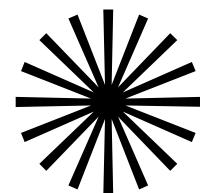


Finding *Meaning* in the museum



© Silje Marie Flaaten, 2022
Thesis dissertation presentation

*Et studie på hvordan man kan designe for meningsfullhet og
meningsfulle interaktive opplevelser i museer.*

Agenda

- ✳ Meningsfullhet & museumskontekst
- ✳ Design av rammeverket
- ✳ Metodologi
- ✳ Analyse, funn og bruk av rammeverket
- ✳ Forskningsbidraget

Meningsfullhet & museumskontekst

❧ kapittel 1, 2, 3

forskningsspørsmålet

Hvordan kan man designe for meningsfulle interaktive opplevelser i et museum space?

Meningsfullhet

I HCI miljøet er meningsfullhet ansett som en kvalitet i produkter eller artefakter som ikke bare transformerer noe til å bli mer effektivt, men som gjennom bruk i en aktivitet, relasjon, rutine eller et rituale, *blir meningsfullt*.

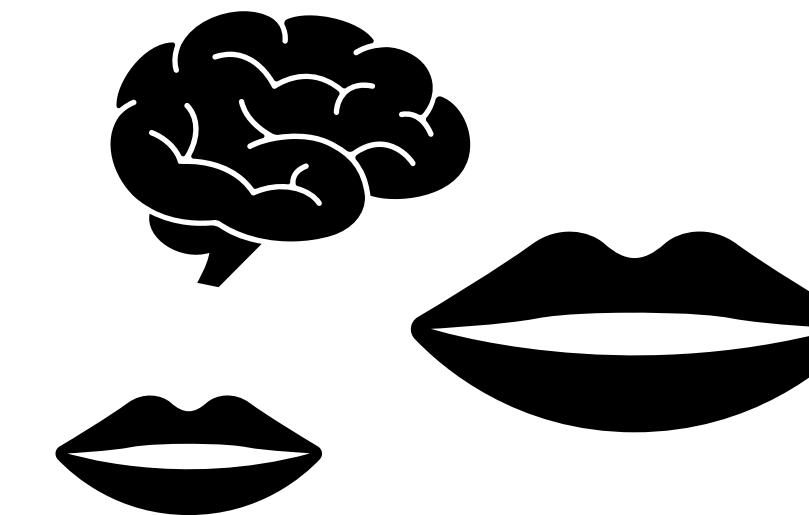
Zimmerman, J. (2009). Designing for the self: Making products that help people become the person they desire to be. Proceedings of the SIGCHI Conference on Human Factors in Computing Systems, 395–404.
<https://doi.org/10.1145/1518701.1518765>



museet



bærekraft



dialog og refleksjon

Denne oppgaven utforsker meningsfullhet begrepet gjennom en museumskontekst i lys av bærekraft-tematikk.

Dette har spisset interessen i å se på de delene av meningsfullhet-begrepet som handler om å stimulere til meningsfull dialog eller refleksjon.

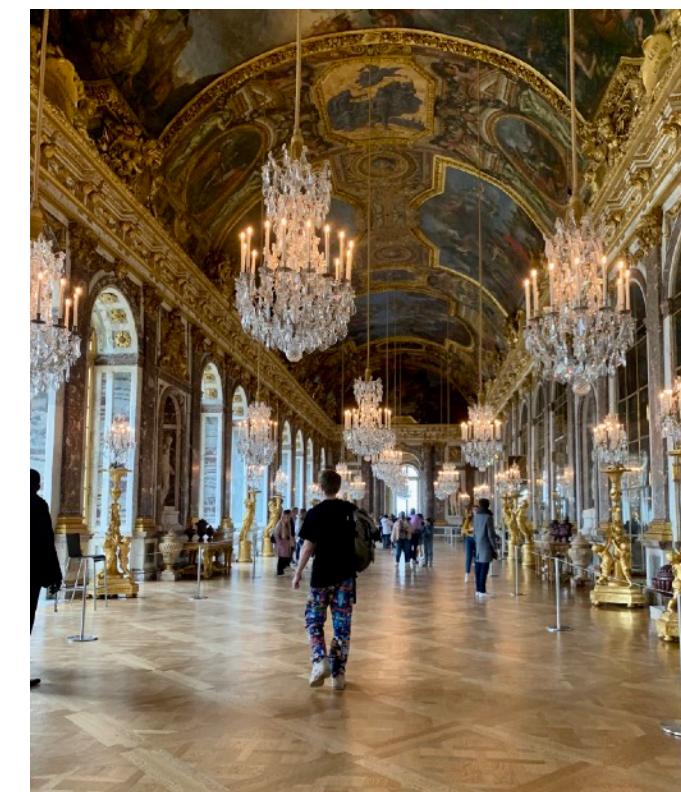
Hvordan kan vi forstå et museum og en utstilling?



‘Point of View’ av Elmgreen & Dragset, utstilt på Kistefoss museum.

“the new museology”

Felles for alle museer er at de adresserer en eller annen tematikk
menneskenes historie og utvikling
naturvitenskap
samfunn & politikk
kulturell arv (kunst)
teknologi
bærekraft



heritage museet

“discourse”

kunstmuseet

som kommenterer noe fra/om
fortiden
samtiden
fremtiden

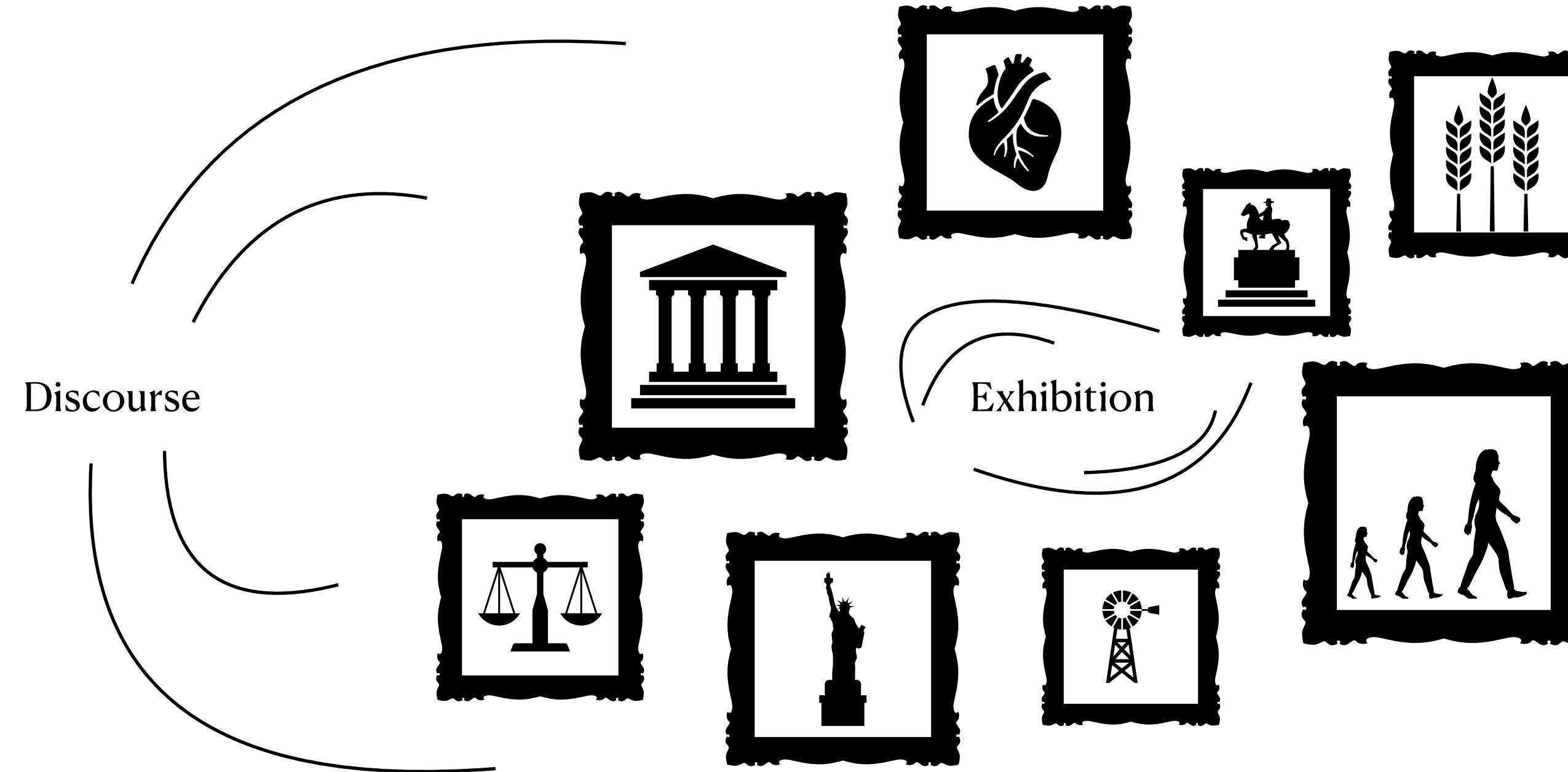




NO TOUCHING! ❌

Når vi skal designe for interaktivitet og meningsfullhet er det faktum at en stor andel museumsbesøkende er vandt til at det ikke er lov til å røre noe et potensielt problem.

Det er mange måter å forstå en utstilling på.



Ulike tilnæringer:

- narrative theories & storytelling
- design for engagement
- design for learning
- architecture, place-centred design

“The museum is a discourse and the exhibition an utterance within that discourse”

Bal, M. (1996). *Double exposures: The subject of cultural analysis*. Routledge.

Tre tilnæringer til place-centred design

❧ kapittel 3

place as a dialogue

- Museum experience is relational
- Museum experience is open
- Experiences in a museum are at the centre of a variety of sense-making practises
- Museum experience situates artefacts in narrative
- Museum experience is sensitive to the peculiarities of space and time

hybrid place

- Cultural dimension
- Personal dimension
- Social dimension
- Physical dimension

sense-making strategier

- meaningful relation of activity with target
- User control
- Support for discovery
- Openness to interpretation
- Support for sharing

McCarthy, J. & Ciolfi, L. (2008). Place as dialogue: Understanding and supporting the museum experience. *International Journal of Heritage Studies*, 14(3), 247–267. <https://doi.org/10.1080/13527250801953736>

Ciolfi, L. & Bannon, L. J. (2007). Designing hybrid places: Merging interaction design, ubiquitous technologies and geographies of the museum space. *CoDesign*, 3(3), 159–180. <https://doi.org/10.1080/15710880701524559>

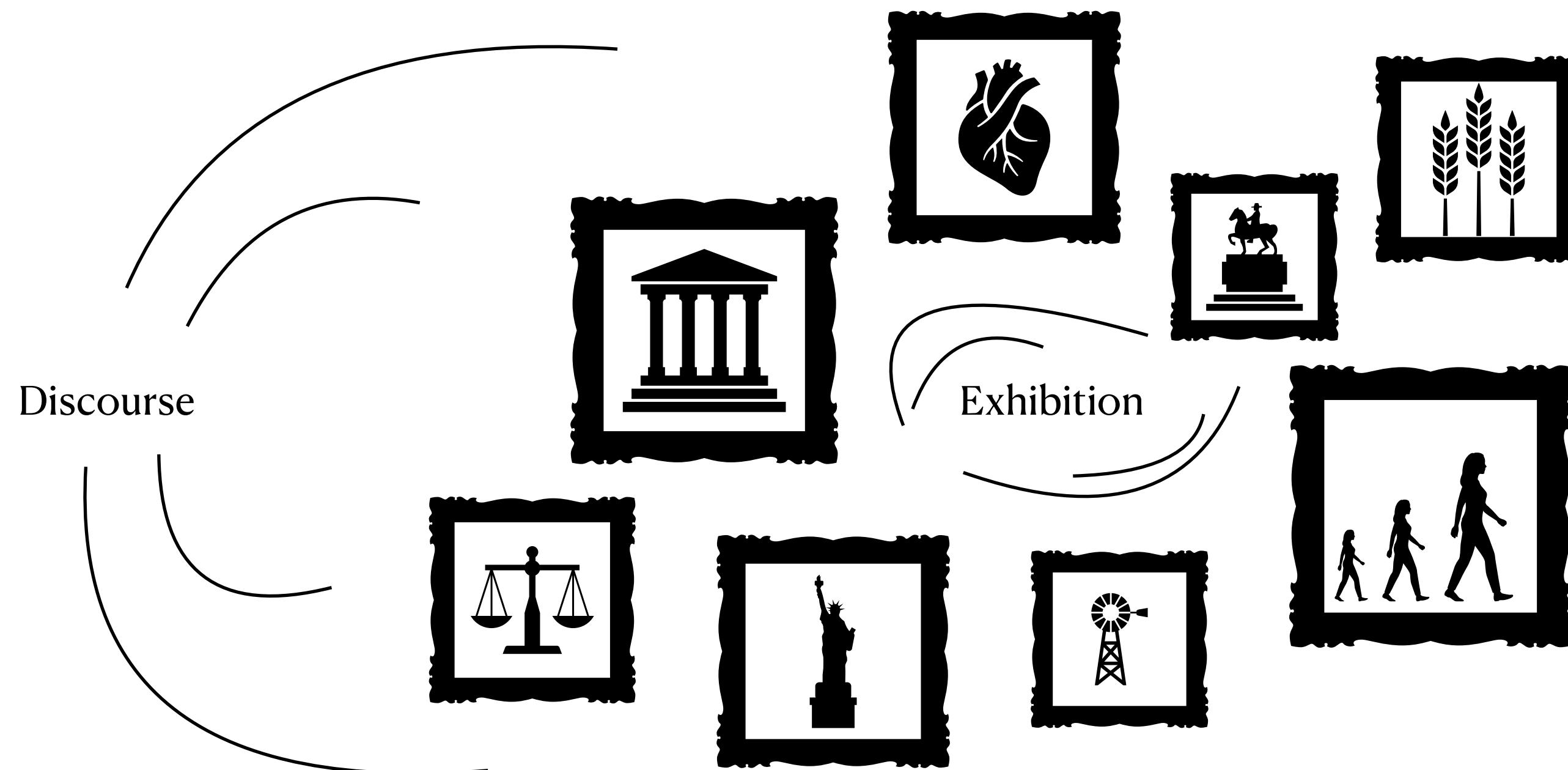
Hornecker, E. (2016). The To-and-Fro of Sense Making: Supporting Users Active Indexing in Museums. *ACM Transactions on Computer-Human Interaction*, 23(2), 10:1–10:48. <https://doi.org/10.1145/2882785>

“Målet er å vise hvordan en steds-orientert tilnærming på en praktisk måte kan guide og støtte design, særlig i en setting som har sett mange tilfeller av teknologi-introduksjon som har distraheret besøkende istedetfor å utvide og støtte museumsopplevelsen.”

