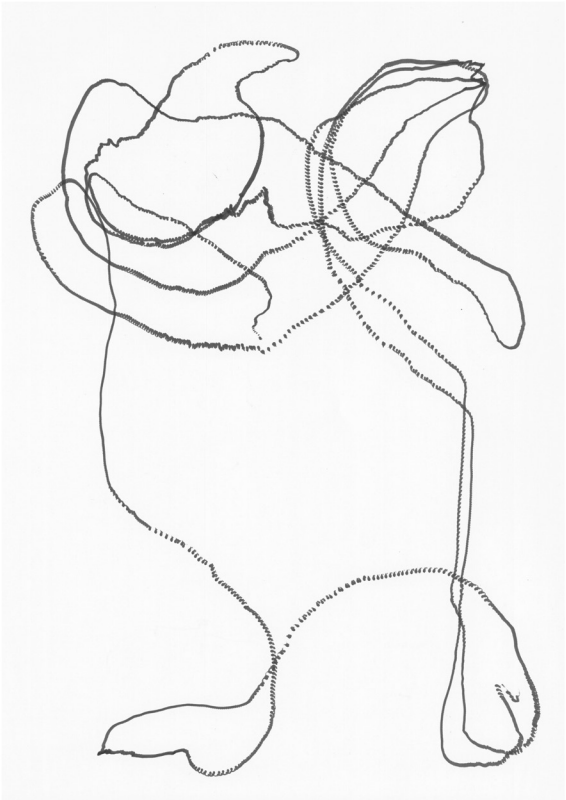


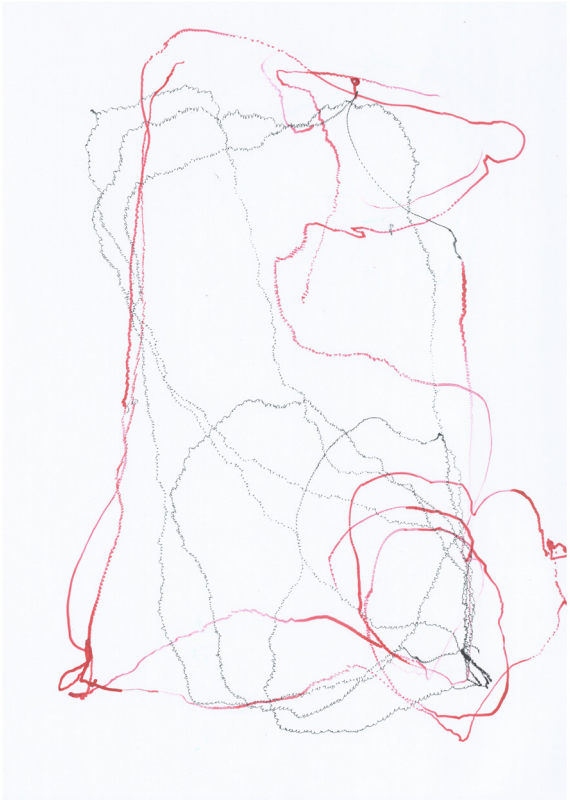
Result from drawing instrument 4.



Result from drawing instrument 4.







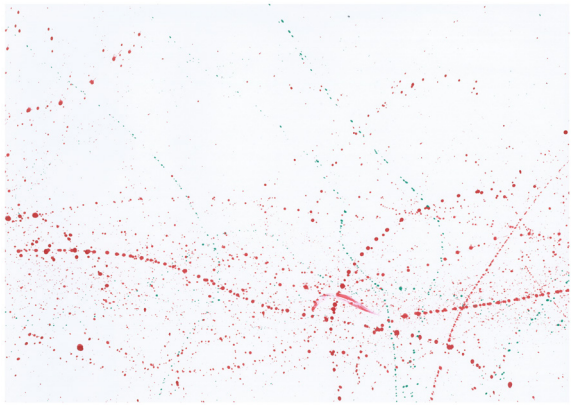
Result from drawing instrument 4.

DRAWING MACHINE N°4 MODIFIED

The result from the drawing machine no°4, as it is moving itself around while drawing, naturally leads to a character of the lines as motions: a quite dynamic result which often results in loops and a quite monotonous pattern. Modifying the drawing machine was an attempt to achieve another result. As I decided to use this modified version to inform about the position and the configuration of the floors, I expected a quite straight result (in contrast to the original drawing machine). The modified machine consists of the drawing machine n°4, together with a cradle allowing it to stand, extended cables to switch on the machine from a safe distance and finally a wire: in one side attached to the electric motor and in the other attached to a pencil.

