

Whether We Design: A Weather Report

School of Design
Design Research
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Royal College of Art

The following report summarises a conversation between staff and students about the weather and design at a School of Design PhD seminar at the Royal College of Art on 16th February and 9th March 2023.

A Strange Weather, A Strange Word.

Very often, the words *climate* and *weather* are used interchangeably. It would seem that both terms stem from the same root, but this is not the case. *Climate* comes from the late Latin *clima* and the Greek *klima*, meaning 'slope' or 'lean'. *Wither*, or *weather*, instead, comes from the Germanic root linked to 'wind' (Cresswell, 2021). Regardless of their roots, the interdependence between climate and weather might be why the meaning of climate has significantly changed over the years.

At first, climate meant a "zone of the earth between two lines of latitude". Later, it was referred to as earth's "atmospheric conditions" (ibid.). Today, the climate is conceptualised as "an integrated biogeophysical system highly vulnerable to human interference" (Dryzek, 2022). Strangely, as we begin to perceive weather as both vulnerable and extreme, weather and climate will likely mean something entirely different for future generations.

The Oxford Dictionary of Weather defines weather as:

"The state of the atmosphere, particularly with regard to its immediate effects upon human affairs, plants, animals, and, to a lesser extent, upon inanimate objects and processes" (Dunlop, 2008).

And distinguishes it from climate by their time frame:

"Of particular significance are short-term changes in various parameters—such as temperature, humidity, wind, pressure, etc.—which occur over periods of minutes to a few days or weeks, as compared with the longer-term fluctuations that define the climate" (Dunlop, 2008).

Based on this definition, their differences lie in perception. Because of its proximity, weather has an immediate effect on humans. On the other hand, climate is perceived as distant, along with its impact. An interesting relationship between weather and time emerges, a relationship Michel Serres argues we do not know how to reconcile as he writes: "[...] *temps* and *temps*: a single French word for two seemingly disparate realities" (Serres, 1995: 27).

To what extent have we designed this separation? Was it with the invention of weather forecasting and the quantification of weather (temperature, humidity, wind and pressure) into units of measurement? Or, were our highly controlled indoor environments creating artificial microclimates for us to feel at ease regardless of outdoor weather? While there is a primordial need to protect ourselves from Earth's atmosphere, the need to design the weather arises from the desire to understand and, perhaps, even control it.

The relation between design and weather becomes apparent with the advent of weather forecasting, the “prediction of the expected weather conditions for a certain period ahead” (Dunlop, 2008). Forecasting and predictions are both intrinsic qualities of design. The etymology of design links to words such as ‘plan’, ‘scheme’ and ‘purpose’ (Hoad, 2003), which are closely associated with meanings attributed to forecast, such as ‘to scheme’, ‘to predict’ or ‘to perceive’ (Harper ND). The prefix *fore-* means ‘before’, whereas *cast* means ‘design’ or ‘device’ (Hoad, 2003). Thus, we design before foul weather arrives.

Forecasting was originally an act of observation. Weather-sensitive activities such as agriculture and sailing developed a profound knowledge of basic astronomy and tacit knowledge to read and interpret weather (Silberman, 2012). Human activity depended on and ‘worked around’ the weather. After all, sailors avoided periods of storm and rain, and farmers relied on climate patterns to determine what to cultivate and when to sow their crops. As commerce demanded more (and better) weather data, weather forecasting replaced weather knowledge with various weather-measuring tools. Industrial progress could not afford to depend on the weather, and thus, financial capital began to design its way through the weather. For example, systems and strategies have been developed over time to mitigate the impact of the weather on agricultural yield.

A Strange Weather Report

We now live in a climate designed by capital in an atmosphere changed by design. Our strange weather might be a way for Earth's systems to balance the detrimental effects of human activities on the planet. Yet, we continue with the illusion of adjusting strange atmospheric conditions to our short-term desires (see entry for *geoengineering* in Cuff and Goudie, 2005). The benign intention of solving our weather problems leads the way to the naive idea of a ‘good Anthropocene’ (Dryzek, 2022), suggesting that human activity can positively impact the regulation of the biosphere.