Hybrid place

- Cultural dimension
- Personal dimension
- Social dimension
- Physical dimension

Ciolfi, L. & Bannon, L. J. (2007). Designing hybrid places: Merging interaction design, ubiquitous technologies and geographies of the museum space. *CoDesign*, 3(3), 159–180. <https://doi.org/10.1080/15710880701524559>



Place as a dialogue

- Museum experience is relational
- Museum experience is open
- Experiences in a museum are at the centre of a variety of sense-making practises
- Museum experience situates artefacts in narrative
- Museum experience is sensitive to the peculiarities of space and time

McCarthy, J. & Ciolfi, L. (2008). Place as dialogue: Understanding and supporting the museum experience. *International Journal of Heritage Studies*, 14(3), 247–267. <https://doi.org/10.1080/13527250801953736>

I lys av å se og jobbe med klimakrisen som en museum tematikk, har jeg søkt etter tilnæringer til opplevelsesdesign hvor interaktivitet eller interaktive dynamikker kan måles for å vurdere dialogisk engasjement. Jeg har vært interessert i å finne ut:

- Om utstillingsartefakter inviterer besøkende til å gå sammen og diskutere bærekraft?
- Kan interaksjoner bidra til å øke klimabevisssthet eller aktivisme?

Sense-making strategies

- meaningful relation of activity with target
- User control
- Support for discovery
- Openness to interpretation
- Support for sharing

Hornecker, E. (2016). The To-and-Fro of Sense Making: Supporting Users Active Indexing in Museums. *ACM Transactions on Computer-Human Interaction*, 23(2), 10:1–10:48. <https://doi.org/10.1145/2882785>

Det viktigste er at design som er romlig kontekstualisert og fysisk embedded skaper og støtter indekseringshandlinger. Som et resultat vil man kunne evaluere om museumsopplevelsen til den besøkende forsterkes eller ikke.

Design av rammeverket

❧ kapittel 4

Hvorfor prøver vi å “objektivisere” meningsfullhet?

Handler om å gå fra det abstrakte til det konkrete.

- Skal man kunne designe for noe, trenger man noe konkret å forholde seg til.
- Meningsfullhet i lys av bærekraft er i denne research konteksten noe vi mener oppnås ved å stimulere til dialog eller refleksjon.
- Den meningsfulle opplevelsen vil bli det du tar med deg ut av museet, og som innehar potensialet til å bli forsterket når du tar stilling til problemstillingene du møtte i museet - ute i verden.

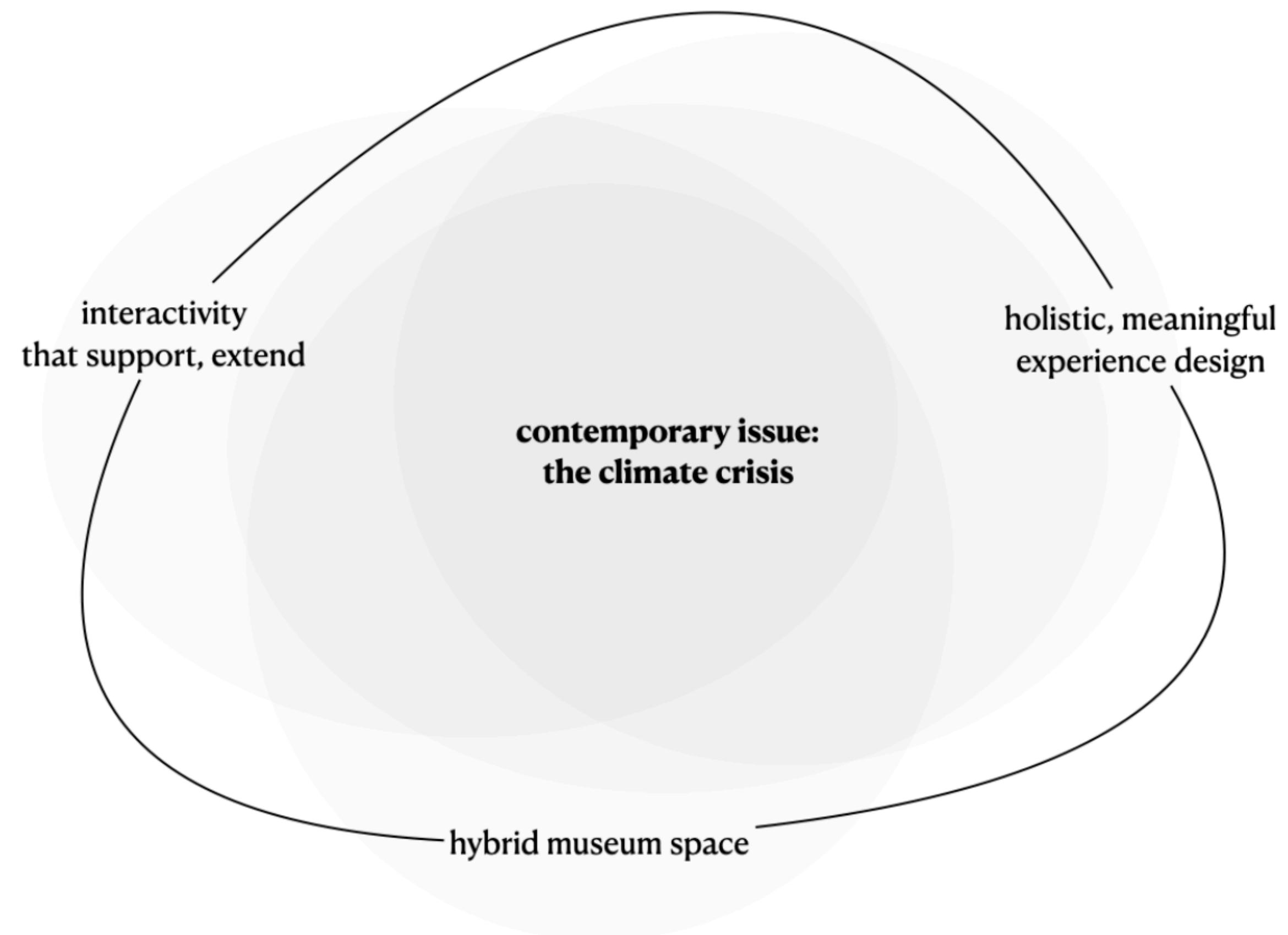


Figure 5.4: Design opportunity space and research context sphere

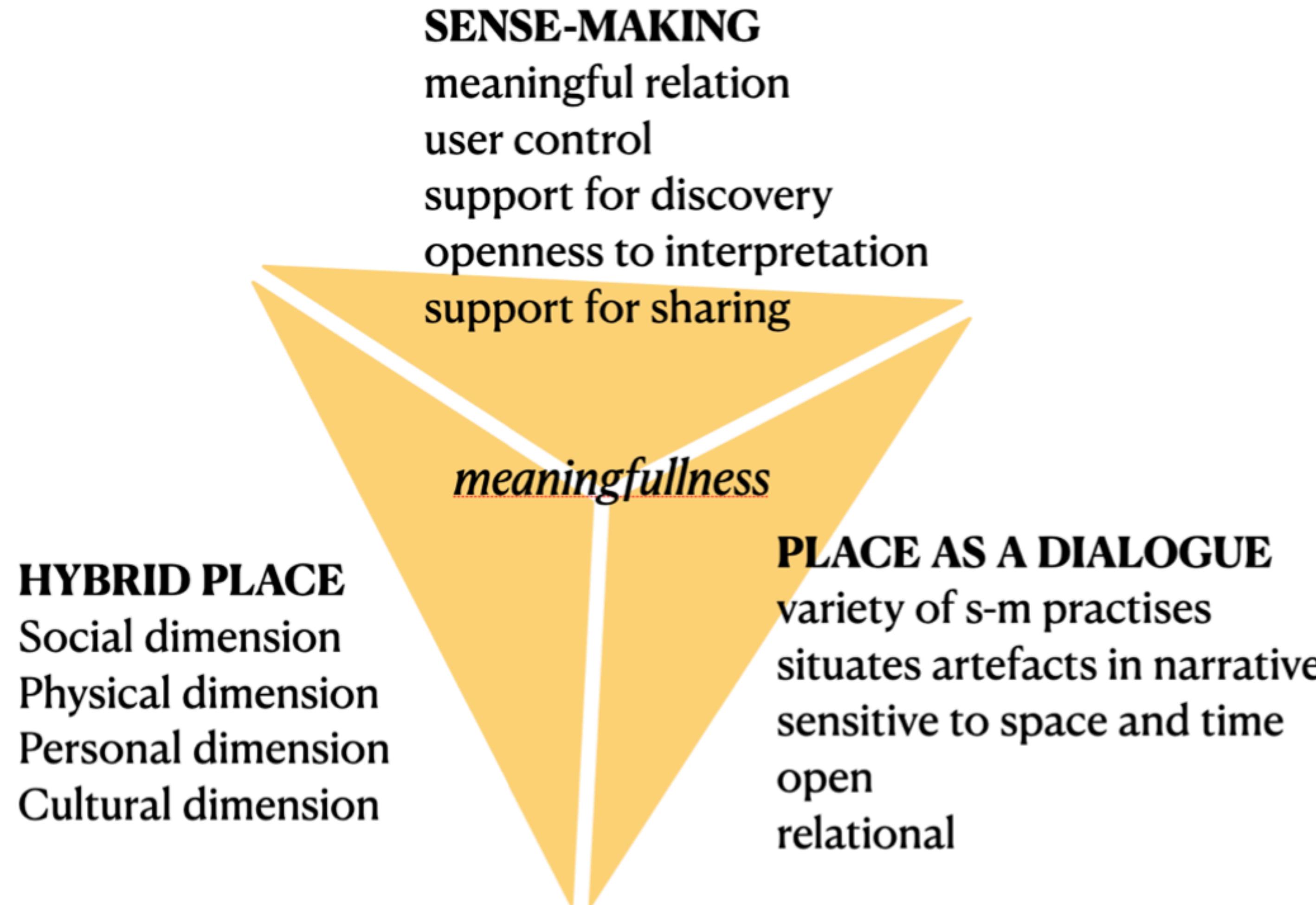


Figure 4.2: Early representation of the framework

How well does the installation disseminate the message conveyed?

