

Sensing the research field: assessing the role of social arts for collaborative research development

Louise Massacrier*

Learning Planet Institute, Paris, France

louise.massacrier@learningplanetinstitute.org

Zoe Lina Wehmeyer*

Learning Planet Institute, Paris, France

zoelina.wehmeyer@learningplanetinstitute.org

Marc Santolini[†]

Learning Transitions, Learning Planet Institute and CY Cergy Paris University, Paris, France

Sorbonne Université CNRS, ERL U1338 Inserm Paris, France

marc.santolini@learningplanetinstitute.org

ORCID: 0000-0003-1491-0120

* These authors contributed equally

† corresponding author

Abstract

Science is a relational process that involves collaborators, impacted stakeholders, funders, articles, or concepts. While constituting relevant actors of one's ecosystem, the scale of their systematization may be hard to grasp and integrate within one's research direction. While network theory has provided a formal framework to *think* about these relationships, here we argue that awareness-based practices from the social arts allow researchers to *sense* their influences and integrate a broader dimension of the research processes inclusive of the felt quality of the system dynamics. To support this argument, we present the results of a collaborative research project that involved the use of two practices from the Social Presencing Theater: the 3D mapping, working with material arrangements to support project development, and the Stuck practice, a body-led practice to support the collaborative process. We develop an observational method that integrates subjective first-person, inter-subjective second-person, objective third-person and trans-subjective fourth-person perspectives – what we refer to as a “neither/nor perspective”, oscillating between conceptual and experiential modes of knowing. Our analysis surfaces that these practices foreground usually invisibilized components of the research process by providing a psychological safe collaborative space within which intuitive elements can be materialized and take part in the collaborative inquiry. We find quantitative shifts in body posture and in the emotional tone expressed throughout the project, in particular in trust-coded language. Importantly, these practices are seen as promoting relational care and are experienced as restorative – a stark contrast with the mental health crisis in academic contexts. By shedding light on the inner life of the research ecology, our research suggests that awareness-based, embodied practices may be essential components towards a more regenerative and inclusive approach to knowledge production.

Keywords

embodied inquiry, social arts, collective intelligence, awareness-based design, systems sensing, science of the social field

The sun has entered me together with the cloud and the river. I myself have entered the river, and I have entered the sun with the cloud and the river. There has not been a moment when we do not interpenetrate.

– Thich Nhat Hanh, *Interbeing (Call Me by My True Names, 1993)*

Introduction

Science as a relational process

Scientific research is an inherently relational process. From a third-person perspective, it is a relationship between the knower and an object of knowing, and between individuals confronting perspectives, elaborating a common view. In that view, subjects are atomized into individuals who are the sites of knowing, and the world that this knowing accesses is atomized into objects of knowledge. As a result, the various entities that make up the research ecosystem become different nodes in a network, whose interactions represent processes of production or collaboration (Figure 1). Such a view maps neatly to the mathematical descriptions offered by network science and complex systems research, feeding large-scale databases (Priem et al., 2022) that allow researchers to computationally examine the heterogeneous interaction processes that underlie collaborations, citations, and knowledge production in Science and Innovation (Fortunato et al, 2018) and understand their evolution (Singh et al. 2022).

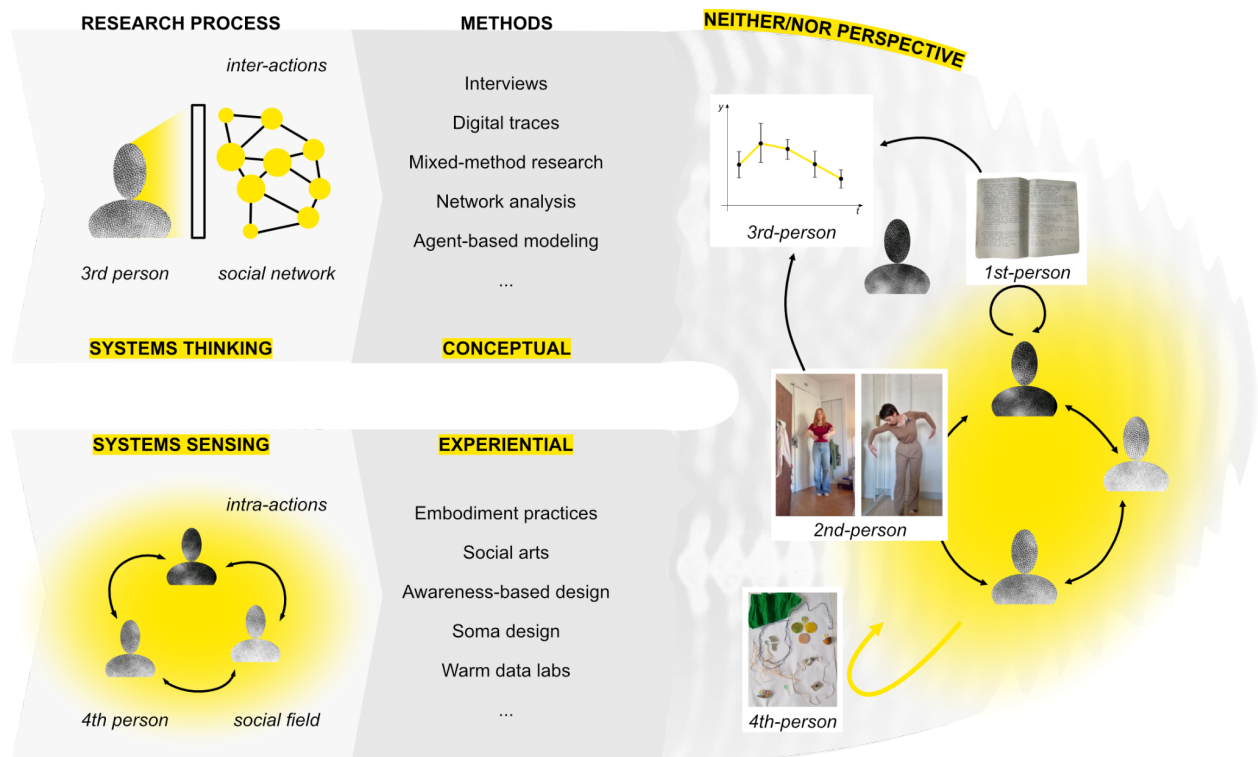


Figure 1. Overview of the approach. Schematic representation comparing the “systems thinking” and “systems sensing” views. While the first approach learns from past information to derive predictions of the future, the second approach embodies emergent futures to manifest present actions. Not taking side with either, the “neither/nor” epistemic approach oscillates between the corresponding conceptual and experiential modes of knowing they elicit (Kam & Granic, 2026). Probed through individual-level 1st (subjective) and 2nd (intersubjective) person perspectives, and collective 3rd (objective) and 4th (trans-subjective) ones, this oscillatory approach translates into the integrative “Neither/Nor perspective” we adopt in this study.