Weather forecasting is rooted in the late 20th-century design dogma of “devising courses of action aimed at changing existing situations into preferred ones” (Simon 1981: 129). The biosphere was no longer preferable to us, and so we created the ‘technosphere’ (Haff, 2014), a safe space to design and control the weather. We continue to interfere with planetary processes, but as Dipesh Chakrabarty (2021) argues, we “not necessarily—at least not as yet—(have) the capacity to fix them”.

If weather forecasting is an activity of design, can design only hope to salvage a better forecast for the strange weather ahead? And, more importantly, what do we do with such a forecast? The strange weather ahead only tells us there are limits to predictability (see *chaos theory*) and that “errors in weather forecasting are inevitable” (Dunlop, 2008). In a paper that asked whether the atmosphere is unstable to small disturbances (such as in the flap of a butterfly's wings), Edward Lorenz (1972) concludes that the only reality we can be certain of and have faith in is the instability of the atmosphere.

In this state of uncertainty, how might we (re)define a relational definition between design (futures) and weather? And what would a renewed relationship with the weather look like? While

we do not have answers, we offer a reflective weather forecast. One that acknowledges the need for transdisciplinary approaches that recognise the social, technological, economic, environmental, political, legal and ethical factors that shape our weather ontologies and, consequently, our response to the weather.

Our weather forecast identifies three themes representing our dialogic reflection on weather and design: *Ontological Weather*, *Capital Weather* and *Weather Future(s)*. In this report, we aim to challenge the “rhetoric of *solutionism* of design” (Fry and Nocek 2020: 11) by disassembling the weather from design to find what we can recover and what can emerge from this collective exercise of “problematizing” (ibid.) what is an everyday and familiar topic to us all: the weather.

1. Ontological Weather

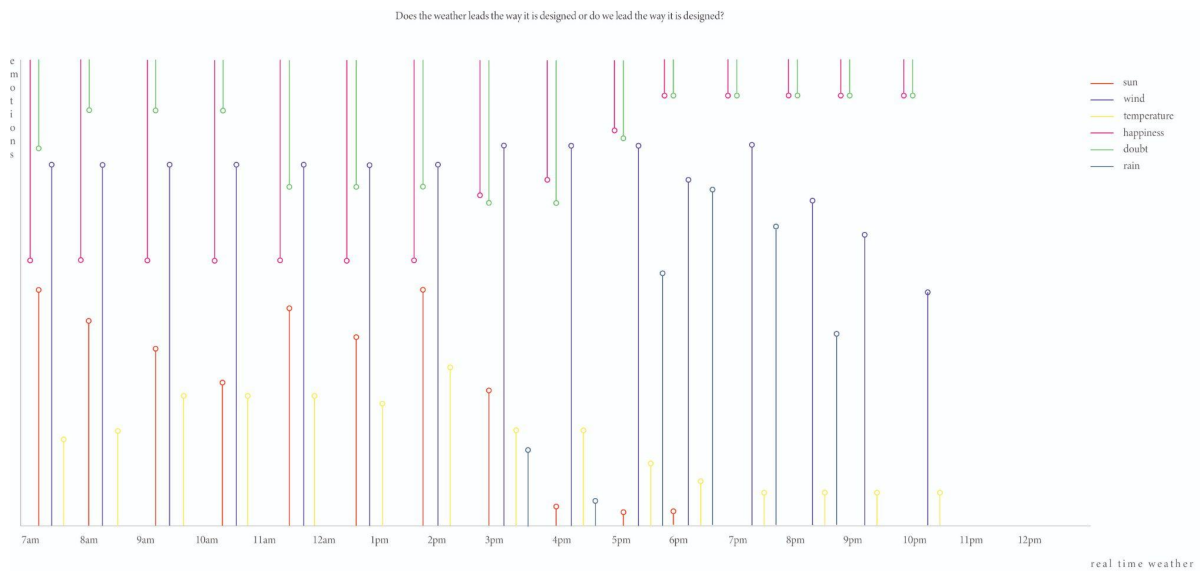
“About 9 o’clock this morning it was threatening to rain. Now it’s 4.40 pm, and the sun is shining. How do you predict God?” (Pers. Comm, 2015).