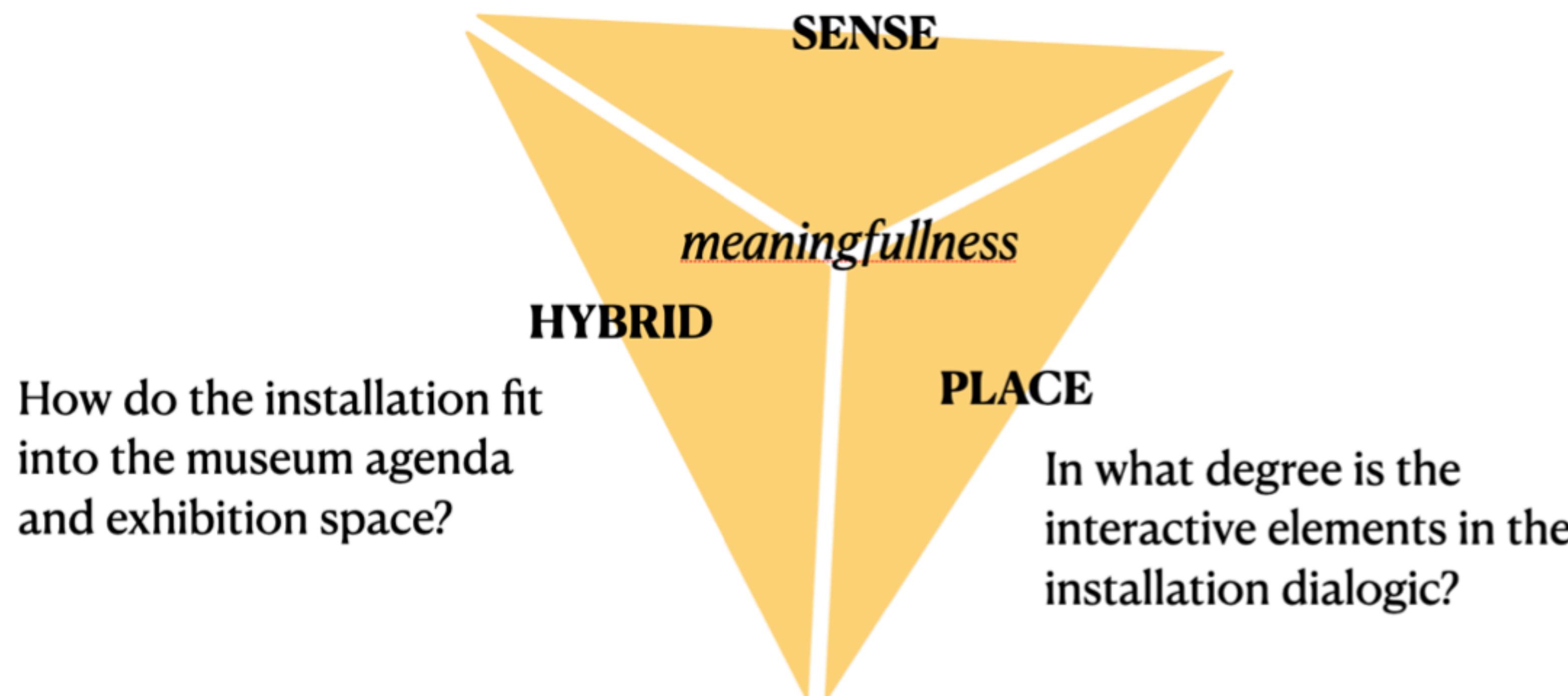


Figure 4.3: Early declarative representation of framework

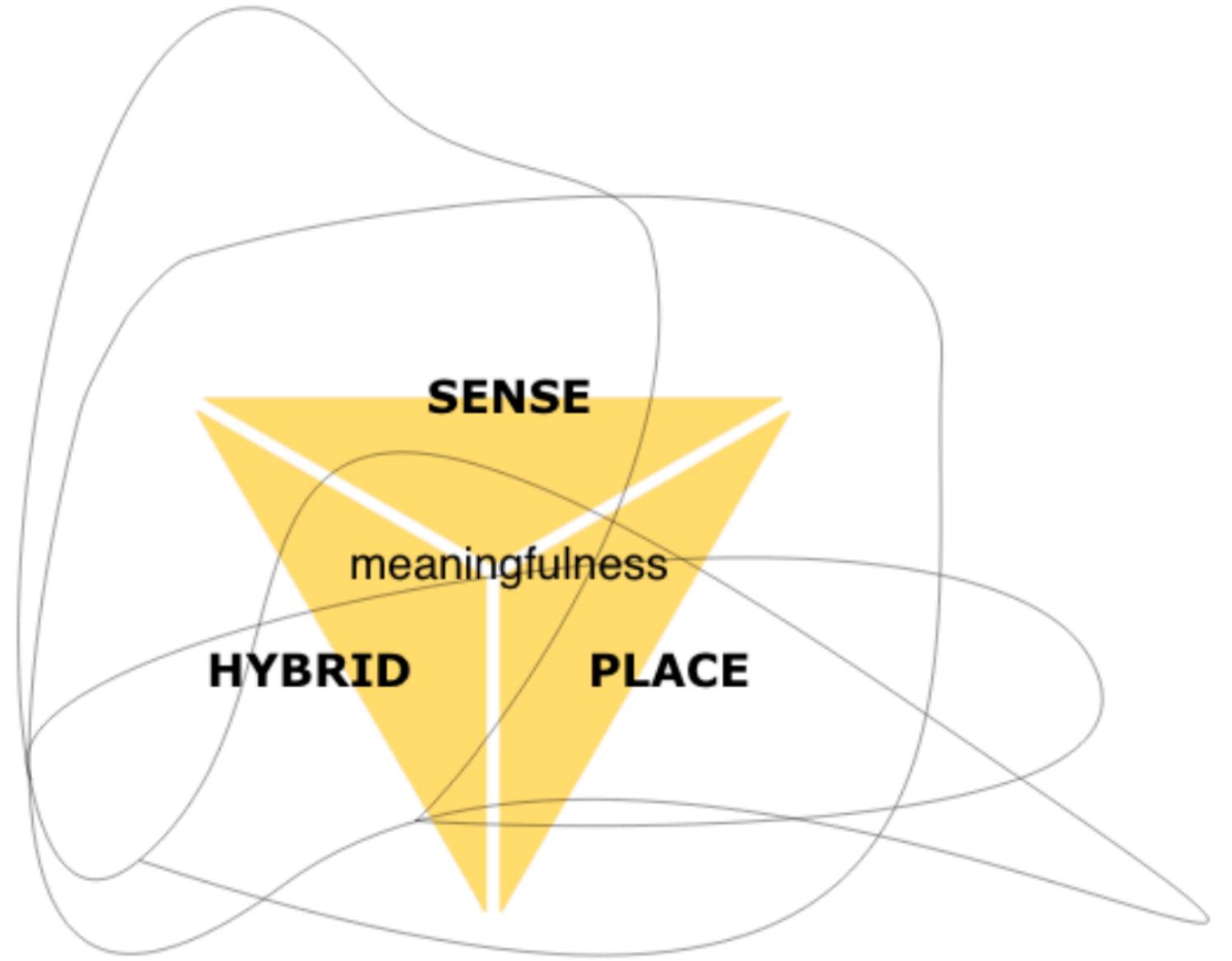


Figure 4.5: Early iteration on framework interplay

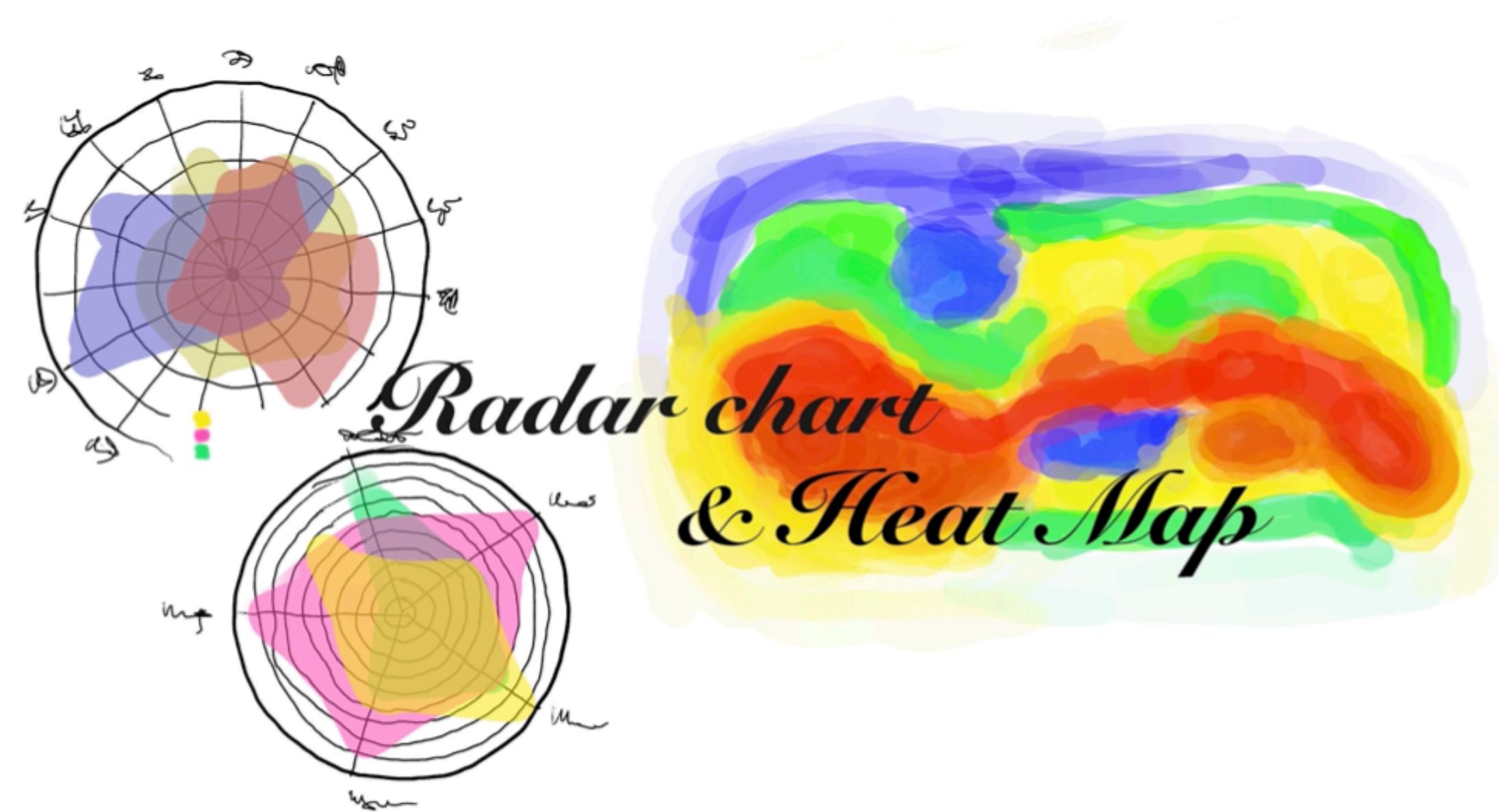


Figure 4.4: Early thoughts on framework interplay

Related patterns of events to the artwork:



Looking at the artwork
Reading the sign plaque
Moving closer to study a detail
Observing the artwork from a distance
Talking or commenting the artwork
Thinking, reflecting on the artwork

Figure 4.6: Surface-level patterns of events related to an artwork

Metodologi

❧ kapittel 5

Design Prosess

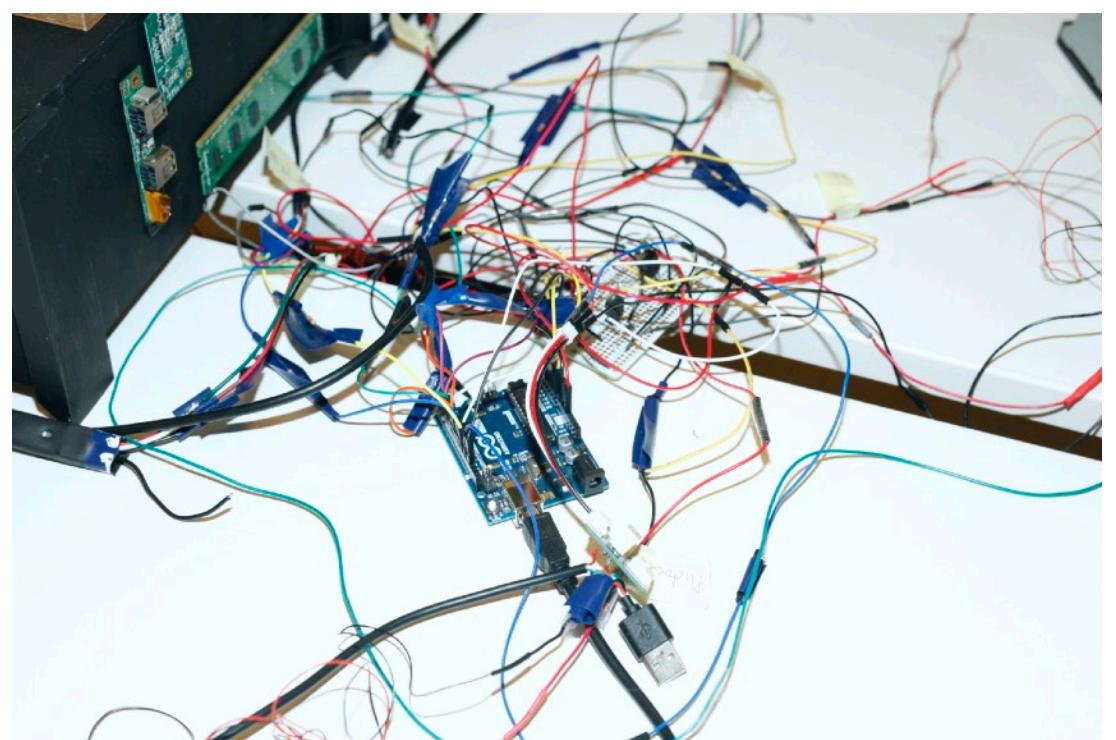


Litteratursøk

| Inquiry |
|---|
| Museology practise |
| Narrative theories and learning in contemporary art museums |
| Dissemination: from knowledge to narrative |
| Museum exhibition design in HCI |
| Design for sustainability and the Anthropocene |
| Augmenting exhibition design through the use of technology |
| Understanding and supporting the museum experience |
| Design as meaning making |