While insightful for monitoring the structural properties of the research ecosystem, such methods rely on a separation between the observers – the group of researchers examining the data – and the observed – the researchers themselves, and the products of their research. They operate at a scale that might render the results conceptually important, yet difficult to *feel into* and operationalize within one’s immediate context. While being a way for the research world to “understand itself”, it is doing so from a removed view that might over-rely on the perspective of a few, and from a cognitive standpoint that might not fully incarnate its findings. Indeed, what does it mean to *actually* hold positions of power in the day-to-day activities of a research lab (Ayrton, 2024)? When are *we*, in the moment we pick our collaborators, reinforcing a rich-club pattern that might lead to undesirable stratification mechanisms (Ma et al., 2015)? When are *we* the ones blinded by our unexamined axioms, gatekeepers of emergent paradigms (Siler et al., 2015)?

Participatory approaches in research

Participatory approaches to the research process have been proposed in the past few decades to provide pathways to more reflexive processes between researchers and the communities of practice they are part of. Elaborated within the scope of action research and its interest in the 2nd-person perspective of stakeholder to generate situated answers to practical questions (Reason & Bradbury, 2001), such practices have slowly flattened the differential between the researcher and the research subjects, fostering instead a peer-driven research praxis epitomized by community-based participatory action research. These approaches were later integrated within the scope of Citizen Science and Community Science, resulting in the radical approaches of Extreme Citizen Science (Rowland 2012), where participants to a research project are involved at all stages of the research process, from conceptualisation and co-design to data collection, analysis, and interpretation (Skarlatidou, Haklai, 2021). Key to these approaches is a process epistemology that recognizes the importance of integrating diverse, potentially conflicting perspectives, through deliberation practices (Jaeger et al 2023). Such an epistemology contrasts with a “naïve” realist approach where neutral observers would incrementally complete a map of the world as-it-is. Instead here, the interdisciplinarity – or transdisciplinarity, when considering the often non-academic stakeholders of the process – inherent to these processes recognizes the *situated* nature of the maps (models) that describe the world, and the resulting need to compile a multiplicity of perspectives, anchored in diverse lived experiences and potentially incommensurable paradigmatic footings (Haraway 1988). In that respect, research is inherently political – it requires to engage with who gets a voice, how certain lived experiences and resulting views might be favored, and surface the invisible that might be too systematically marginalized to be intuited and included.

It is maybe for these reasons that at a practical level, integrating perspectives and equalizing voices in research is neither a standard practice, nor a simple one to implement – the routinized, formalized, hierarchical setting of academia makes it for a complex institutional scaffold to mold. Within the more informal structures of open science, citizen science, and community science approaches however, more degrees of freedom have been offered to explore the practices and governance processes of co-design and co-production (Senabre Hidalgo et al., 2021). Integrating the well-established know-how of fields such as participatory action research or participatory rural appraisal (Chambers 1994), as well as the findings from team science and collective intelligence research (Edmondson 1999; Woolley et al. 2010), the politics of participatory research became structured around relational process management: onboarding within large communities, creating “architectures of attention”, tending to psychological safe spaces, or managing conversational turn-taking and collaborative note-taking (Kokshagina 2021; Nielsen, 2011). And, in as much that a nation-state measures its success by the well-being of its people, the impact of such practices on the participant may rather be found in a felt sense it brings them, such as that of belonging (to a community) or of finding meaning (of working on something emerging from a self-directed, value-aligned topic) (Moon et al., 2024). Beyond the short-term value of producing an outcome, a prototype, a solution to a problem, these practices have the potential to generate long-term communities, lasting experiences, and impact relational well-being (White 2017).

Embodied participation and deep democracy

While the participatory approaches delineated above have brought giant strides in bringing together various stakeholders around a common research question, they are still paradigmatically infused by the view of networked-yet-atomized individuals collaboratively understanding a world “out-there” from a cognitive lens (Moon et al., 2024). While co-production practices ensure that the building of a conceptual scaffold to make sense of the world is invested by the mental models of all participants, the restriction to the cognitive might limit not who, but *what*, gets a voice.

From a cognitive standpoint, the way we know, or *cognize*, has been described to be *embedded* within a context, *extended* to the (digital) tools we use, *enacted* through our actions, and, last but not least, *embodied* in the proprioceptive area we call our body (Carney 2020). Beyond the relative recency of such a model, the importance of the body as a site of knowledge has been long recognized by early works of feminist philosophy (Haraway 1988) and its various scales, from the local body experienced as an individual to the wider body of planet earth to a universal, womb-like, cosmic body, are central to the worldmaking of many indigenous knowledge systems (Noon 2024). More recently, the field of *Soma Design* has built on ideas of *somaesthetics* (Shusterman, 2008) to recognize the body as central to design research, bringing its phenomenology as relevant data (Tsaknaki et al. 2019).

Arising before thoughts transform experiences into concepts, the embodied knowledge sits within the preconceptual realm of a phenomenological, direct experience. Accessing it requires a specific type of practice – one of suspending judgement (the Husserlian practice of *épochè*), redirecting attention to oneself, and letting go to fully experience what is present (Scharmer 2000). While seemingly simple in phrasing, such an approach requires a re-training of the habitual pattern of falling back to conceptual elaboration. To borrow the words from neurophenomenologist Francesco Varela, we need to become “black belts of our experience [through] disciplined regular training” (Scharmer 2000).