Instructions: (1.) Place the color throwing machine in a place where you can throw paint, (2.) place a picture plane around the machine (in this case, the movement pattern projected into a cylinder, (3.) start the machine and let it throw paint, (4.) experiment with different colors, (5.) use the outcome in a similar way as mentioned above (in this case, the intersections traced from result together with the projected movement pattern was used to inform about the positions of the joists)

Drawing instrument 4 modified.



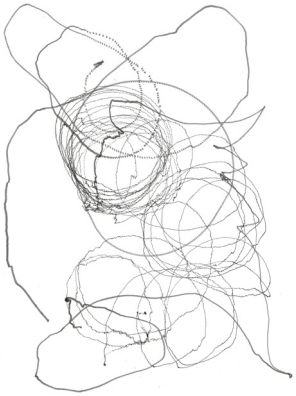
Result from drawing machine n°4 modified

Case Study/ Conversation piece

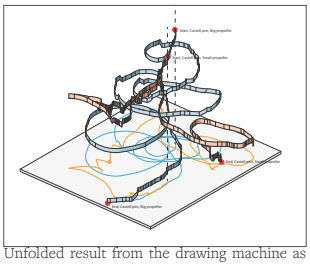
The case study is developed as a sequence in three steps. The first step is to redraw what has been drawn from the drawing machine, from the starting point to the end. Inspired by Bernard Tschumis' discussion about movement, the drawing is transferred into a speculative movement pattern from a future user. The movement pattern is turned into an exploded view, unfolded into a three dimensional drawing, where the third axis is representing the height allowed in the site (according to regulations; in this case, around 30 m above ground level). This is adding a time dimension to the drawing as well; while staring in the starting point, the movement pattern is transformed into a serpentine as time elapses.

With a small modification, the drawing machine is turned into a colour throwing machine. Where the paint thrown by the drawing machine is intersecting with the lines from the unfolded movement pattern (the serpentine), a system of joists is to be attached. While transferring this back to the three dimensional serpentine, the result is a system of points attached to the movement pattern.

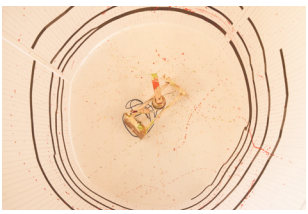
Instructions: Use the result from the drawing machine no°4: (1.) Redraw the line from the staring point and the end point, (2.) explode the two dimensional drawing into a three dimensional, where the third axis is representing the height allowed in the site, (3.) take your color throwing machine, where the paint thrown by the throwing machine is intersecting with the lines from the exploded movement pattern, a system of joist could be attached, (4.) while transferring this back to the three dimensional serpentine, the result is a system of points attached to the movement pattern, (5.) the movement pattern works as a scheme for the configuration of the floor, (6.) attach each floor to the points, (7.) project the result of the Fontana Mix into each floor plan and extrude the result.



Using the drawing made by the drawing machine 4.



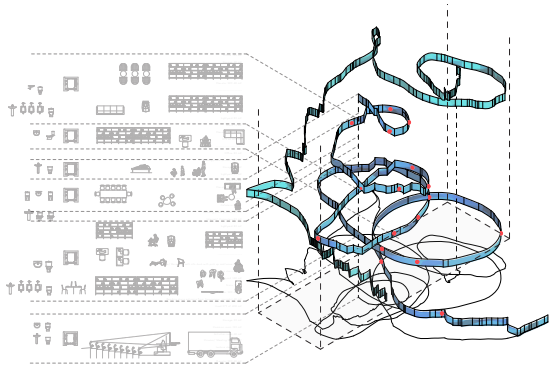
Unfolded result from the drawing machine as movement pattern.



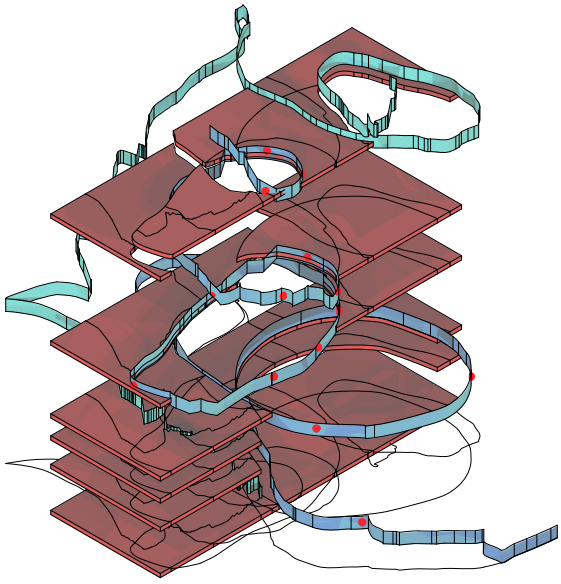
Modified drawing machine and unfolded result, projected onto an cylinder.