Table 5.2: Literature review inquiries

Prototyping



Input through plants

*Design exploration
Research prototype*

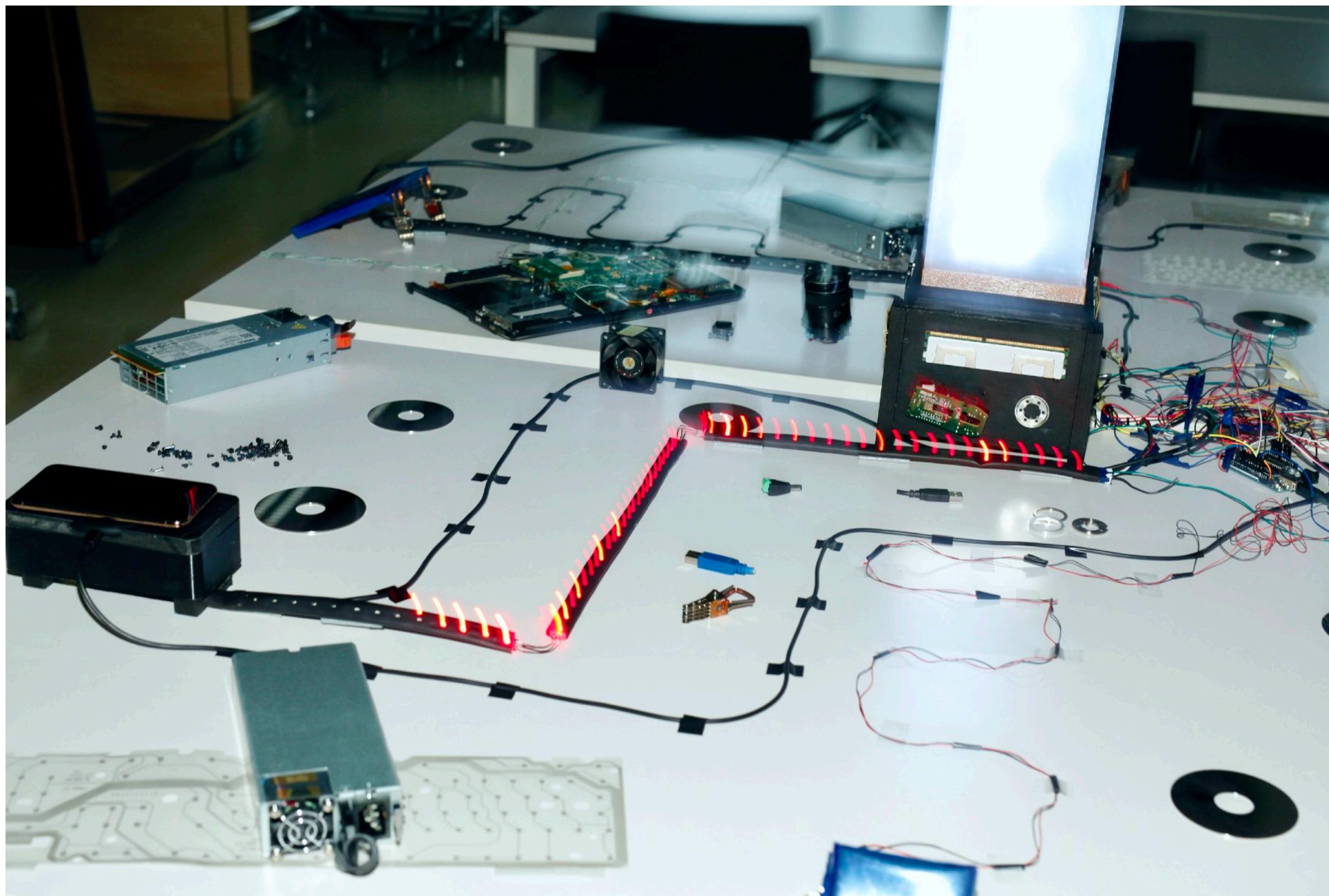
In this exploration I want to see how plants can be used as input for an installation. I think it could be an interesting perspective into the climate debate how technology can give rise to new types of interactions with plants, perhaps reduce the "distance" to plant related climate disturbances like burning/ destroying the rainforest, national parks etc.

What types of input can be generated?
How can it be translated to different/new types of output?

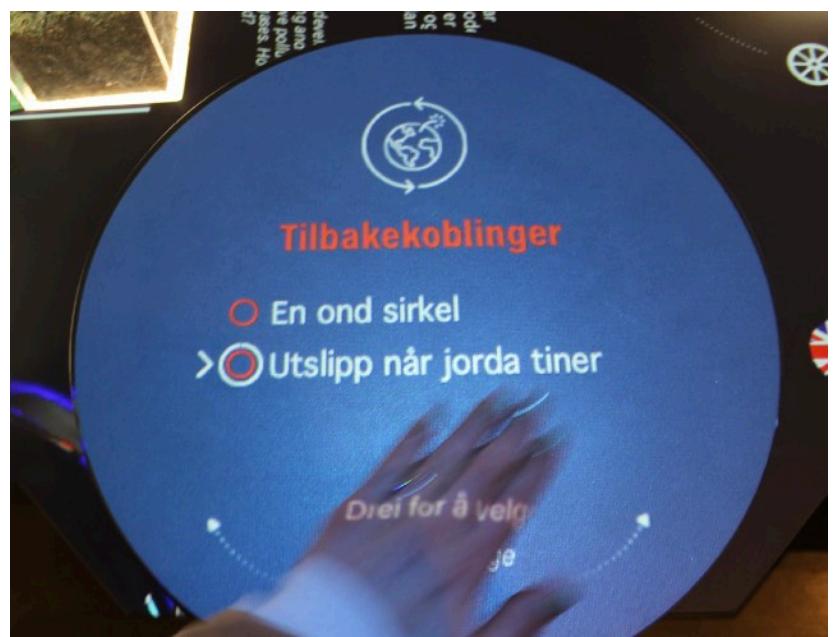
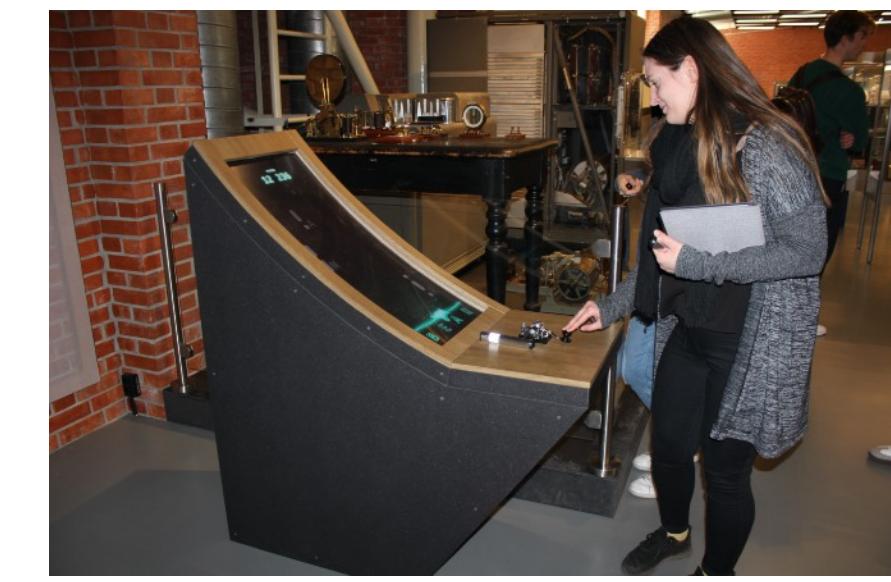


Figure 6.5: Input Through Plants concept pitch

Presentasjoner



Ekskursjon til museer



Observasjoner & intervjuer



Research question evolution

| Zimmerman & Forlizzi → | Select | Select & Design | Design | Design & Evaluate | Evaluate, disseminate & Reflect | Reflect |
|------------------------|---|--|---|--|---|--|
| Beck & Stolterman ↓ | | | | | | |
| "Changelog": | Original thesis outline (first RQ) | New inquiry to answer RQ | New RQ | New inquiry to answer RQ | New inquiry to answer RQ | New and final RQ |
| RQ timeline >>>>>>> | Design an interactive visual installation addressing sustainability. | The relationship between human & nature. What is the interaction designers role in the public sustainability debate? | How can one design for a meaningful museum experience? | How to objectify meaningfulness as a quality that you can design for? | How can one identify meaningful relations between visitor and installation? | How can one design interactive meaningful experiences in a museum space that addresses sustainability? |
| Examination | Literature review: sustainability, exhibition-practise in HCI, and meaningfulness. | Design activities: -Literature review -Prototyping | Tangible Interaction: Conceptualising, designing and disseminating Qi installation. AND adding meaningfulness to literature review. | To answer the inquiry I designed a theoretical framework. | Applying the theoretical framework to analyse interactive installations. | Discussion. |
| Findings | Needed to narrow the RQ scope. Finding and reading a lot of critical museum and HCI literature. | Conceptual exploration of sustainability issues as a dissemination topic for museums and interaction design. Became interested in meaningful experiences in museums. | Based on the experiences from prototyping and making an installation, it is decided to deviate from making one installation by myself - to instead analyze other, multiple, installations to get a bigger data-set. | The framework is one of the final contributions of this thesis project, and will need to applied to context. | Patterns and a revised framework. | Patterns and a revised framework. |
| Theory | Theory is used as a contextualising tool. | Theory is used as a contextualising tool. | | Theory is used as an analytical tool. | The results from the application of the framework talk back to the original question and the framework. | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Analyse, funn og bruk av rammeverket

❧ kapittel 7

Som jeg har sagt; vi har sett på mange installasjoner!



| Type | Name | Museum |
|------------|---------------------|----------------|
| Exhibition | Vi står i det nå | Klimahuset |
| Exhibition | I/O (In Oslo) | Atelier Nord |
| Exhibition | Shadows | MUNCH |
| Exhibition | Poison | MUNCH |
| Exhibition | Input/Output | Teknisk Museum |
| Exhibition | Slow Design: reveal | ifi |
| Exhibition | Haptic Interaction | ifi |

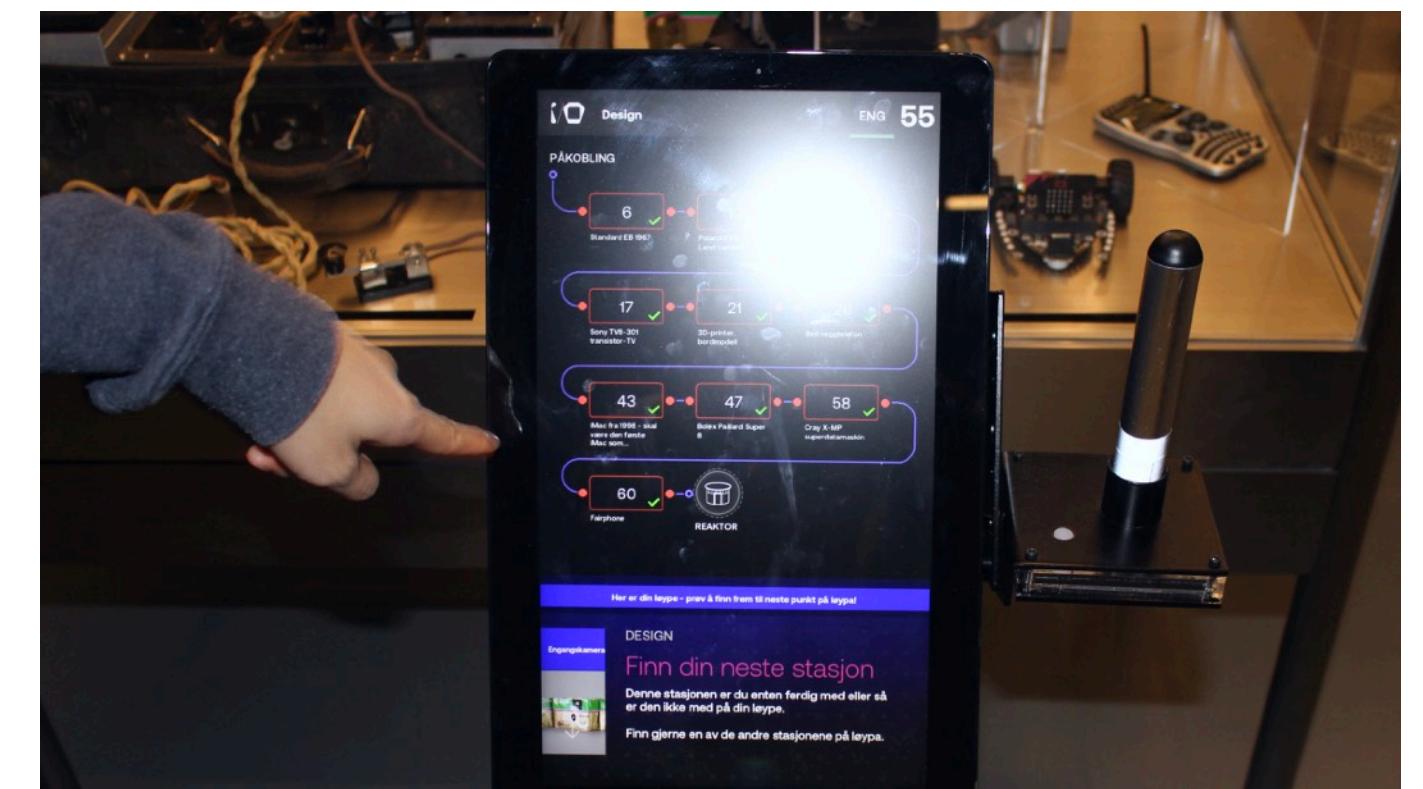


Table 7.1: Exhibitions



| Nr | Exhibition | Installation |
|----|--------------------|--|
| 1 | Input/Output | Input/Output |
| 2 | I/O (In Oslo) | I/O (In Oslo) |
| 3 | Slow Design | Qi |
| 4 | Slow Design | Memento Mori |
| 5 | Slow Design | Presence in existence |
| 6 | Haptic Interaction | The Maze |
| 7 | Haptic Interaction | Black Horizon |
| 8 | Haptic Interaction | The unfair fun fair |
| 9 | Vi står i det nå | Crank lever |
| 10 | Vi står i det nå | Rotating disc |
| 11 | Vi står i det nå | Solutions |
| 12 | Vi står i det nå | Video theatre |
| 13 | MUNCH | Shadows – Paint like Munch |
| 14 | MUNCH | Shadows – Resting sofa chair |
| 15 | MUNCH | Shadows – Camera |
| 16 | MUNCH | Shadows – Edvard M. paints your portrait |
| 17 | MUNCH | Shadows – Radio |
| 18 | MUNCH | Shadows – Telephone |
| 19 | MUNCH | Shadows – Suitcases |
| 20 | MUNCH | Shadows – Housekeeper |
| 21 | MUNCH | Poison |