Giving a voice to the present-moment, embodied experience within a social context is what has been termed “deep democracy” (Mindell 2008) – the idea that the most marginalized, silenced voice sits at our core, in the preconceptual, preverbal sense-making apparatus that our body-mind holds before it gets organized into thoughts and concepts. Its understanding is not a propositional, logical, rational type of knowing, but a participatory, *aesthetic* one – a knowing that speaks in terms of harmony when logic speaks in terms of truth. Bringing that voice from the depth of our experience surfaces the entirety of what’s at play in a research context: thoughts, images, meanings, sensations, mind states, emotions (Lee et al. 2014). It casts a wider net towards what’s at play in the here-and-now of collaborative research practice that extends beyond the dichotomy of subjects and objects. This is not anymore about interacting nodes in a network, but, following Karen Barad’s agential realism, *intra-acting* agents within a shared social field (Barad, 2007, p. 184).

Sensing the research field with social arts

The practice of foregrounding direct experience in innovation contexts, whether as part of relational contexts or project development, has been central to the *social arts* practices exposed extensively within the Journal of Awareness Based System Change. Theorized under the scope of Theory U (Scharmer 2009) and implemented through embodied practices such as those of the Social Presencing Theater or SPT (Hayashi 2021), social arts encompass a range of relational mindfulness practices that allow individuals and groups to dive into the depth of their direct experience to collect the seeds of an “emergent future” – ideas, images, or preverbal sensory data arising amidst the collective. These seeds are then actualized through further stages of project development. Key to the process is the precedence of the embodied sensing before the cognitive framing, and an openness to uncertainty. Not limited to the separation of a subject and object, these practices are eco-social in a wide sense – they involve other members of the social group, but also relevant aspects in the system that might have causal influence over the process, may it be Artificial Intelligence, a Forest, or Planet Earth herself (Jung & Hayashi, 2025)..

In a sense, bringing social arts to the research process is a pragmatic engagement with Latour’s observation that researchers in a laboratory *already* operate through an ecology of social rituals and material relationships (with articles, equipment) that, from the eye of an anthropologist, resemble if not re-enact those traditionally investigated in indigenous societies (Latour & Woolgar 1986). The application of awareness over this extended “Social Field” (Scharmer & Pomeroy 2026), and the subsequent sense-making and restitution to the group is a deep reckoning of the ever-acting play of emergent, constructed processes in collaborative knowledge production. Yet, we are still missing a longitudinal implementation of such practices over an extended collaborative research process, and an assessment of their impact that integrates conceptual and experiential modes of knowing. This is the gap that this paper intends to explore.

The question of measurement

Due to their fundamentally experiential nature, social arts have currently mostly been confined to the realm of practitioners who could reconstitute narratives of shifts in self- and collective views. But how can we go further than anecdotal evidence, while honoring the deeply ineffable dimension of these lived experiences? The question of measurement is indeed a challenging one, as it bears the risk to constrict such “warm data” (Bateson 2017) to fixed categories that may, by their very nature, contradict the fluid, emergent orientation of the very process that generates them. If we are to implement social arts within the research process, how do we *show* what happens?

To tackle this question, we need to go back to awareness itself, and the phenomenological methods of working with it. As said earlier, awareness practices involve suspension of judgement – i.e., the bracketing of prior knowledge about a direct experience–, redirecting to oneself, and letting go. By suspending the influence of the

past, this approach favors emergent meaning (how a novel category emerges) over mere information (how a frame of the past categorizes new datum). Ironically, that attention to how awareness attends to scientific observations brings us back to the ritualized, religious roots of *observing*.

The practice of working with awareness as part of the observation process is central to the development of the Science of the Social Field (Scharmer & Pomeroy 2026), and particularly to what has been termed the 4th person perspective (Scharmer & Pomeroy 2024). If first-person accounts gather subjective, lived experiences, and if second-person accounts gather stakeholder perspectives for situated action research, the fourth-person account brings awareness to the eco-social in-between, the trans-subjective account that social arts tap into. Atop these, the more traditional third-person accounts organize, formalize, compress and quantify these accounts into structured categories. Recognizing the irreducibility of these approaches to a single system, Kam and Granic (2026) theorized the need to *oscillate* between conceptual and experiential approaches through a “Neither/nor” pragmatic philosophy: neither theory (concepts) nor practice (experience) being sufficient by themselves to achieve desirable outcomes in personal flourishing or scientific inquiry. Building on this approach, here we adopt a *neither/nor perspective*: neither a view from nowhere (the disembodied mind), nor a view from a particular place (the experienced body), but an oscillation across perspectives in constant negotiation (Figure 1).

The research context

This brings us to what this study intends to explore and reconstitute. What happens when the research process integrates social arts practices as part of the research routine? And what can we learn, from a neither/nor perspective, on their impact? This research is both a prototype of a research process praxis, as well as a proposition for a possible way to tackle the question of measurement. Its aim is therefore less to demonstrate generalizable truth-statements than to showcase potential research directions within the context of the Science of the Social Field.

The core of this study situates itself within a 3 months research project on aesthetic sustainability, exploring the intersection of sustainable sciences and embodiment (Wehmeyer & Massacrier, 2025). The project, involving a systematic literature review and multiple stakeholder interviews, was conducted by two Master students and co-authors of this article, LM and ZLW, and co-supervised by the third co-author, MS – a co-supervision focused on the methodological implementation of social arts practices within the project. While MS and LM had been exposed to social arts prior to the project and had practiced together, ZLW was new to it. As the project involved an interdisciplinary collaboration between LM and ZLW, within an emerging field of research that involves material and embodied awareness, a decision was taken at the start of the project to scaffold the research process with social arts practices. In addition, observing the impact of these practices became part of the project itself. In that respect, ZLW and LM would incorporate first, second and fourth-person perspectives through reflexive action-research during the duration of their project, while MS would

provide guidance with regards to data collection, and later provide the third-person data analyses after the project's end. As the project reached a stage of article writing, the three authors would incorporate resonance practices in their meetings, and MS would act as facilitator to elicit the restitutions of experiences that will be recounted below. In these elicitations, attention was paid to redirecting attention to the direct experience and to attending to emotions as they arose, inspired by the emotion-informed auto-ethnographic approach of Weitzkämper et al. (2026).