The movement pattern also works as a scheme for the configuration of the floor, allowing the loops the machine has suggested to form an open central space in the building. Each floor, attached to the points, is then projected by the result from the Fontana Mix technique.

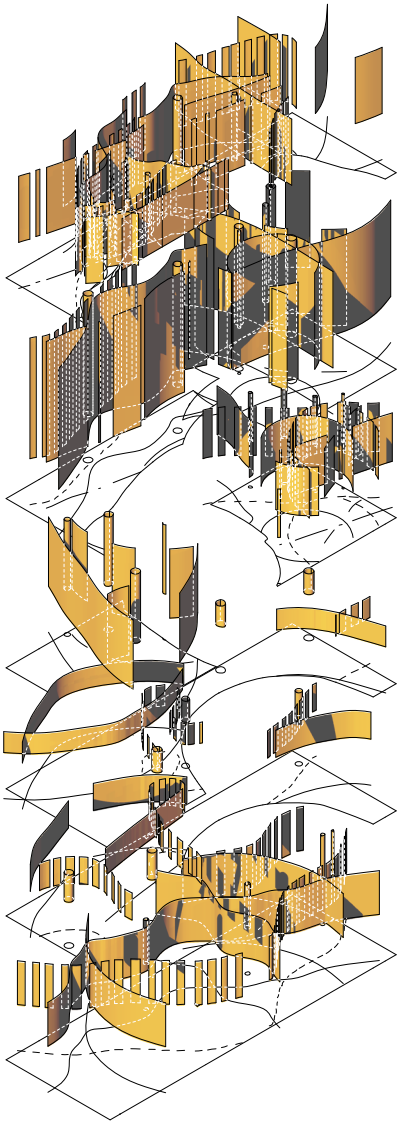
The operations result in a building with differentiated configurations of floors and walls, used to trigger your fantasy, or as a material in which one could further explore possibilities and difficulties, while transforming this into a library project.



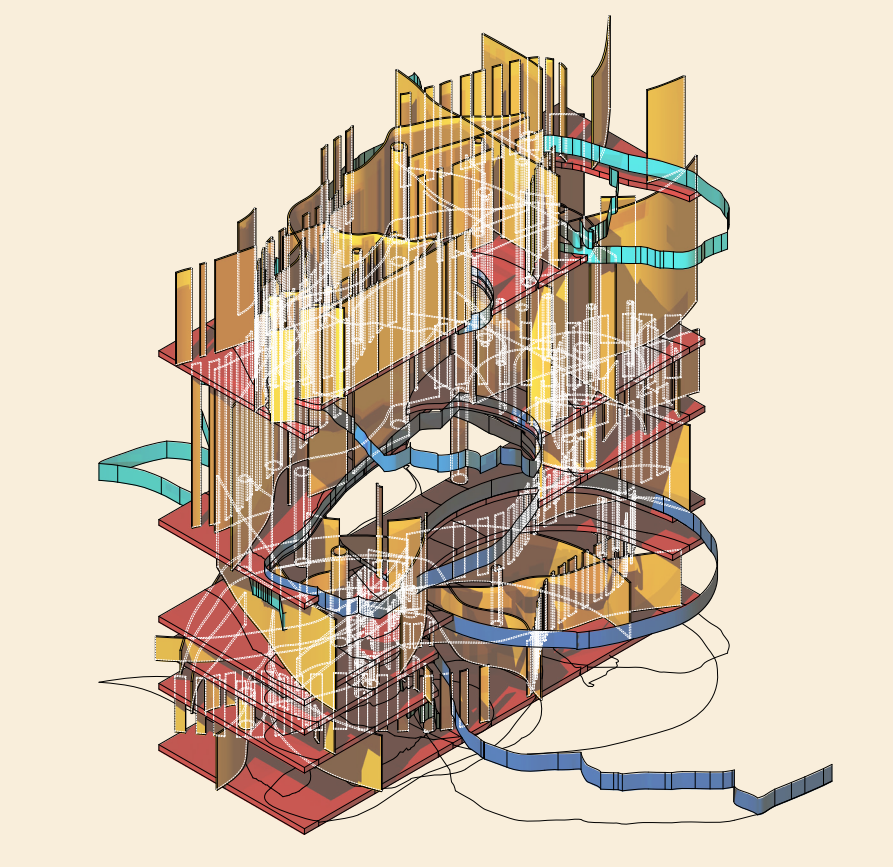
First step case study, unfolded result from the drawing machine as movement pattern, the red dots is the result from modified drawing machine.



