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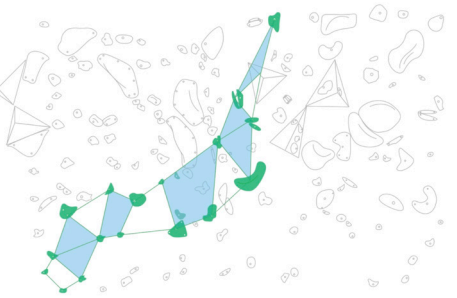
# HOW TIME IS PERCEIVED?

Yunze Si Year 2 Unit 2 GCD112022

# Positions Through Iterating

Routes inherent in climbing walls are formed by the rules inherent in the sport of rock climbing. When the rules are broken, i.e., when the whole wall is no longer differentiated by color, the routes become more diverse, and more ways may arise.

I chose to redefine the climbing wall and create 100 different climbing routes based on the trajectories generated by the climber's interaction with the wall as they climbed. The project was therefore initially an iterative experiment based on 100 climbs by climbers, an iterative process designed to focus on exploring the movement trajectories generated by the dynamics of the human body as it interacts with space.



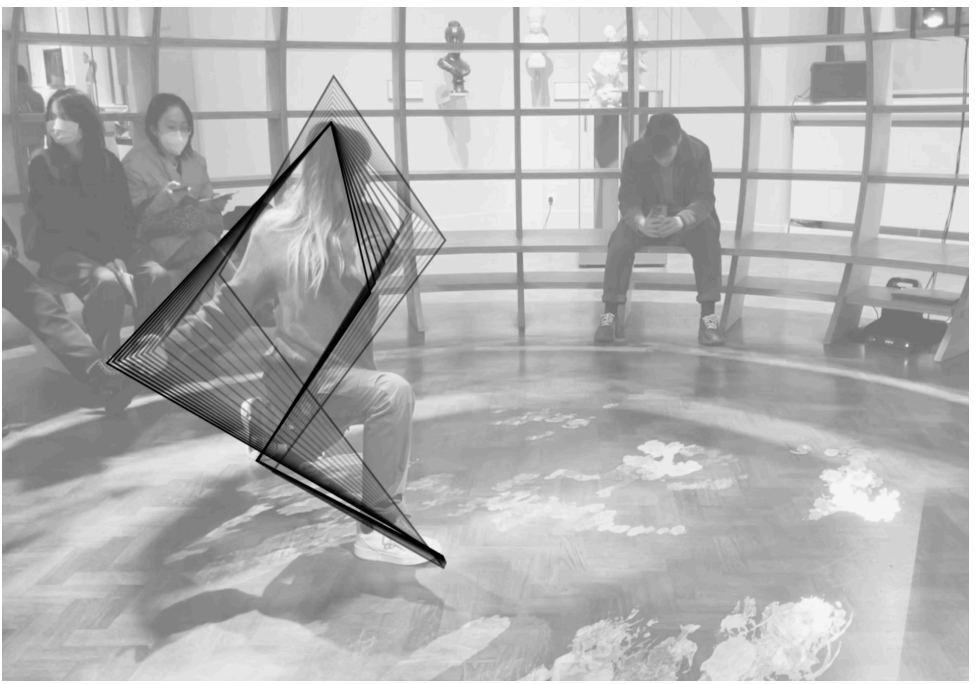
In further exploring the movement trajectories that arise when the dynamics of the human body interacts with space, the references shift the direction of my iterations from the movement trajectories that arise when climbing to the temporaWWl trajectories that arise in a four-dimensional spatial state. As the climber's climbing movements are tracked and recorded, the interaction between the human body and the climbing wall creates a movement trajectory in the macro perspective of time. I have attempted to record and visualise the movement of the head and limbs based on five points, simulating the trajectory of the human body through the movement of points and lines. In addition, the flip book presentation is used to represent the temporal trajectory of the human body's dynamic residuals in a four-dimensional space concept. This project le me to question the trajectory of time through iteration.