Choice and implementation of social arts practices

Two social arts practices were chosen to cover different social and temporal scales of the research process.

First, the SPT Stuck practice¹ was chosen to initiate the daily interactions between ZLW and LM. This choreographic practice intends to sense and move one's body into a first posture, or form, that represents where one is at that very moment. This posture signals a point that might be felt as "sticky", in so far as it presents the endpoint of a movement, a temporary solidity, an transitional in-between on which one brings awareness. One then lets the body unfold into another form, one that manifests a non-conceptual, emergent possibility. Often, one names each posture through simple words or phrases, bringing a minimal verbal punctuation over the emergent poses. However, in this version of the Stuck practice, LM and ZLW decided rather to let the witnessing peer offer a word of what they sensed the posture "said" about where their collaborator is at. This version was termed a *resonance practice*, as its intention was to foster an embodied attunement between the two collaborators. The practice was done in one's home, video-recorded on the phone, and sent in the morning to the other. Resonance words would then be sent back by text message as the first verbal trace of a collaborative dialogue to take place during the day. Care was taken to do the practice before looking at what the other had sent, in order to connect to one's own felt world rather than responding to an interpretation.

Second, the 3D mapping² practice was chosen to foreground the broader eco-social field and sense its dynamics. Similarly, this practice involves two steps, the felt present, and the emerging future. However, here the practice involves materials arranged on a paper sheet to symbolise individuals, institutions, relations, as well as any relevant element to be included, be it a technological artefact, or a pure unattributed sense data. The protocol involved three steps. First, a personal journaling allowed one to set the intention, sense how the mapping will relate to the state of one's life and work, and define elements of the social fields in terms of core team, support team, and support network. Then, the materials were positioned on the paper sheet together, in silence. Finally, the resulting mapping was looked at from different cardinal directions, and a dialogue ensued to decide on three actions to take on the arrangement – moving elements, changing shapes, switching textures, etc. Given the research context around embodied materiality, care was taken to choose materials that would span diverse

¹ <https://www.u-school.org/stuck>

² <https://www.u-school.org/3dmodelling>

textures as well as processing levels, i.e. natural (e.g. wool) vs artificial (e.g. bubble wrap). The 3D mapping was conducted in person, at three key times across the project: at the start, the middle and the end, providing a broader rhythm than the daily Stuck, one that was adapted to the natural life-cycle of the project.

The traces collected

Over the course of the project and during the writing of the article, several types of data were collected, providing traces towards the neither/nor perspective we intended to adopt (Figure 2).

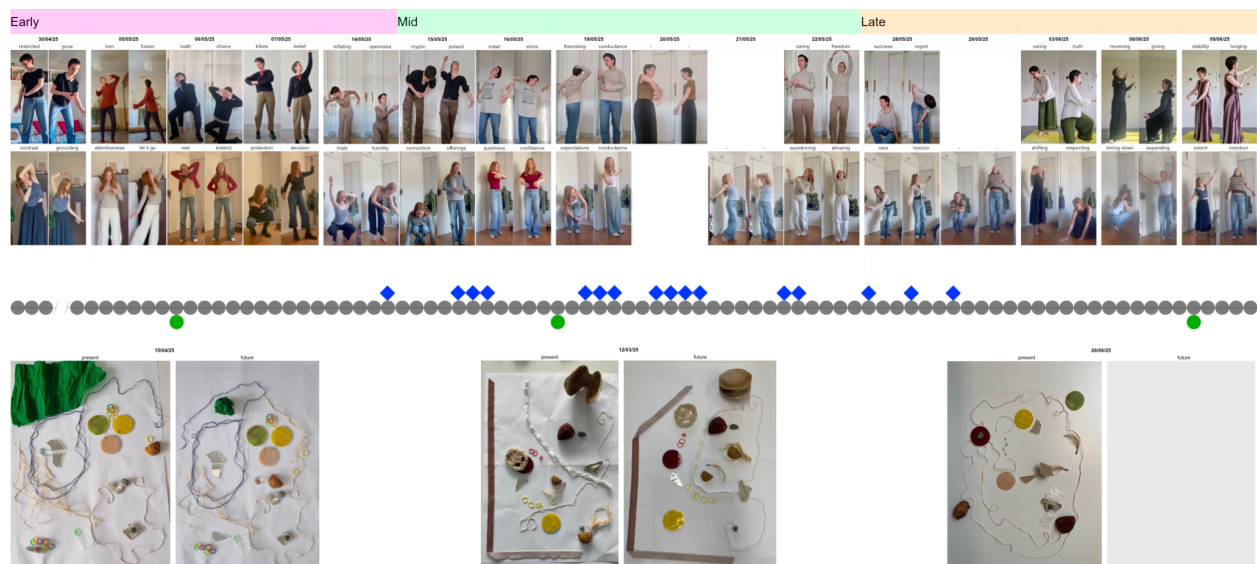


Figure 2. Timeline of the project. Gray circles represent individual days, green circles depict 3D mappings, and blue diamonds Resonance practices. A red circle signals a jury presentation, signalling a near-end of the life-cycle of the project. Individual photos of the 52 Resonance practice poses and the three 3D mapping sessions are shown. A white picture is shown for the missing second photo of the last 3D mapping. Early, mid, and late periods correspond to the aggregation method used for data analysis.