Our view of the world (our cosmivision) affects our perception of and interactions with the weather. Acknowledging this, we asked ourselves, how do we see the weather? As an event, an object, or both? Does the weather have agency in our contemporary anthropocentric culture? While the question of weather agency is of great significance, answering this goes beyond the scope of this report. Nevertheless, we recognised a strong connection between the weather and ethics.

As an event, the weather is a vibrant entity that constitutes our reality. It is the phenomenon where our everyday (inter)actions and all their (inter)relations occur—an omnipresent event with no apparent beginning or end. We now see the affinity between *temps* (weather) and *temps* (time). As an object, the weather may be a hyper(object) when it exists in a vast spatiotemporal dimension relative to humans (Morton, 2013), a rogue (object) when it moves in and out of assemblages while modifying relations within them (Bryant, 2014), or a non (object) when it is a property (and not an object) (see *objects vs properties*).

Our following reflections on *Ontological Weather* and design prompt us to question how weather agencies might manifest and distribute across (design) systems.

Emotional Weather



An emotional diagram of real-time events (Fourquier, A. 2023)

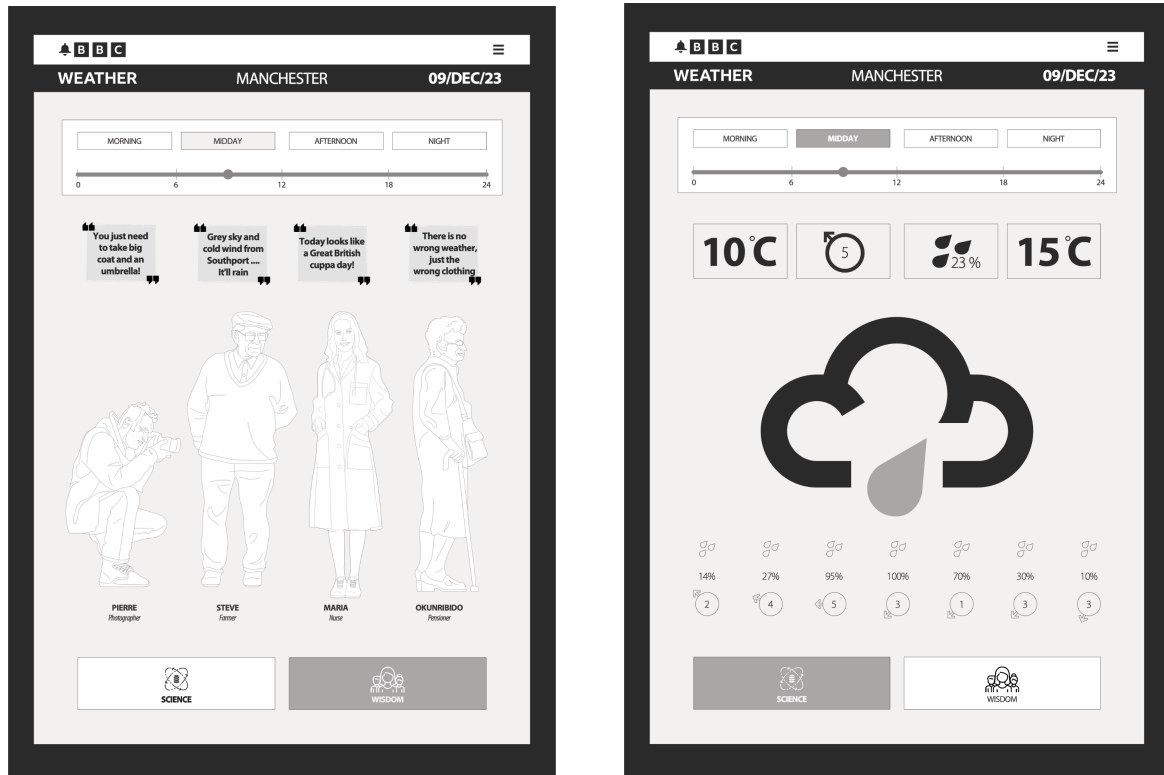
Does the weather lead the way it is designed or do we lead the way it is designed?