## Visualisation and Cognition: Drawing Things Together

In Visualisation and Cognition: Drawing Things Together, Latour explains that the Dutch 'distance point' method of painting is even more striking. The Dutch convert 3D objects into small 2D surfaces using painting surfaces that depict the world. (Alpers, 1983, p.9) As Latour (1986, p9) states, "The main interest of Alpers' book for our purpose is the way she shows a 'visual culture' changing over time." Based on this content, I attempted to reconceptualize the trajectory of human movement in three dimensions in subsequent iterations, using the visualization of points and lines to translate this trajectory into a two-dimensional surface. The position of the limb joints is also used to drive the movement of the lines over time, showing the residual effect of the limbs as they move.

## Artificial Things | Dance film

Artificial Things is a re-imagination of a contemporary dance performance of the same title by Stopgap Dance Company. This dance work integrates dancers and artists with and without disabilities in a unique aesthetic of physical movement that expresses the interplay between human interdependence, strength and vulnerability.(Bennett, Butler, 2019) The interaction of physical movement with the sense of light and space in the work is also translated into the visual language of cinema, creating an atmosphere of solitude and melancholy, giving the impression that time stands still. I was inspired by the trajectory of the dancers' physical interaction in this project. The trajectory of the body's dynamic interaction with space is perhaps more likely to convey emotion and content than the physical movements produced during the climbing process. In subsequent iterations of this project, I experimented with the trajectory of the dancer's interaction with space. The project also visualises the movement of the human body, through the visualisation of points, lines, surfaces and movement residues.

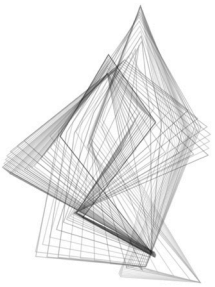


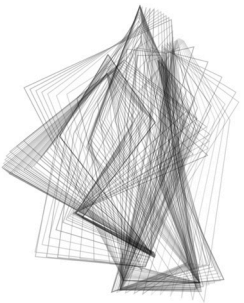
Latour, B. (1986). 'Visualisation and Cognition: Drawing Things Together', Knowledge and Society Studies in the Sociology of Culture at Present, Vol. 6.

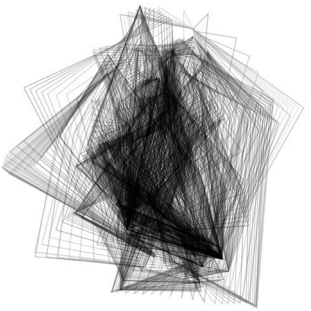
Bennett, L. Butler, A.(comp.) (2019). Artificial Things | Dance film. Stopgap Dance Company.
Available at: https://www.stopgapdance.com/production/artificial-things-dance-film/

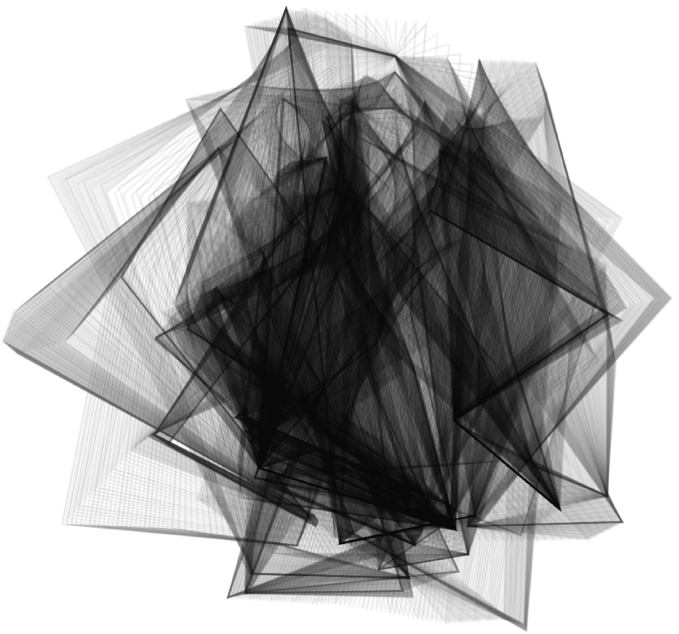
## Genius or Psychotic

According to the conversation recorded by Gao, M. (2010, p.11), people are four-dimensional creatures, existing not only in space but also in the timeline of four-dimensional space-time, and must follow the laws of the passage of time. Therefore, we can only see the dynamics of the current second. If viewed across time, the dynamic trajectory of the human body over a while is strung out like a very long worm; the length of this dynamic trajectory is the length of time rather than the length of the distance moved. The presentation of this interesting idea has influenced the direction of my iteration. It seems to be leading me to base the trajectory of a person's movement overtime on a timeline with an eye to the whole movement. Since the human eye cannot see the entire trajectory, if we cross the time limit, we can imagine the whole trajectory, like continuous stitching together of a dynamic residual image into a time trajectory. This concept has also become one of the main focuses of the next step exploration through iterations.