Personal diaries were kept during the project by both LM and ZLW for journaling purposes, allowing later access to what was considered relevant experiences during the project process. These notes were read back by LM and ZLW prior to the reflexive process that was conducted during the writing of this article after the project's end. This approach was inspired by the auto-ethnographic, emotional and dialogical work of (Weitkämper et al., 2026). Reflexive accounts were facilitated as online dialogues, framed by resonance practices, and audio-recorded, generating the quotes used to support the results below, from the voice of the practitioners. The quotes were minimally edited for clarity but meaning was preserved.

Videos of the stuck practices were archived, consisting of 52 poses across 26 sessions (Figure 2, top). Photos of the first posture (*from*) and the second posture (*to*) were hand-coded into postural patterns (Figure 3). For this, LM created a codebook of postures highlighting four dimensions they deemed relevant: the openness of the body

(open / closed), its level (up / down), direction (facing camera / right / left), and the direction of the face (facing camera / right / left). Resonance words for the starting *from* and the end *to* posture were collected in view of thematic and sentiment analysis.

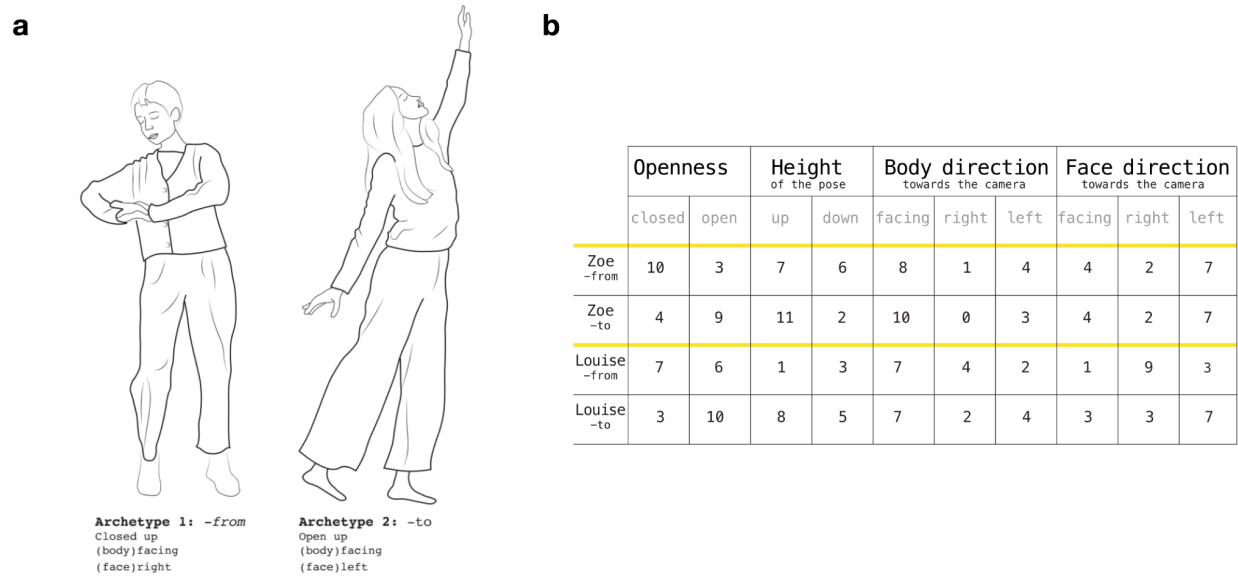


Figure 3. Postural coding. The *from* and *to* postures of the resonance practices (a) are hand-coded into four dimensions across the 52 poses (b).

Finally, photos of the 3D mapping were archived for the *from* and *to* stages of each session (Figure 2, bottom). The final photo of the last 3D mapping was unfortunately not recorded, and for that session we rely on journaling notes and the *from* photo.

Results

Presensing the wider research field with 3D mapping practices

The first practice that was implemented at the start of the project was the 3D mapping, as a project development strategy to decipher the larger context of the project, and for LM and ZLW to surface future directions. It would eventually support three key moments of the project life cycle: the start, middle and end.

A session would last around three hours. Despite that duration, it felt restorative: “it was not draining at all. For me, it always felt very wholesome and good afterwards” (ZLW). The space was experienced as an opportunity to be with uncertainty, as there was “no pressure for it to make any sense, like, not any at all. It was just for me in a way. I knew it was safe on this page and in my head, and I wouldn't have to prove anything.” (ZLW). This echoes Amy Edmondson's concept of psychological safety, a team capacity to provide a caring, non-judgemental space to convert failures into learning (Edmondson, 1999). This also exemplifies the general emphasis of social arts practices towards embracing not-knowing (Hayashi, 2021), and of Soma Design to “stay in the undecided” (Tsaknaki et al., 2019).

The mapping involved LM and ZLW defining a core team, a support team, and a support network, but also defining *themselves* within the scope. The mapping of these concepts was kept personal during the whole first silent phase of journaling and mapping: "we never share this part with each other, so we probably have [a] different core team or... putting the people around us closer or not" (ZLW). The exercise created a fuzzy search through collaborative sense-making. Identities were inferred through aesthetic judgements, such as sameness or closeness: "I had two pieces of a mirror that were together [with] the same material... kind of the same look, but not the same shape. So we would both think that would be the two of us." (LM). Beyond stakeholders, some elements of the mapping would represent felt senses or concepts materialized as influencing forces within the system: "we especially put some natural things like feathers... we would put, like, a certain meaning, maybe preciousness, or value to the things... but we never really put any stakeholder or something around it. But it was there. As a material." (ZLW).

That posture of letting the representation of the field *inform* the researchers who are comfortable with letting go of their own assumptions is what characterizes the fourth-person approach of this practice. The mode of reading was one of aesthetic judgement, rather than conceptual elaboration. Speaking of harmony and dissonance, rather than truth and falsity. For example, actions were taken when elements of the display would feel out-of-place: "sometimes there are big things or elements that would disturb the aesthetics of the [mapping]. And we would definitely agree on where it was, [and what] it would represent in our project. [It would] also be one of the elements that we would change just right after." (LM) The act of restoring harmony would then *leak* into the project itself: "this word of harmony and this aspect that we were discussing in terms of aesthetics... It had an impact, definitely, on the way we perceived the overall research as well... it was just kind of ordering it, on the paper or with the materials, but then also in our mind" (LM). This last step was specifically viewed as informing concrete directions: "these next steps... it's kind of like an action plan" (LM).