Samling av interaktive installasjoner



Table 7.2: Installations

place as a dialogue

- Museum experience is relational
- Museum experience is open
- Experiences in a museum are at the centre of a variety of sense-making practises
- Museum experience situates artefacts in narrative
- Museum experience is sensitive to the peculiarities of space and time

Place as a dialogue

| | Open | Relational | In the centre of a variety of sense-making practises | Situates artefacts in narrative | Sensitive to the peculiarities of space and time |
|----|--|------------|--|---------------------------------|--|
| 1 | I/O, teknisk museum | - | - | - | - |
| 2 | I/O (In Oslo), Atelier Nord | 1 | - | - | - |
| 3 | Qi | - | 1 | - | - |
| 4 | Memento mori | 1 | - | - | - |
| 5 | Presence in existence | - | - | - | 1 |
| 6 | The maze | - | - | - | 1 |
| 7 | Black Horizon | - | - | - | 1 |
| 8 | The unfair fun fair | 1 | - | - | 1 |
| 9 | Vi star i det nå - crank lever | - | - | - | 1 |
| 10 | Vi star i det nå - rotating disc | 1 | - | - | 1 |
| 11 | Vi star i det nå - solutions | 1 | - | - | 1 |
| 12 | Vi star i det nå - video theatre | - | - | - | 1 |
| 13 | Shadows - Paint like Munch | - | - | - | 1 |
| 14 | Shadows - Resting sofa chair | - | - | - | 1 |
| 15 | Shadows - Camera | - | - | - | 1 |
| 16 | Shadows - Edward M. Paints your portrait | - | - | - | 1 |
| 17 | Shadows - Radio | - | - | - | 1 |
| 18 | Shadows - Telephone | - | - | - | 1 |
| 19 | Shadows - Suitcases | - | - | - | 1 |
| 20 | Shadows - Housekeeper | - | - | - | 1 |
| 21 | Poison | - | - | - | 1 |

Table 7.5: Place as a Dialogue table

Hybrid Place

| | Personal dimension | Cultural dimension | Physical/ structural dimension | Social dimension |
|----|--|--------------------|--------------------------------|------------------|
| 1 | I/O, teknisk museum | 1 | 1 | 1 |
| 2 | I/O (In Oslo), Atelier Nord | 1 | 1 | 1 |
| 3 | Qi | 1 | 1 | 1 |
| 4 | Memento mori | 1 | 1 | 1 |
| 5 | Presence in existence | - | - | 1 |
| 6 | The maze | - | - | 1 |
| 7 | Black Horizon | - | - | 1 |
| 8 | The unfair fun fair | 1 | 1 | 1 |
| 9 | Vi star i det nå - crank lever | - | - | 1 |
| 10 | Vi star i det nå - rotating disc | - | - | 1 |
| 11 | Vi star i det nå - solutions | 1 | 1 | 1 |
| 12 | Vi star i det nå - video theatre | - | - | 1 |
| 13 | Shadows - Paint like Munch | - | - | 1 |
| 14 | Shadows - Resting sofa chair | - | - | 1 |
| 15 | Shadows - Camera | - | - | 1 |
| 16 | Shadows - Edward M. Paints your portrait | - | - | 1 |
| 17 | Shadows - Radio | - | - | 1 |
| 18 | Shadows - Telephone | - | - | 1 |
| 19 | Shadows - Suitcases | - | - | 1 |
| 20 | Shadows - Housekeeper | - | - | 1 |
| 21 | Poison | 1 | 1 | 1 |

Table 7.3: Hybrid Place table

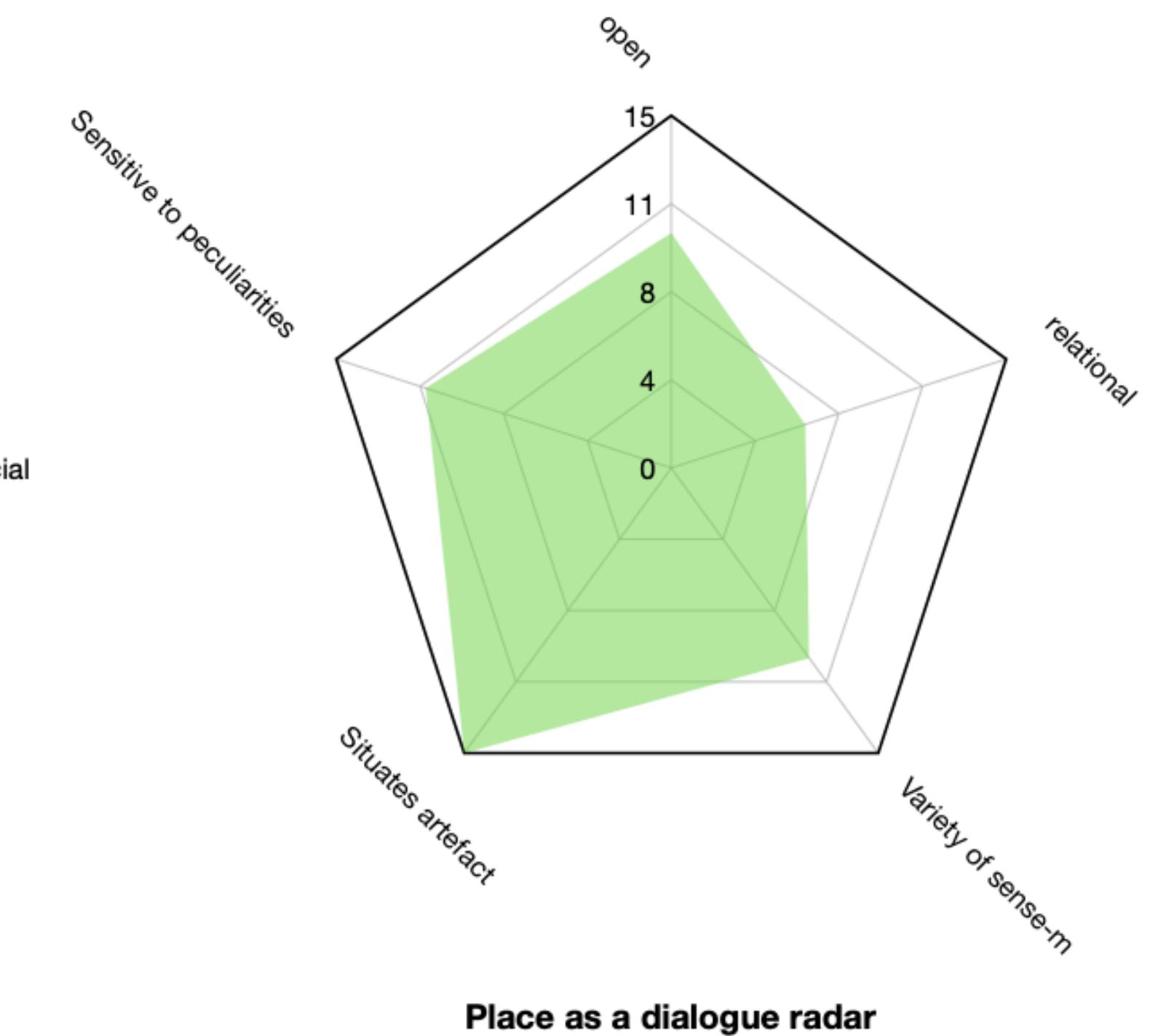
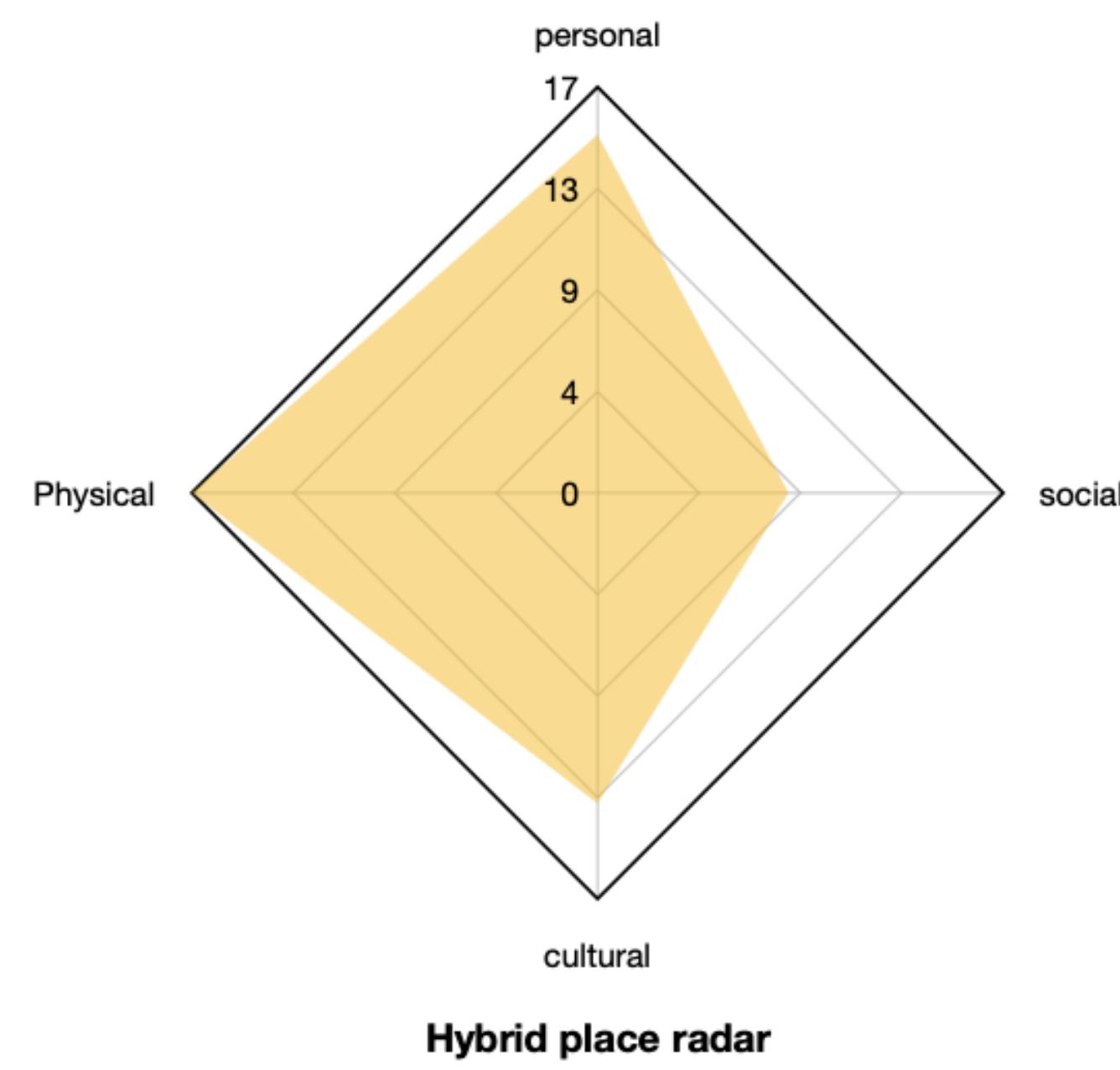
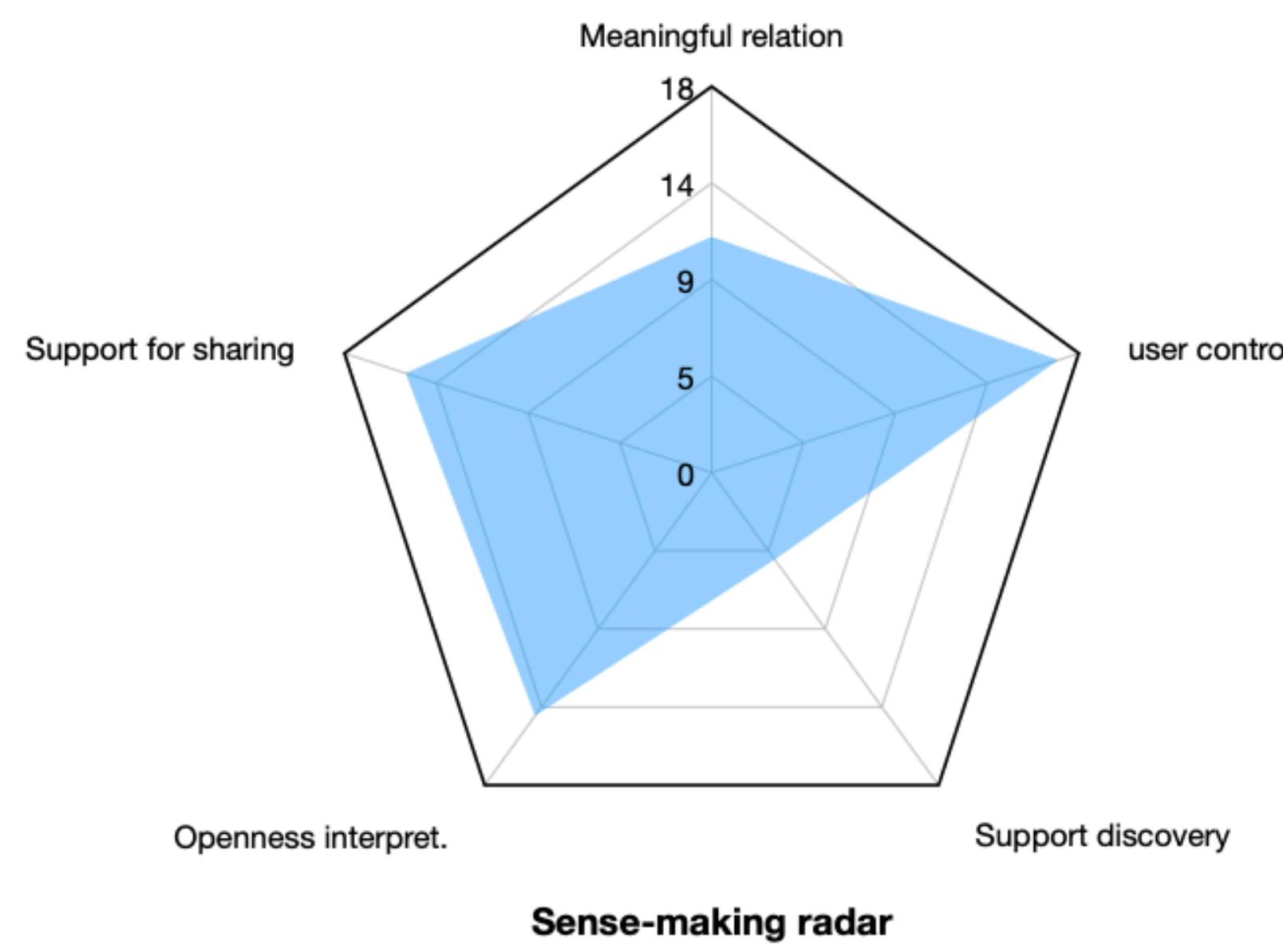
sense-making strategies