"I recorded the weather as it was happening over a day and paired it with my emotions, namely happiness and doubt/anxiety or the fear of getting out and going as I had planned my day" (Ariane Fourquier).

// How is the weather designing us back?

// Weather is a hyperobject, therefore, an ecological entity. It can only be reasoned abductively or experienced phenomenologically—like design.

Science and wisdom



These storyboards contrast scientific and anecdotal knowledge (Galdon, F. 2023)

Can we treat science and wisdom as equally valid interlocutors for weather forecasting?

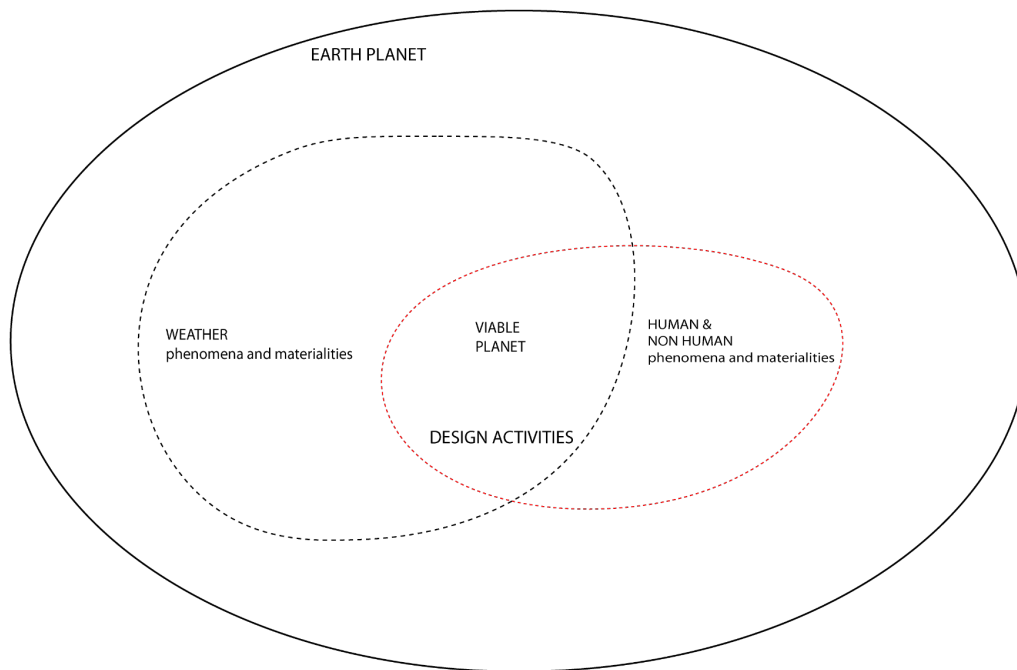
// Originally, people were very skilled at forecasting the weather. They 'read' the weather through living 'indicators' such as the wind, the birds, the river... In what way have we lost sensitivity to such indicators?

// Have we forgotten we are designed to adapt to the weather vagaries?

// Weather is an archive of parts in constant and infinite reassembly via complex variables.

// We can 'weather the storm' and deal successfully with difficult situations or problems, but 'to weather' also means to discolour or disintegrate over a period of time.