Gao, M. (2010). Genius or Psychotic. Beijing United Publishing co., LTD. pp.10-14.
Available at: http://x5v.net/f/vGhEC3cBYP3XuJXsXESA

## The Foundation of the Generalised Theory of Relativity

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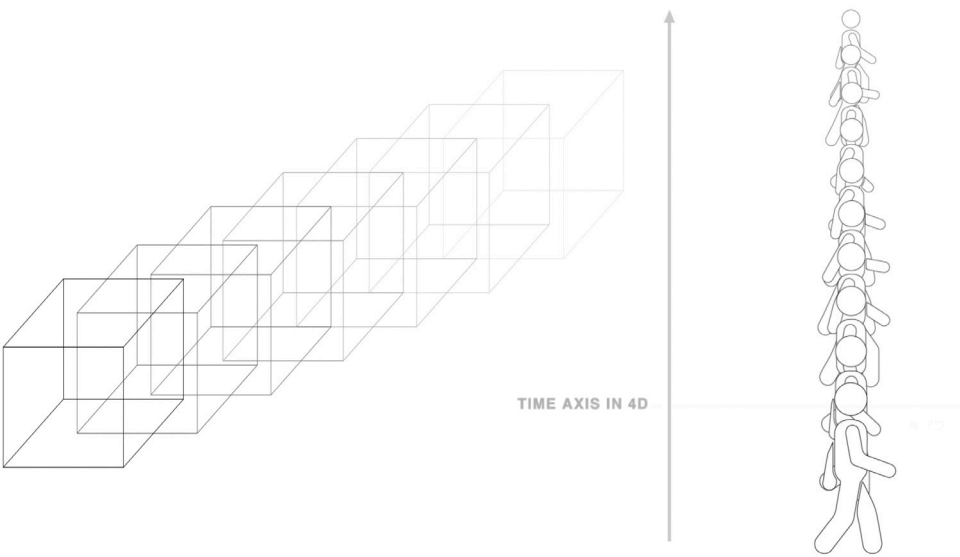
TIME AXIS IN 2D