Practitioners noted that their training in applied arts (LM) and architecture (ZLW) may have predisposed the quality and specificity of their aesthetic reading. For example, they noticed an existing "preset vocabulary" with the materials that they collected: the threads for connections, the mirrors pointing towards "seeing [themselves]", the elastics to characterize Venn diagrams encompassing the literature, and the natural materials providing a "more grounded" sense. This points towards a potential need of onboarding practitioners who are less exposed to deciphering such aesthetic cues with preliminary practices aiming at cultivating aesthetic literacy and aligning vocabularies between practitioners, for example by guiding the readings using the aesthetic language cards of Dutra Goncalves & Hayashi (2021).

Evolution and impact of the mapping across the project's arc

Among the three practice sessions, the initial one was seen as the most important. "The first one [...], I think there [were] very striking moves for me [and] decision[s] that we took" (LM). It was felt as most "complete", while the second and third sessions were

building on top of this foundation. In the second session, new materials were introduced to fill some perceived gaps in the accessible qualities: “I think in between the first one and the second one, we reintroduced new materials because we were feeling we were missing some qualities” (ZLW). But the bulk of the representation leveraged a collection of material they had access to at the first session, creating a thread of aesthetic meaning between sessions: “the same stakeholders would be [the] same materials as before, so [there was] not that much renewal of meaning, maybe [more a] renewal of dynamics.” (LM).

Beyond connecting to the social field, the first practice connected to the very conceptualization of the research project by rendering concrete an otherwise conceptual exercise of systematic literature review. The three glass rounds visible in the first 3D mapping (Figure 2, bottom left) were deemed “important because in the end, this aesthetic actually translated almost 100% [to our project], because I took the colors from the picture into a figure that we did... To identify these three areas that we are looking into but then let anything overlap in the graphic and discuss further what exactly the intersections are for us and what is the very middle or, like, the heart in the middle of all of them that we want to do” (ZLW). In these renderings, the research field becomes a body in itself, within which the heart is sensed and aimed to be felt before being understood. But within that larger body lie the local bodies of the researchers themselves, the relationship to which we explore next.

Building the confidence to implement an embodied practice for collaboration

In contrast to the 3D mapping which holds a clear project development capacity, the idea of implementing an embodied practice came up as an open experiment. It was ignited by a social arts residence on “Crafting Pedagogies of Togetherness”³ where LM and MS partook in a number of SPT practices and prototyped research approaches for their monitoring. As LM came back to start the collaborative journey with ZLW, she felt that implementing such a practice was not only an act of coherence vis-a-vis of their own project talking about embodiment, but also an act of restoring modes of connection in an academic context that felt deprived of it: “I think... I was a bit angry with the academic world... [its] disconnection with the body and was like, okay, if we're gonna talk about it or work on it, we also need to get back to its implementation with our own practice” (LM). Proposing it to her collaborator who was not exposed to this training was in itself venturing into the unknown “It was like taking a bet... a bit frightening in the sense that first, I didn't really know how to defend it... I also didn't really know how to make sure that we build a safe framework for us to work with.” (LM). An emotion that was met with openness and curiosity by ZLW, in a “fearless [manner], maybe naive in a way”. Importantly, having a validation from the more senior MS, acting in that context as an academic authority, was key for bringing confidence towards implementing the process: “I think you [MS] were the first to tell us... this is like a method... this methodology you are using is very interesting, very original in a way. And then I only realized that externally it could be cool as well.” (ZLW)

³ <https://studioatelierista.org/paris-2>

Ritualizing an embodied dialogue

While initially the practice felt like an “add-on”, it was eventually perceived as a central routine in the collaborative process: “it became kind of like a ritual even... for two months, more or less, five days a week... It was one of the first thoughts that I had back then to remember that, to do the video first, send it to you, and look at yours.” (ZLW). For LM, part of the routine was preparing the stage for the performance to be recorded by removing background objects that could overload the visual space: “Every morning, I was taking [things off] the wall... moving them out...”. The importance of the body was central to the experience: “I think for me, it was more about... each day of the research starting with a sense of the body and... a sense of the body towards the research itself.” (LM). Connecting to the body meant redirecting attention inward, and in particular away from the sense of being recorded by the camera: “I was closing my eyes when I was doing [the practice]... I was not looking at the camera and thinking about, like, how is it looking?” (ZLW). Touching on this embodied authenticity was a way to be seen under a different perspective than what the daily intellectual activities would present: “feel into yourself and also see what the other person is feeling on... a body level. It was a bit of a way of saying... I see you... as the researcher, but I also see you as the body you have.” (LM). As ZLW puts it, “it was really... like building up dialogue.”

An offering of trust

This embodied dialogue was punctuated by resonance words from the person witnessing the practice of the other: a *from* word (the first embodied posture) and a *to* word (the second and final posture). For LM, this word was perceived as an offering between the two: “for me, there was a bit of excitement... like receiving a little treat in the morning... like a little gift to each other”. The offering was not just the meaning of the word, but the deep *seeing* itself: “it was like a little surprise... every single day... I felt... very understood” (ZLW). That quality was supported and preconditioned by a sense of safety and trust in being vulnerable: “sending ZLW the first message of the day and being like, here I am, very vulnerable... and I trust you in sending me your very vulnerable way as well.” (LM).