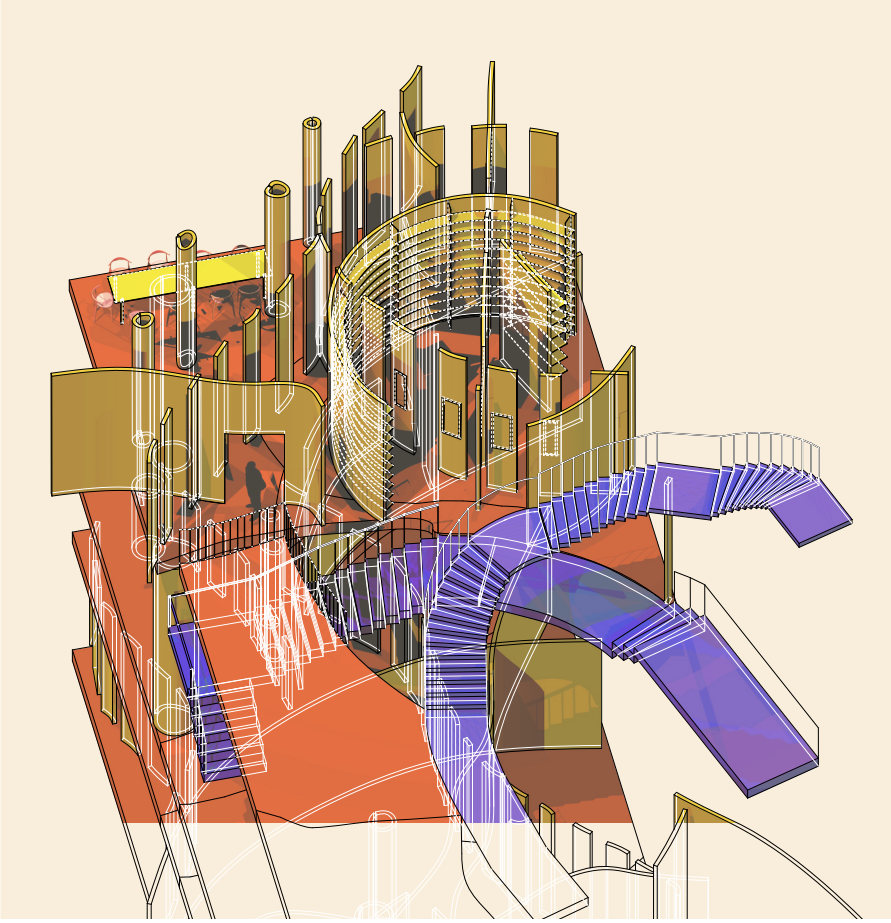
The second step in the case study, attachment of the floorslabs.



The third step in the case study, lines generated from the Fontana Mix.