- meaningful relation of activity with target
- User control
- Support for discovery
- Openness to interpretation
- Support for sharing

Sense making

| | Meaningful relation with target | User control | Support for discovery | Openness to interpretation | Support for sharing |
|----|--|--------------|-----------------------|----------------------------|---------------------|
| 1 | I/O, teknisk museum | Yes | No | No | No |
| 2 | I/O (In Oslo), Atelier Nord | No | Yes | Yes | Yes |
| 3 | Qi | Yes | Yes | Yes | Yes |
| 4 | Memento mori | No | No | No | No |
| 5 | Presence in existence | Yes | Yes | Yes | Yes |
| 6 | The maze | Yes | No | No | No |
| 7 | Black Horizon | No | No | Yes | Yes |
| 8 | The unfair fun fair | Yes | No | Yes | Yes |
| 9 | Vi star i det nå - crank lever | Yes | Yes | Yes | Yes |
| 10 | Vi star i det nå - rotating disc | No | No | No | No |
| 11 | Vi star i det nå - solutions | Yes | Yes | Yes | Yes |
| 12 | Vi star i det nå - video theatre | No | No | No | No |
| 13 | Shadows - Paint like Munch | Yes | Yes | Yes | Yes |
| 14 | Shadows - Resting sofa chair | No | No | No | No |
| 15 | Shadows - Camera | Yes | Yes | Yes | Yes |
| 16 | Shadows - Edward M. Paints your portrait | No | No | No | No |
| 17 | Shadows - Radio | Yes | Yes | Yes | Yes |
| 18 | Shadows - Telephone | Yes | Yes | Yes | Yes |
| 19 | Shadows - Suitcases | No | No | No | No |
| 20 | Shadows - Housekeeper | Yes | Yes | Yes | Yes |
| 21 | Poison | Yes | Yes | Yes | Yes |

Table 7.7: Sense-making table



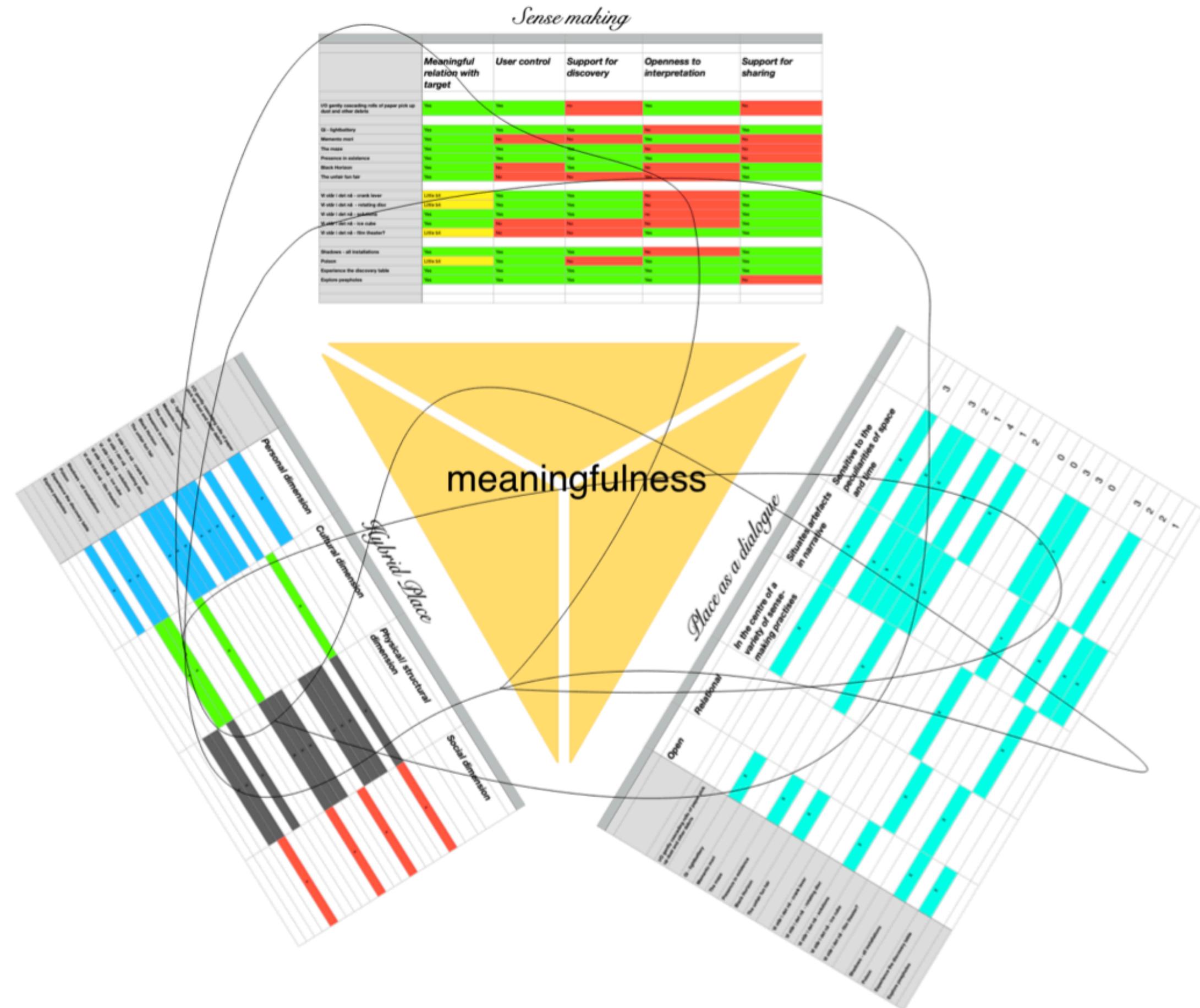
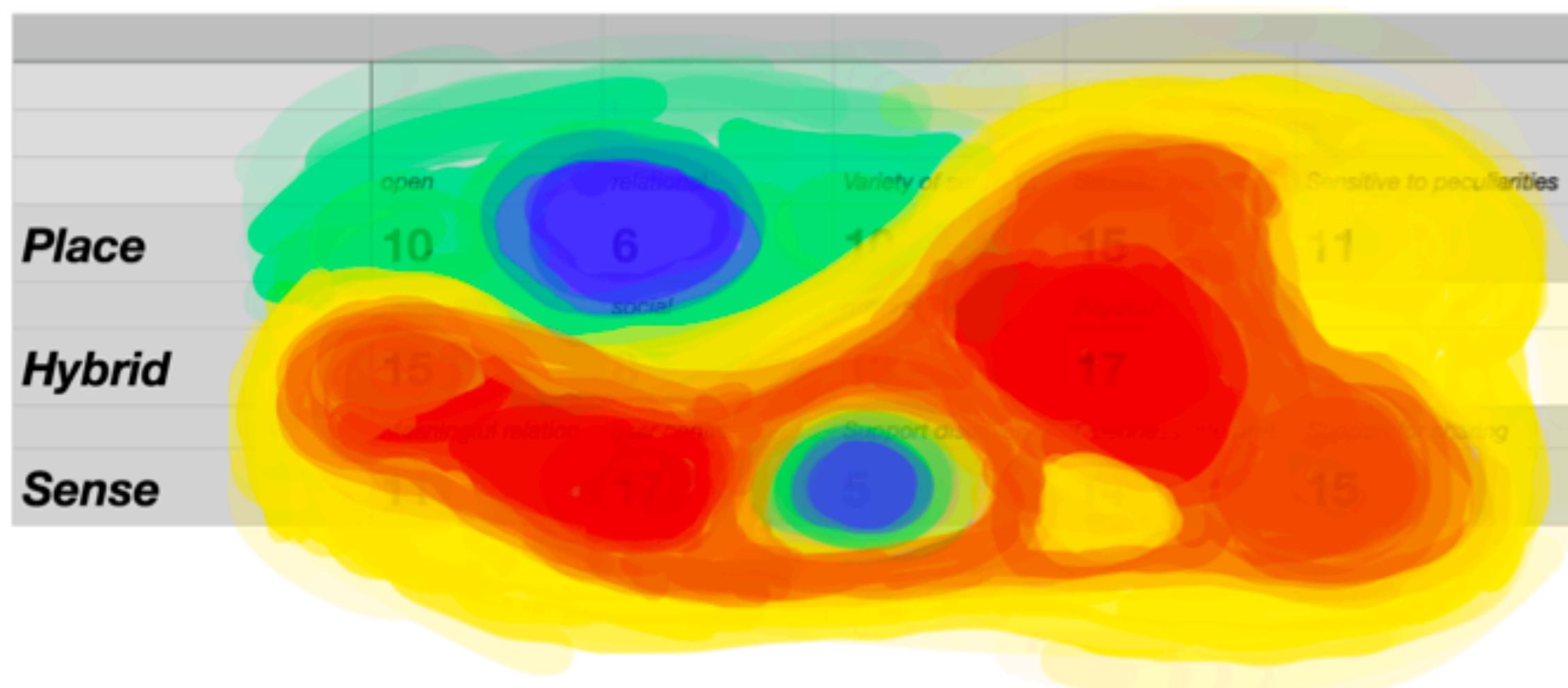


Figure 7.1: Framework of Meaningfulness

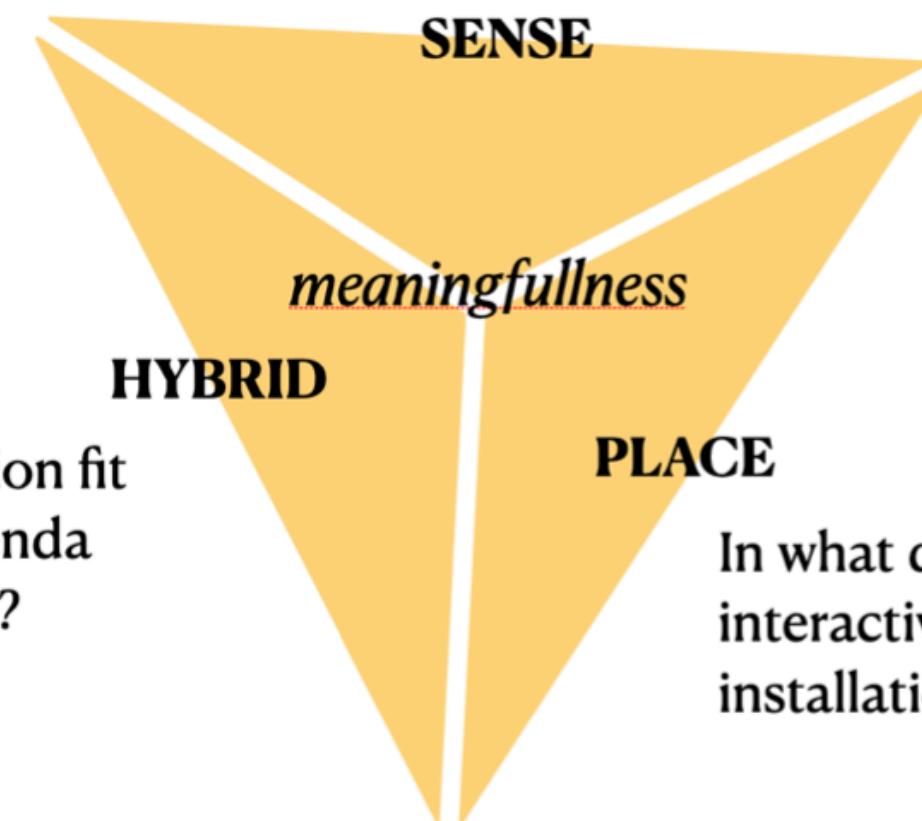
This visualisation aim to illustrate how each theory contribute to the understanding of meaningfulness. The lines in-between the triangle and tables represents dialogic relations between visitor and installation, while the tables objectify three aspects related to meaningfulness.