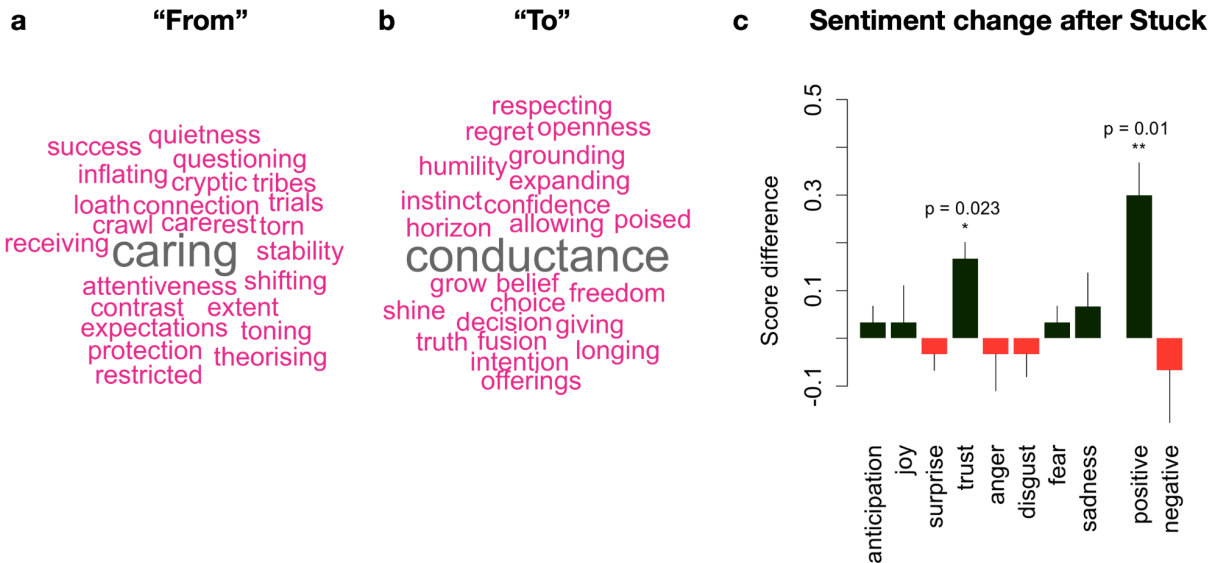


Figure 4. Shift in resonance language. a. Wordclouds of the *from* and *to* words across the 52 poses. b. Average difference in sentiment score and valence from the NRC Word-Emotion Association Lexicon. Error bars denote standard error, and significant values with Student's t-test $p < 0.05$ are highlighted.

From a third-person perspective, the importance of trust could be quantitatively observed in the words that were chosen. To do so, we attributed scores on the valence (positive and negative) and perceived emotional quality (anticipation, joy, surprise, trust, anger, disgust, fear, and sadness) using the NRC Word-Emotion Association Lexicon via the Syuzhet package in R (Mohammad & Turney 2013). We then computed the average shift in score between the *from* and the *to* words across the 52 practice reports, and evaluated its statistical significance using Student's t-test (Figure 4). We found that, on average, the words used in the resonance practice increased in trust-coded language ($p = 0.023$) and in positive valence ($p = 0.01$), indicating a general trend towards seeing, *in the other*, a postural shift evoking the manifestation of these qualities.

When looking in the more fine-grained thematic landscape of the words, we noted a shift from an enrichment in words expressing uncertainty (*cryptic*, *questioning*, *expectations*, *theorizing*), instability (*shifting*, *torn*), and unease (*restricted*, *trials*, *loath*, *crawl*), to words expressing expansion (*openness*, *expanding*, *horizon*, *grow*, *shine*), flow (*conductance*, *allowing*, *giving*, *offerings*, *freedom*), and certainty (*confidence*, *choice*, *decision*, *instinct*, *belief*, *truth*). We also note cases where the reverse movement holds, with starting points such as *caring*, *stability*, or *toning*, and ending points such as *regret* or *longing* – though on a rarer basis. These occurrences are linked to the specifics of the project cycle, and we discuss these results further below.

Impact of the Stuck practice over time

As the practice would take on a daily rhythm, a sense of ease would build up, in particular in the spontaneous surfacing of resonance words without holding fear of mis-representing what is being seen: "I was able to get detached a bit more from that.

Like, okay... this is what's coming up and she will accept it." (LM). After some time, ZLW reported that "I could do that more easily than in the beginning... I would just look at it, and this one word just popped up, and then was like okay. It's that." Being non-native speakers, LM and ZLW would need to use the English language as a vehicle to carry a shared meaning. However, sometimes words arose in their native language, and they would look for an appropriate word carrying the same sense impression: "In the morning when I watch your video, I had this word in mind in German, and then I would... translate it and... look for the meaning, not just the direct translation." (ZLW)

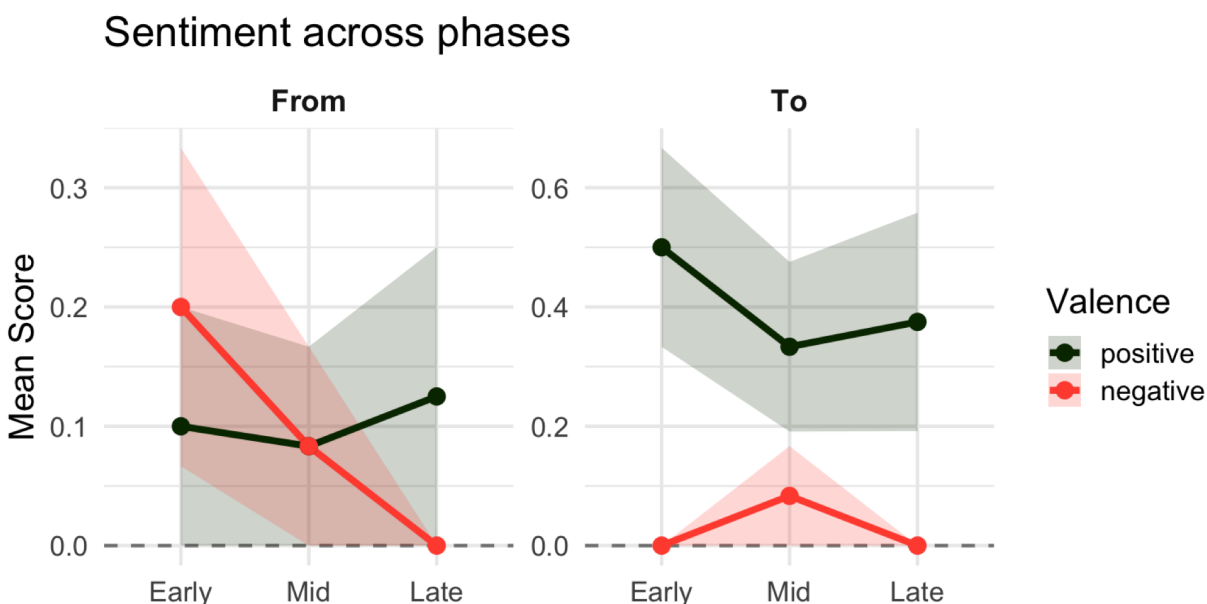


Figure 5. Valence across phases. Evolution of the average positive (green, darker) and negative (red, lighter) across the project phases. Shaded area corresponds to 95% Confidence Interval.