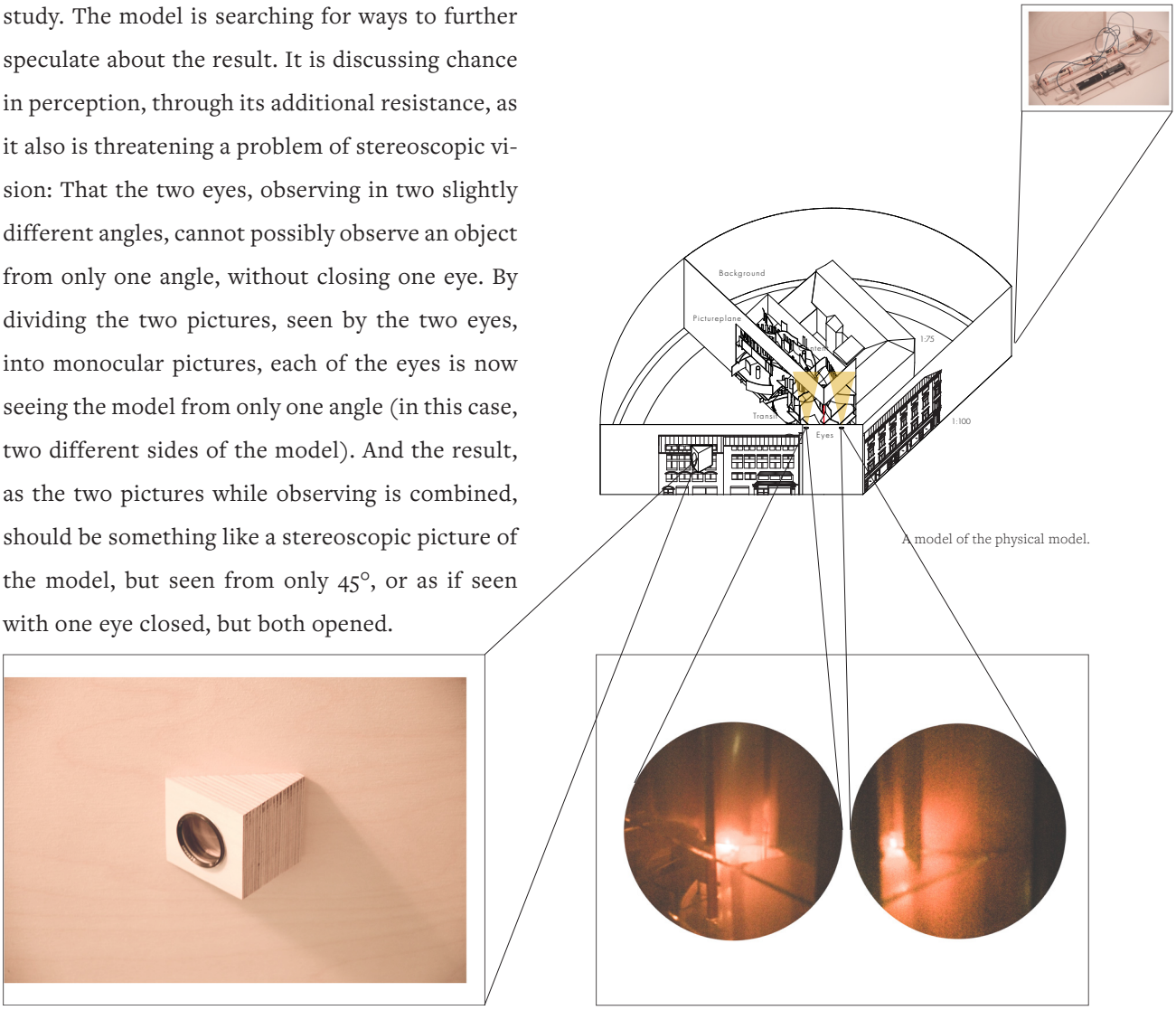
Result of the case study, combined.



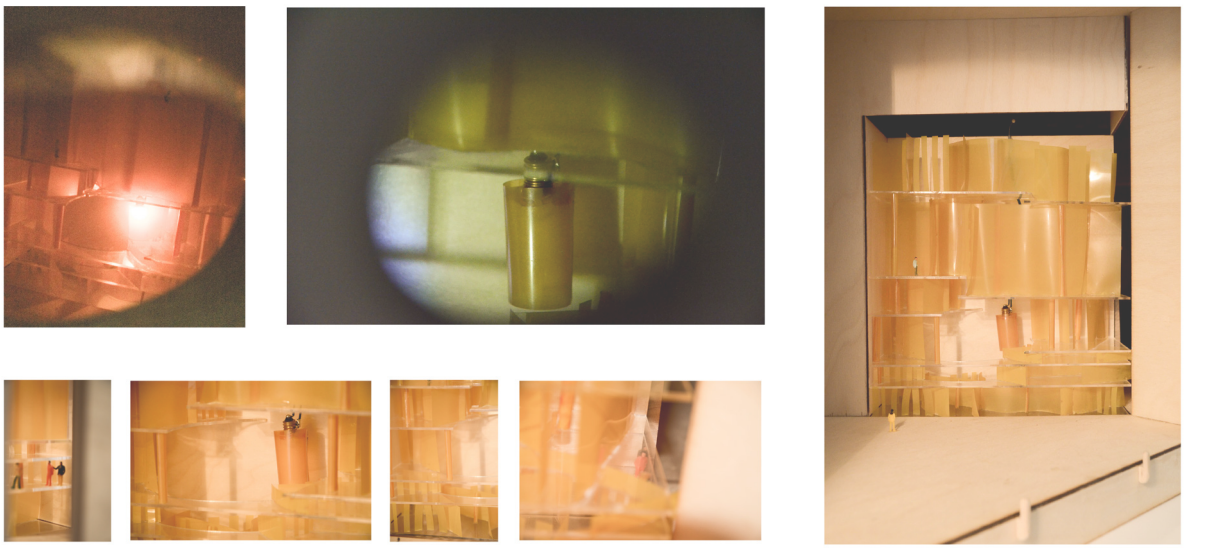
A situation drawn from the case study.