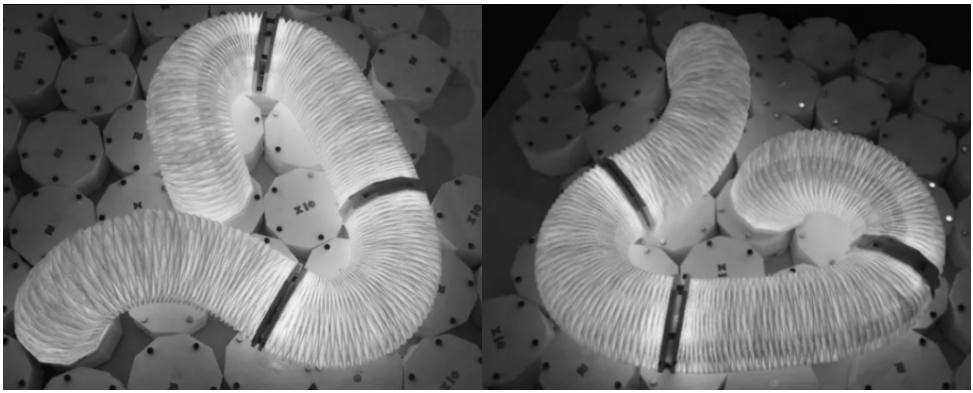


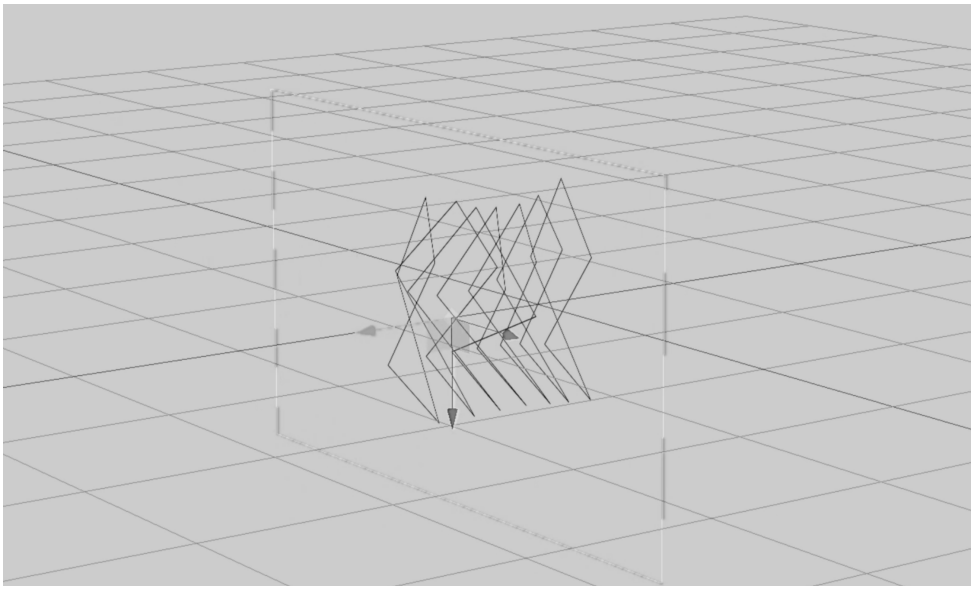
TIME AXIS IN 4D

Einstein, A. (1916). The Foundation of the Generalised Theory of Relativity.

## Gingko Smart Accordion Lamp

Organ smart table lamp is a creative home product developed by the Gingko brand. Its main function is the freedom to change shape in order to match different interior styles, reflecting the brand's design philosophy of creating stylish yet functional, modern yet great sustainable designs. This iteration of my process was also influenced by the form of this creative home product. When the lamp is turned on, its shape takes on the same trajectory as the movement of the opening. The shape of the lamp also records the complete trajectory of the act of turning on the lamp. In terms of form, the shape of this product matches the continuous dynamic residue of the human movement trajectory. Therefore, product form also became the inspiration for the human dynamic trajectory that I wanted to carry out through iteration.





Gingko Smart Accordion Lamp. Available at: https://www.gingkodesignstore.com

## Post-Digital Print: A Future Scenario' and 'Print vs. Electrons

According to Ludovico (2012, p.153), "the real power of digital publishing lies not so much in its integration of multiple media, but its superior networking capabilities." Digital publishing can transform into multiple media forms by linking with various media. This idea opens up more possibilities for the mediums I can experiment with within the next iteration of the process. Digital publishing may be more graphic in recording the human body's dynamic trajectory than what is presented in print publications. Experimenting with After Effects to record and visualize the course of the human body as it interacts with space and offering it in a digital publication. However, the digital publishing format does not fully render the dynamic residue of the human body in its whole temporal trajectory. The flipbook that followed was another attempt at digital publishing based on dynamic trajectories in the form of printed publications representing the temporal trajectories presented by physical movements and spatial interactions in the project. As you quickly flip through the book, you can see the dynamic trajectory of an entire period in a flash.

The interpretation of the time dimension in four-dimensional space-time shows that one can only see the movement of the current second. However, if we look beyond the limits of time, we can imagine the entire trajectory of the object. This entire process of time produces a state of motion that can be defined as a temporal trajectory.

Ludovico, A. (2012). 'Post-Digital Print: A Future Scenario' and 'Print vs. Electrons', Post-Digital Print: The Mutation of Publishing since 1894, Eindhoven: Onomatopee.