Weather and material culture



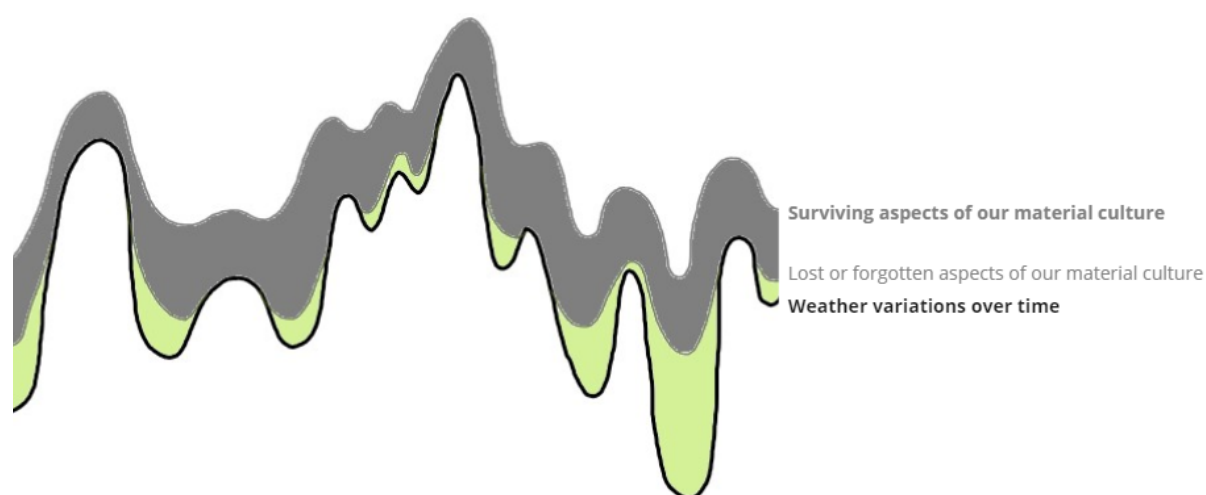
Mapping of the ongoing reconfiguring of the planet's resources (Recoules Quang, S. 2023)

More than us designing the weather or the weather designing us, can we recognise our interdependencies as we share the care and the control over the planet's resources? How do we shape each other and the viable planet as we perform these design activities?

// Some aspects of our material culture 'weather' the weather. They are key players in our archive of design. Other aspects of our material culture are more susceptible. They are weathered by the weather and, over time, are lost, deformed, buried, forgotten, excluded, and even erased.

// Deipesh Chakrabarty, in his essay "The Climate of History", observes that as humans have become geological agents, changing the physical processes of the earth, historians may have to reconsider their assumptions about the Anthropocene. Amitav Ghosh (2016 - The Great Derangement) describes the challenges that the Anthropocene presents to artists, historians, people and contemporary culture in general—stating that "the climate crisis is also a crisis of culture." Culture drives desires, fueling a carbon economy.

Weather archive



Impact of weather on archive of material culture (Surowiec, L. 2023)

Contouring above the (un)predictable and uncontrollable forces of weather are two archives of our material culture: one which dominates because, by design or chance, it weathers the weather and the other which, impacted by the forces exerted on it over time, is susceptible to being lost or forgotten.

// Like design, weather can change direction and force, sometimes unexpectedly. Our archive of knowledge and experience dictates how we respond to it, yet the weather dictates what makes the archive.

// What design knowledge is purposefully and/or unintentionally being passed down and shared?

// Weather is contextual. In some places, you have more or less stable weather; in others, it is very unpredictable. Climate change is altering and radicalising its stability. We can prospect, prepare, and/or mitigate—like design.

2. Capital weather

“Eternal topic of conversation. Universal cause of ailments. Always complain of the weather”
(Gustave Flaubert).

If capitalism was forecast as a weather report, how would it look? As an economic system, capitalism relies on the exploitation and mastery of the planet and its living resources (human and non-human alike). If capitalism were a weather forecast, it would be a tropical cyclone with winds of over 300 kilometres an hour. In reflecting upon weather as a metaphor for design, we are forced to ask, is capitalism the bad weather upon us?

Capitalism has shaped the Global North’s archive of design and material culture. So too, has the weather. Life on Earth was originally part of the weather archive, but civilisation consuming the

landscape, then industrialisation consuming the natural resources and now financial capitalism consuming the future have become the new variables in the archive.

Design has capitalised on weather forecasting, a convenient tool for selling preparedness. It has created a market for services such as emergency preparedness planning, disaster recovery and insurance. From weather-proof everyday objects like umbrellas and raincoats to buildings and mobility systems, weather plays a crucial role in determining the materials, shapes and functions of these objects. Valueless weather experiences woven organically into the everyday life of locals can have tremendous financial value when being packaged with the facilitation of weather forecasts and sold to the correct demographics, e.g. selling billows to the surfers, the mirage to the tourists, and clear starry night to the lovers.