MODEL

In the model, you can see the result from the case study. The model is searching for ways to further speculate about the result. It is discussing chance in perception, through its additional resistance, as it also is threatening a problem of stereoscopic vision: That the two eyes, observing in two slightly different angles, cannot possibly observe an object from only one angle, without closing one eye. By dividing the two pictures, seen by the two eyes, into monocular pictures, each of the eyes is now seeing the model from only one angle (in this case, two different sides of the model). And the result, as the two pictures while observing is combined, should be something like a stereoscopic picture of the model, but seen from only 45°, or as if seen with one eye closed, but both opened.



A model of the physical model.



Pictures from inside the model.

DISCUSSION CONCLUSION

This project started in a attempt to expand and explore ways of designing: as a search for ways to expand the usage of methodology, to search for ways to reach the ideas one is encountering during a design process, and as an exploration of how those ideas could be assembled into a project. It has a starting point in an interest of how ideas take shape through architecture, and ways of communicating those ideas. This work could therefor be seen as a study of methodology, delimited to focus on the initial phase of the design process. This phase is seen as a place where one is searching for ideas to further evaluate, to neglect or to bring forth. The work therefore emphasizes the importance of this uncertain phase, and could be seen as an encouragement to stay in and further explore those initial conditions. Initial conditions which is seen as the very foundations of what is later coming.

This builds upon the idea that those initial conditions constantly need to be questioned, reconsidered and examined, with the purpose to expand these foundations. But it is also a phase where decisions need to be taken to be able to expand, and in that sense, this thesis could be argued to be stuck in its initial phase. What I though have concerned and highlighted in this work, is to discuss ways to avoid situations where opportunities are being missed if the capacity of imagination is not stimulated enough. This is done by compounding a catalogue of techniques, in different ways handling with aspects of chance. Chance is introduced as a possible contributor to this situation and discussed through its character of being questioning, speculative, and imaginative. It is discussed through and compared with the event of drawing, and described through its imaginary and critical function. And the techniques, most clearly in the drawing machines, could be concerned as tools seeking to answer the question of how one could draw with those aspects of chance.

Concluding that chance is about the unpredictable, ways to reach this could be to remove precision, to manipulate intentions or to draw with resistance. These certain aspects of chance are highlighted and pinpointed through the drawing instruments, developed to respond to the initial techniques.

Each technique and drawing instruments is discussed and evaluated on their own, but also studied as a sequence in a case study: a result which is held to be used to trigger the imagination, and as a material in which one further could explore possibilities and difficulties, while further transforming this into a library project.

While drawing with additional resistance, the liberating aspects of chance appears: while manipulating intentions or while consciously losing the ability of precision, the gap between the expected outcome and the result expands and the expectations of the result is reduced. And while seeing the result

provided as unformed drawings, the capacity of chance appears. As Yeoryia Manolopoulou discusses in her text; Unformed drawing: notes, sketches, and diagrams (2005): ”Unformed drawings are highly intuitive (...), Intuition directs the imagination beyond previous learning and conscious reasoning to unexpected associations. In this sense a sketch might evoke confusion but might also stir the imagination.” (...) ”As unformed and incomplete drawings, they lead to new architectural possibilities.”

The result in itself could lead to new conclusions, and as the process provides reflections and thoughts, this could give a better understanding of the program, analyze or site. To ask for a result without any predetermined purpose, as I have been doing through some of the techniques, is to ask for an interpretation.

I early described it as; In the act of making sense out of nonsense, ideas and paths can originate and take form. The result in it self could be anything or nothing, but to be able to expand, it has to be something. And doing so, to ask for an interpretation, in relation to an unformed result, open for several interpretations, is to ask for imagination. What I have concerned, is about giving tools for this search, in which ideas could be searched for, originated and questioned, through ways of drawing with chance, to further explore a possible result.

Presentation from open seminar.

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