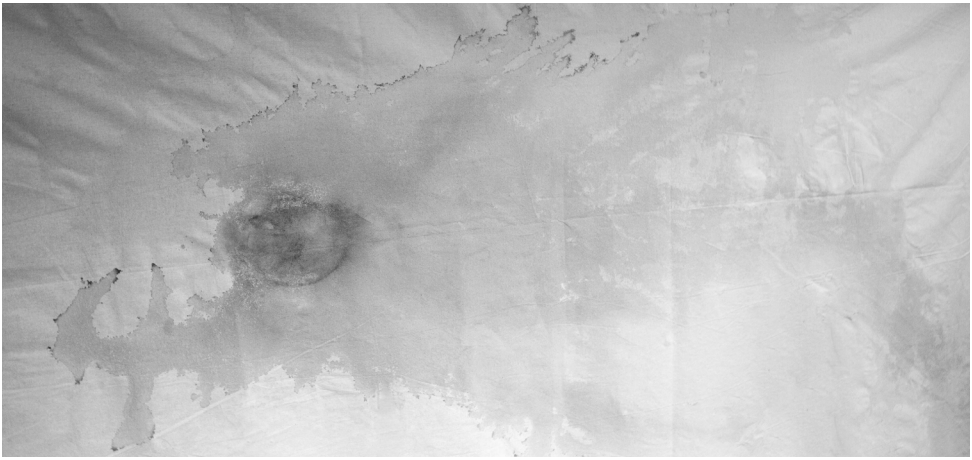
## Tide

This installation by artist Almond uses a clock to measure time-based on an authoritative unit of measurement. Almond 's work is extremely visually striking, and the oppression of the passage of time as the digit of the clock changes to the next digit at the same time is enormous. Because this work amplifies the existence of time, this work allows the audience to face the passage of time directly through the oppression of the passage of time. During my experiments, I focus on changes in things around me that are not easily noticed. Try to use various materials such as ice cubes, candles, and incense as non-authoritative time measurement units, and measure time by recording the subtle changes produced by different materials over a long period of time. The recording method of time-lapse photography not only speeds up the presentation of the passage of time but also visually forces people to pay attention to the passage of time and the subtle changes in the things around them.


Almond, D. (2008). Tide. Royal Academy of Arts 'Earth: Art of a Changing World' exhibition.

## Paradox of Praxis

In this intriguing project, Alÿs spends nine hours pushing a huge block of ice through the streets of Mexico in the hot sun until it evaporates into a puddle of water on the ground. Through this performance artwork, Alÿs intends to express the fundamental problem that hard work does not always lead to results. In this project, time becomes a major factor. As the ice moves in a position, there is also a movement of melting over time. The process of moving from ice to water until complete evaporation also reflects the passage and waste of time. This work becomes a lens for me to examine the passage of time, and different materials can be used as different units of time measurement. Through photographic documentation, the changes in physical form produced by the different material mediums are used as evidence of the passage of time.



Alÿs, F. (1997). Paradox of Praxis. Available at: https://www.youtube.com/watch?v=WvkTLAdKP24

## Time to Live

In the article Time To Live, Cubitt explains that the time of the internet and the biological time of living beings is different from the authoritative time represented by clocks. They exist in their specific units of time measurement. The different types of time each carry its unique time frame, its own Time To Live (TTL) and its own internal duration. (2011, p.12) This idea became a lens through which I examined the passage of time, with experiments focusing on the TTL of different materials such as ice cubes, candles and incense as non-authoritative units of time measurement. The passing time rate was measured by recording the subtle changes produced by the different materials over a long period of time.

## Visualisation and Cognition: Drawing Things Together

According to Latour (1986, p.10), the new method of accumulating time and space increases the mobility or invariance of traces, making it possible for mobility and invariance to exist simultaneously. In the project experiments, an attempt was made to incorporate both mobility and invariance in the experimental setup. The fluidity is ensured by the change in the physical form of the materials subjected to the passage of time. At the same time, the invariance is because the quantum state of the materials involved in the experiment has not changed. In other words, the ice, candles and incense I used only produced displacement changes in mobility with time; their nature and content were fixed. Moreover, the shifts produced in the experiment confirm the trajectory produced by time, and the fluidity of the changes presented better visualizes the passage of time.





Cubitt, S. (2011) 'Time to Live', ISEA International Symposium Proceedings, San Francisco, CA:Leonardo.
Available at: www.leoalmanac.org/wp-content/uploads/2012/04/ISEA_proceedings-sean-cubitt.pdf. pp.8-15.

Latour, B. (1986). 'Visualisation and Cognition: Drawing Things Together', Knowledge and Society Studies in the Sociology of Culture at Present, Vol. 6. pp.1-40.