Globalisation has made weather virtually homogeneous. Despite differences in landscape, natural environment and weather, we now tend to construct the same buildings, wear the same clothes and eat the same food. Fashion companies release seasonal calendars and trends that include parts of the world that are not experiencing the same climate or seasons. Has our reliance on the apparent predictability of the weather and our ignorance of weather systems outside of our local concerns fostered complacency in our design approaches?

The weather shifts from being an affordance for people to being an affordance to market, and there is a great financial advantage in monetising bad weather. But as weather patterns become more extreme and less predictable, what is the cost of being unable to (successfully) predict the weather? Is the success of a forecast only determined by the high percentage of predictability?

3. Weather future(s)

For centuries, almanacks have been used to track and monitor celestial occurrences and natural events, like lunar and solar rising and setting times, the celestial positions of stars and planets, and tidal patterns. But almanacks have a more colourful history than merely monitoring and forecasting the weather.

The earliest almanacks “devoted as much space to astrology and prophecies and predictions of the future as they did to basic calendrical and astronomical data” (Etheredge, n.d.). In the American Colonies, publishers began customising their almanacks to include jokes, essays, facts and advice, ultimately creating “folk literature” (Ibid), a tradition that continues today. Almanacks have always functioned as barometers of both the natural and cultural climates.

Predicting the weather is not a new trend, neither is it a lost skill for all people. The written record is not the only way to archive knowledge, and there are many ways of knowing that are not yet lost. Even though we have powerful technology to document and communicate knowledge, we don’t often make sense of it collectively and across borders.

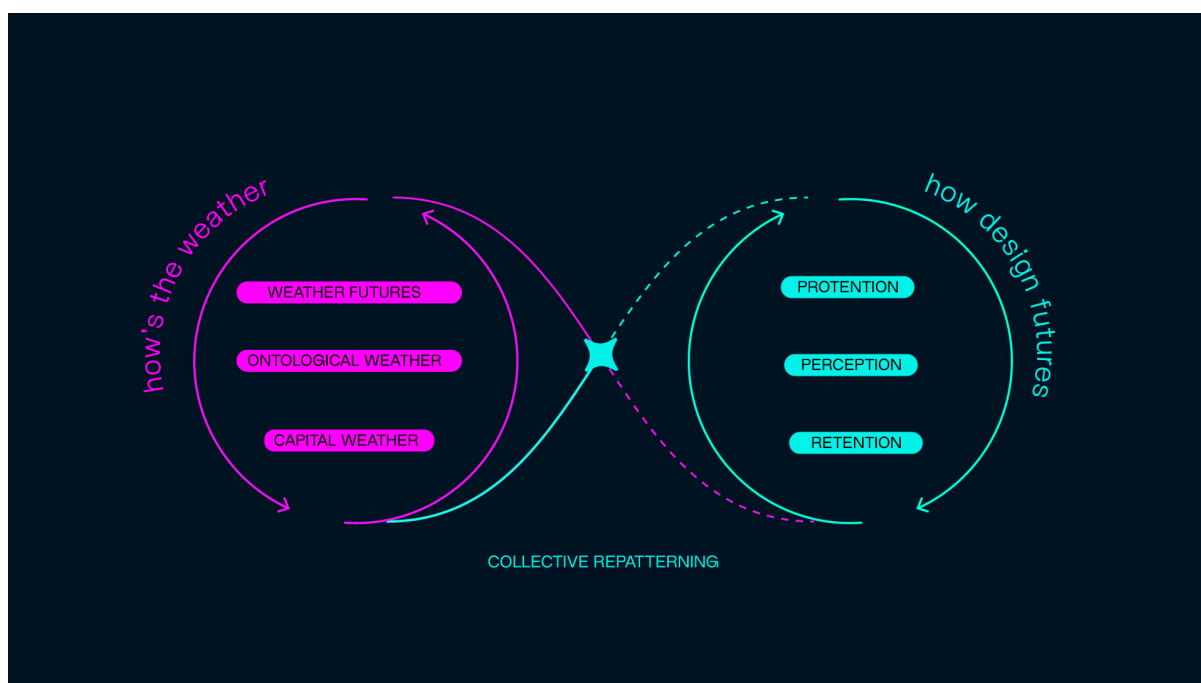
Climate change is often experienced first by indigenous communities in the Global South through extreme weather patterns. In the Global North, we learn about weather events through news outlets, but we don’t learn from the lived experiences of others. Extreme weather events offer the first glimpse into how people adapt to the changing environment and what is to come.