Correspondance

| | open | relational | Variety of sense-m | Situates artefact | Sensitive to peculiarities |
|--------|---------------------|--------------|--------------------|---------------------|----------------------------|
| Place | 10 | 6 | 10 | 15 | 11 |
| | personal | social | cultural | Physical | |
| Hybrid | 15 | 8 | 13 | 17 | |
| | Meaningful relation | user control | Support discovery | Openness interpret. | Support for sharing |
| Sense | 11 | 17 | 5 | 14 | 15 |



How well does the installation disseminate the message conveyed?



How do the installation fit into the museum agenda and exhibition space?

In what degree is the interactive elements in the installation dialogic?

Figure 4.3: Early declarative representation of framework

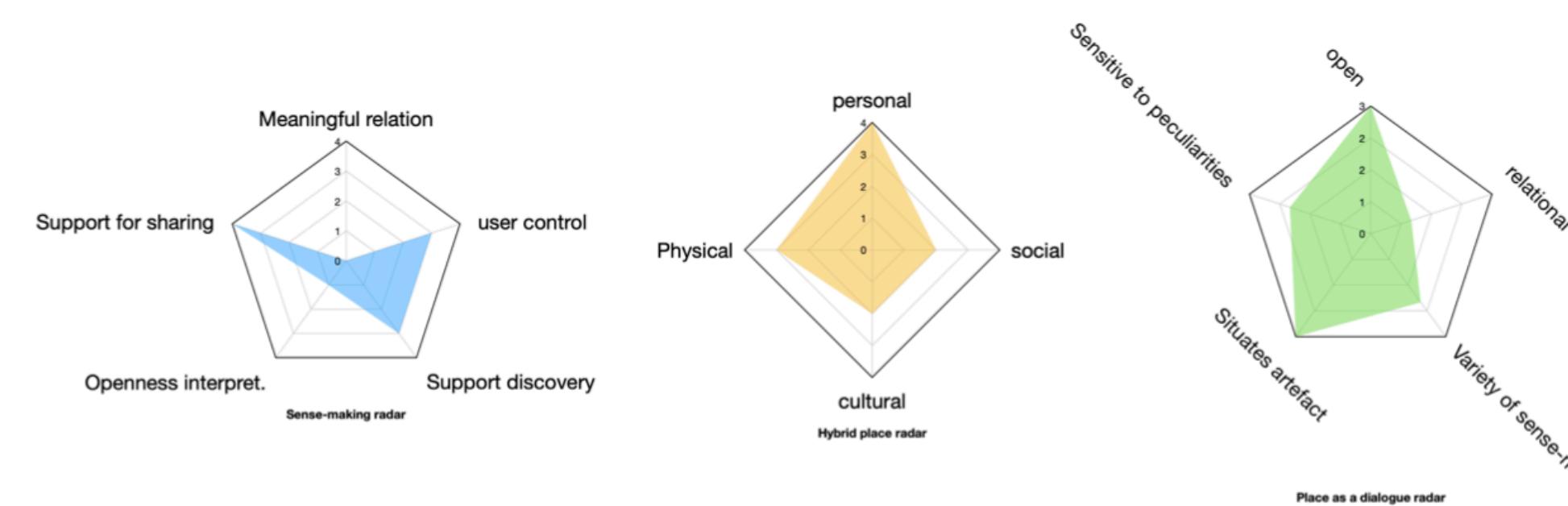


Figure 7.5: Klimahuset exhibition analysis

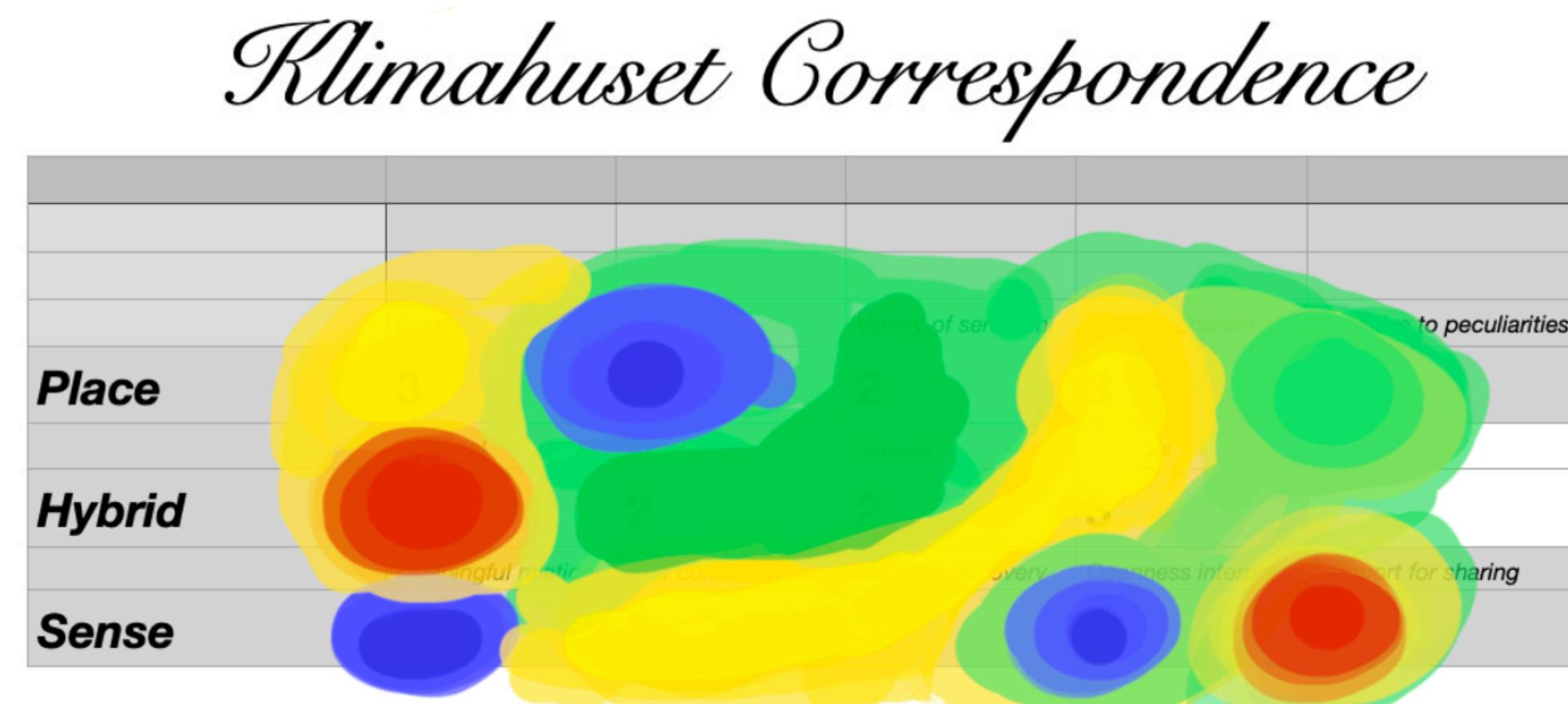
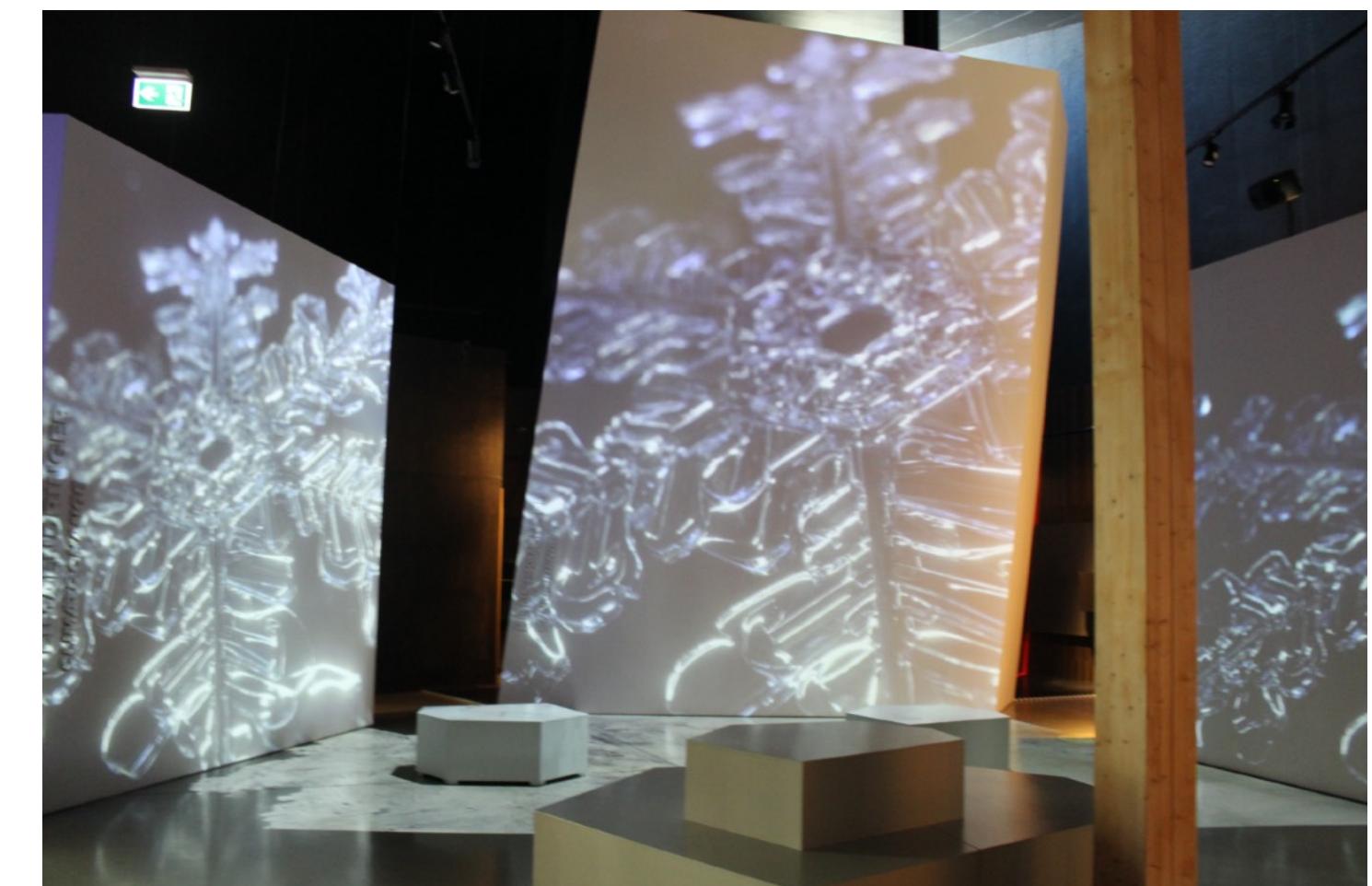


Figure 7.6: Heat-mapping Klimahuset's exhibition



| Nr | Pattern |
|----|---|
| 1 | Presenting an artefact that physically represents the exhibition topic and proposes a personalised route through the exhibition. |
| 2 | Leaving the visitor to make its own way through the exhibition space. |
| 3 | Having multiple interactive touchpoints with no prescribed sequence of actions, nor a defined start or end. |
| 4 | Letting the visitor choose and place an interactive artefact wherever they like on the installation surface to gain access to a personalised end. |
| 5 | Having multiple interactive touchpoints with no prescribed sequence of actions, nor a defined start or end. |
| 6 | Letting the visitor control the installation pace. |
| 7 | Making the visitor "repair" the installation by putting the interactive elements where they belong, to gain access to the end. |
| 8 | Guiding two-and-two visitors through a prescribed sequence of actions, as a necessity to get the message across. |
| 9 | Letting the visitor control the pacing of the information display. |
| 10 | Gamifying information-claims where the visitor uses a rotating controller to give an answer, as a prerequisite to the information on the topic being displayed. |
| 11 | Presenting a token that the visitor can save the choices made during the exhibition to gain access to a personalised ending. |
| 12 | Creating a distinct immersive atmosphere through video-projections and sound. |
| 13 | Letting the visitor control the pacing of the interactive activity. |
| 14 | Recognising the visitors presence, and generating a sound describing the visitor's situational action. |
| 15 | Encouraging the visitor to take a picture of themselves, to become a part of a picture collection related to the installation theme. |
| 16 | Recognising a visitors presence and action, and telling a story directly to the visitor that nearby visitors can listen in on. |
| 17 | Responding to the visitors action by playing music in the nearby area. |
| 18 | Responding to the visitors action, and telling a story that only the visitor can hear. |
| 19 | Responding to the visitors action, and generating a distinct immersive atmosphere that describes the visitor's situational action. |
| 20 | Recognising the visitors presence, and playing a video where a character speak directly to the visitor. |
| 21 | Creating a distinct immersive atmosphere through video-projections and sound. |

Table 7.9: Findings

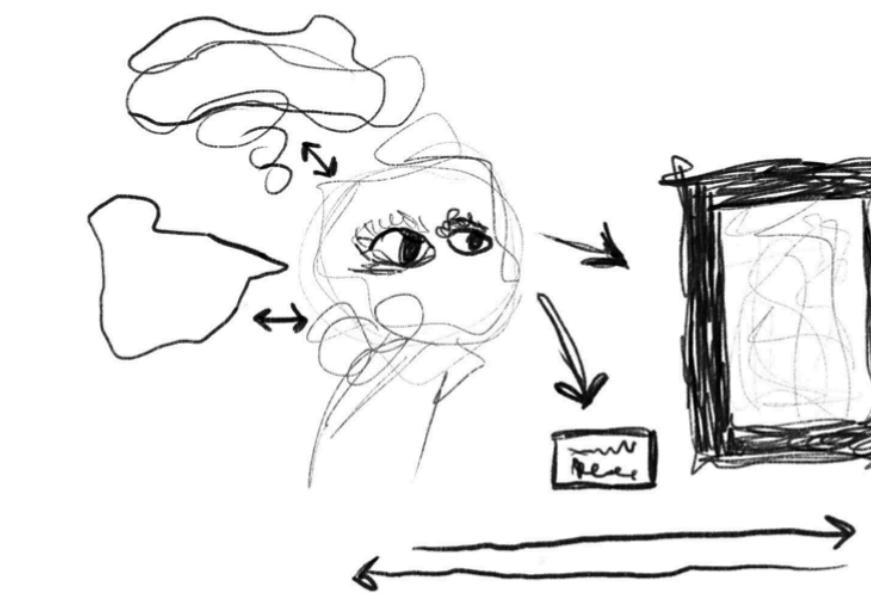


Figure 4.6: Surface-level patterns of events related to an artwork

Patterns

Å designe en meningsfull opplevelse, sammenlignet med å designe for en engasjerende opplevelse (og være så innovativ og kul som mulig), søker vi etter å utvide, støtte, legge til eller forsterke de allerede eksisterende patterns-of-events i utstillingen.

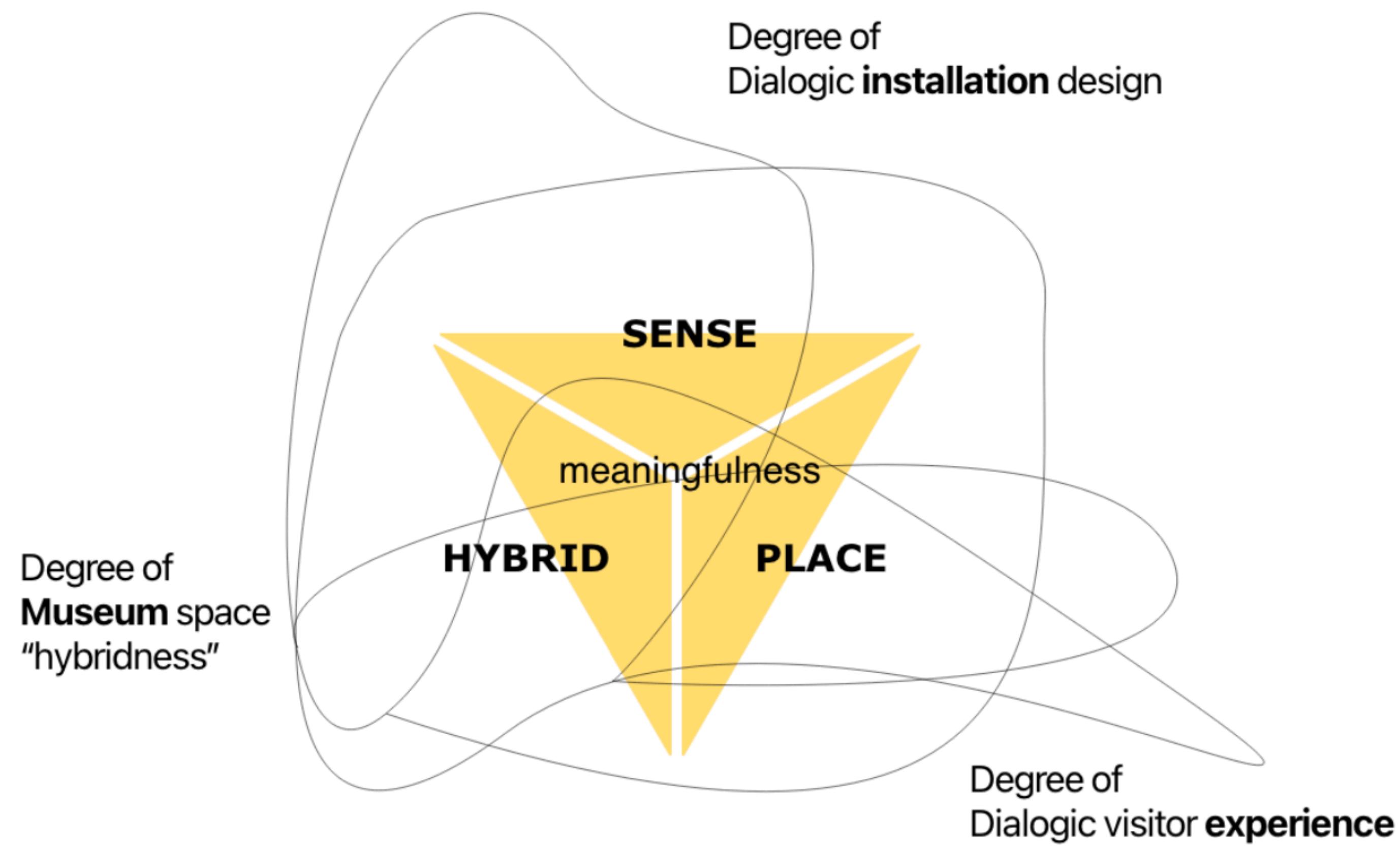


Figure 7.7: Revised version of meaningfulness triangle

Forskningsbidraget

❧ *chapter 8*

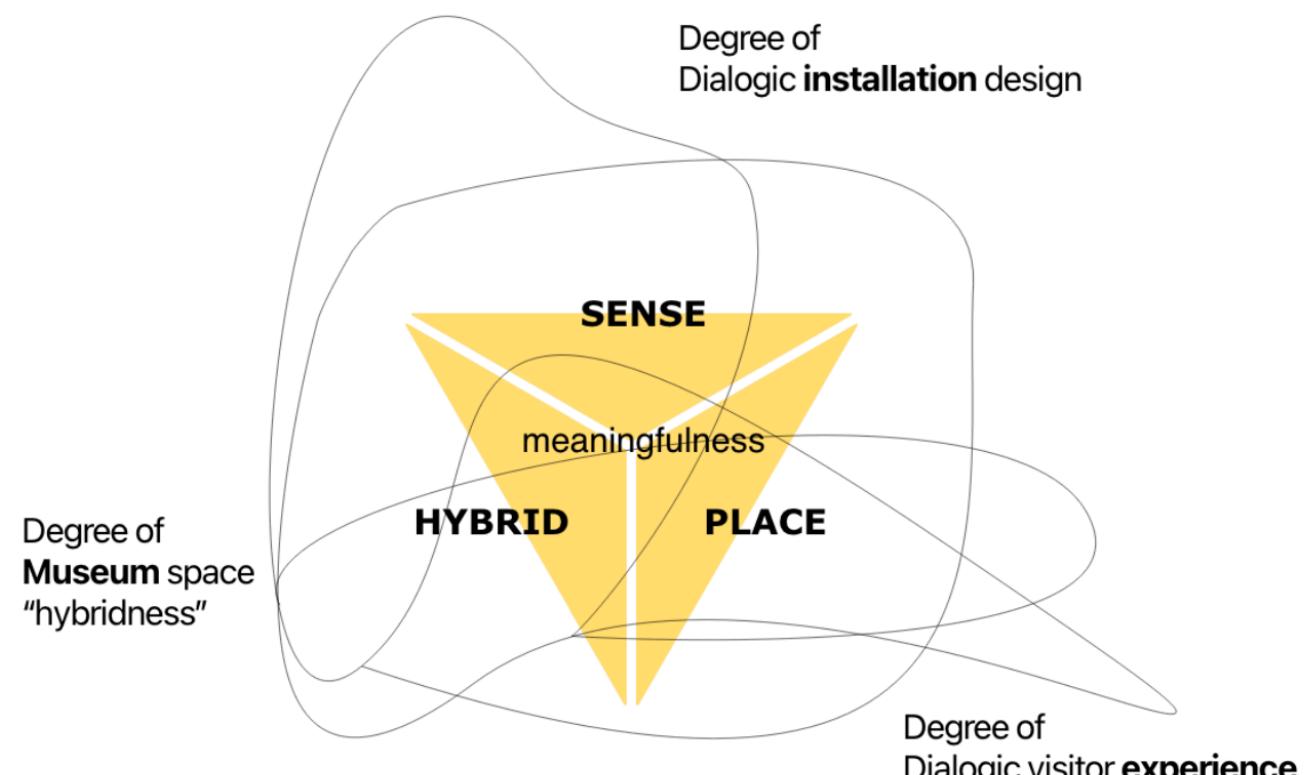


Figure 7.7: Revised version of meaningfulness triangle

Two contributions: Rammeverket Patterns

| Nr | Pattern |
|----|---|
| 1 | Presenting an artefact that physically represents the exhibition topic and proposes a personalised route through the exhibition space. |
| 2 | Leaving the visitor to make its own way through the exhibition space. |
| 3 | Having multiple interactive touchpoints with no prescribed sequence of actions, nor a defined start or end. |
| 4 | Letting the visitor choose and place an interactive artefact wherever they like on the installation surface to gain access to a personalised end. |
| 5 | Having multiple interactive touchpoints with no prescribed sequence of actions, nor a defined start or end. |
| 6 | Letting the visitor control the installation pace. |
| 7 | Making the visitor "repair" the installation by putting the interactive elements where they belong, to gain access to the end. |
| 8 | Guiding two-and-two visitors through a prescribed sequence of actions, as a necessity to get the message across. |
| 9 | Letting the visitor control the pacing of the information display. |
| 10 | Gamifying information-claims where the visitor uses a rotating controller to give an answer, as a prerequisite to the information on the topic being displayed. |
| 11 | Presenting a token that the visitor can save the choices made during the exhibition to gain access to a personalised ending. |
| 12 | Creating a distinct immersive atmosphere through video-projections and sound. |
| 13 | Letting the visitor control the pacing of the interactive activity. |
| 14 | Recognising the visitors presence, and generating a sound describing the visitor's situational action. |
| 15 | Encouraging the visitor to take a picture of themselves, to become a part of a picture collection related to the installation theme. |
| 16 | Recognising a visitors presence and action, and telling a story directly to the visitor that nearby visitors can listen in on. |
| 17 | Responding to the visitors action by playing music in the nearby area. |
| 18 | Responding to the visitors action, and telling a story that only the visitor can hear. |
| 19 | Responding to the visitors action, and generating a distinct immersive atmosphere that describes the visitor's situational action. |
| 20 | Recognising the visitors presence, and playing a video where a character speak directly to the visitor. |
| 21 | Creating a distinct immersive atmosphere through video-projections and sound. |

Table 7.9: Findings

Sammen syntetiserer de en forståelse av meningsfullhet forankret i museets eksisterende utstilling og installasjoner.

Bidrag til feltet

- Rammeverket er et nyttig verktøy og ressurs for designere i HCI miljøet interessert i design eller analyse av museer og utstillinger.
- Jeg vil argumentere for at applikasjonen av rammeverket gir liv til et nytt perspektiv, og vokabulær til å snakke om, dialogiske opplevelser i museet.
- Vil også si det åpner for å vise hvordan interaksjonsdesignere kan delta i skapelsen av offentlige rom og ved design av interaktivitet og interaktive opplevelser kan bidra til å skape dialog, refleksjon, læring og kunnskap.