Do these anecdotes and stories about day-to-day experiences of the changing weather carry more weight than we credit them with?

The disparate experiences between the Global North and the Global South highlight the urgency to share knowledge and stories, prophecies and predictions, to create a new almanack that helps us understand, process, and grieve the nature of the changes that the planet is going through and the instability we experience collectively.

Can we find new ways of knowing and understanding the weather by engaging with it differently, designing with it rather than against it? More importantly, can we do this together?

Repatterning weather futures



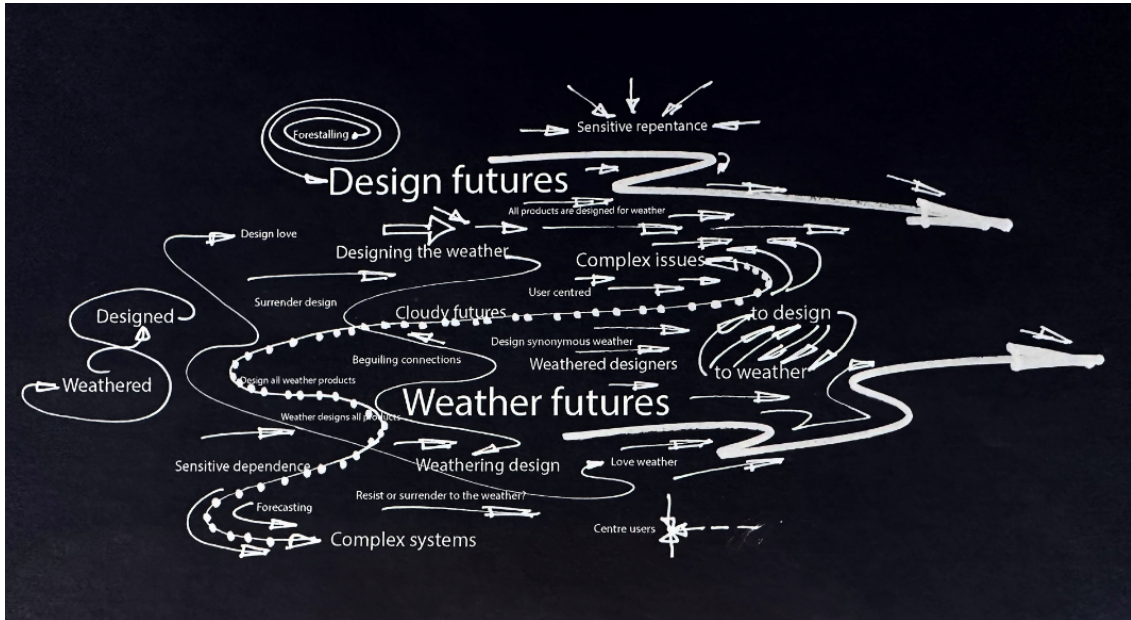
A recursive feedback from perceptions of weather to design futures (Yusop, A. 2023)

The 'capital' weather has significantly influenced the formation of our capitalistic societal memory retention in shaping current design futures. Our perception of design as the ontological catalyst for the unpredictable weather has influenced our approach to design futures.

//Anthony Hodgson highlighted that protention is not the same as the imagination of the future.

//Can a collective repatterning of our perception of weather 'protend' alternative approach to design futures?

//What kind of capabilities are essential to design in this weather future(s)?



The interplay between weather futures and design futures (Hall, A. 2023)

There is a beguiling relationship between design and weather; both struggle with a fuzzy future. It encapsulates the problem of wanting to know as opposed to the need to flex. Praxis. We have designed the weather, so now it's designing us.

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