From a third-person perspective, a trend can be seen that parallels this sense of ease. We grouped all 26 sessions into 3 temporal groups corresponding to the early, mid, and late part of the project. This corresponds to the three key transition points that were also chosen for the 3D mapping. We then computed the average and 95% confidence interval of the inferred valence and emotion of the words used (Figure 5). We found that the words generally carry a stable positive valence through time. Interestingly, the early *from* words would carry some negative valence that would disappear throughout the project. This might signal a sense of unease that slowly gets less expressed in the body of the practitioner and in the speech of the witness.

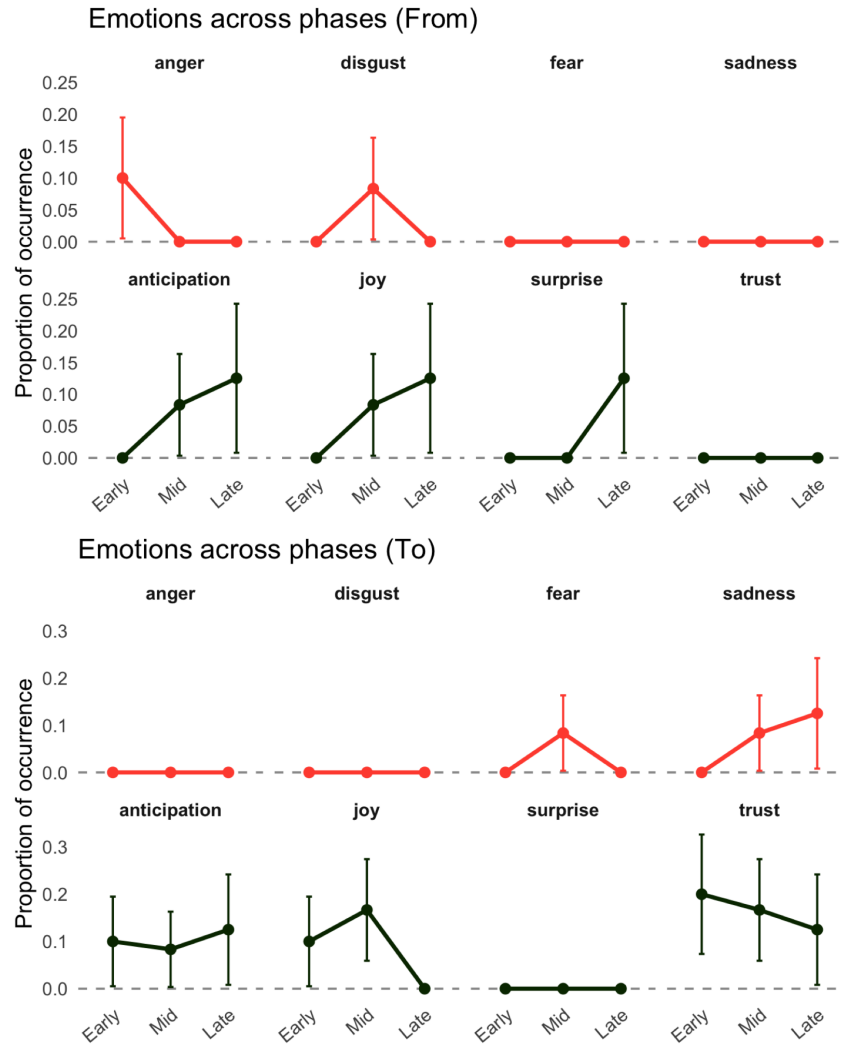


Figure 6. Emotions of resonance words across phases. Evolution of the average emotion scores across the project phases, with *from* words at the top and *to* words at the bottom. Error bars denote standard errors. Emotions of anticipation, joy, surprise and trust are coded in green (dark), and emotions of anger, disgust, fear and sadness in red (light).

When looking at the inferred emotions carried by the words, we observed a growth in anticipation, joy and surprise in the *from* words, and stable anticipation, joy and trust in the *to* words (Figure 6). Interestingly, we also note a rise of sadness in the *to* words. While the rise of trust-coded language was noted before between the *from* and *to* position, here we gather a finer-grained picture. The practice is generating a sense of joyful anticipation that, in the context of being the first check-in the collaborators have in the morning, creates a welcoming context before their daily encounters. Though a small effect, the arisal of sadness in the *to* posture by the end of the project is interesting, as it maps to the near-ending in the life cycle of the project. When recalling this period, LM reported that “holding sadness and trust together didn’t feel contradictory for me... as we had built trust over time but knew that we were going to leave the framework that enabled the building of it at first”. In some way, this sadness is a mirror to the positive

effects of the practice – the idea of *not* engaging with it anymore is reflected in the body and words inferred.

Shifts in body postures

While the previous analyses leverage the written and verbal information to make sense of the impact of the practices, we also explored whether the bodies had something to speak about, from their preverbal, preconceptual position. Having all the recordings of the postural shifts, LM and ZLW self-coded their postures along four dimensions: the openness of the body (open / closed), its level (up / down), direction (facing camera / right / left), and the direction of the face (facing camera / right / left). We then aggregated the data to infer the average shift during a session (between the *from* and *to* posture), and whether there was any change during the course of the project.

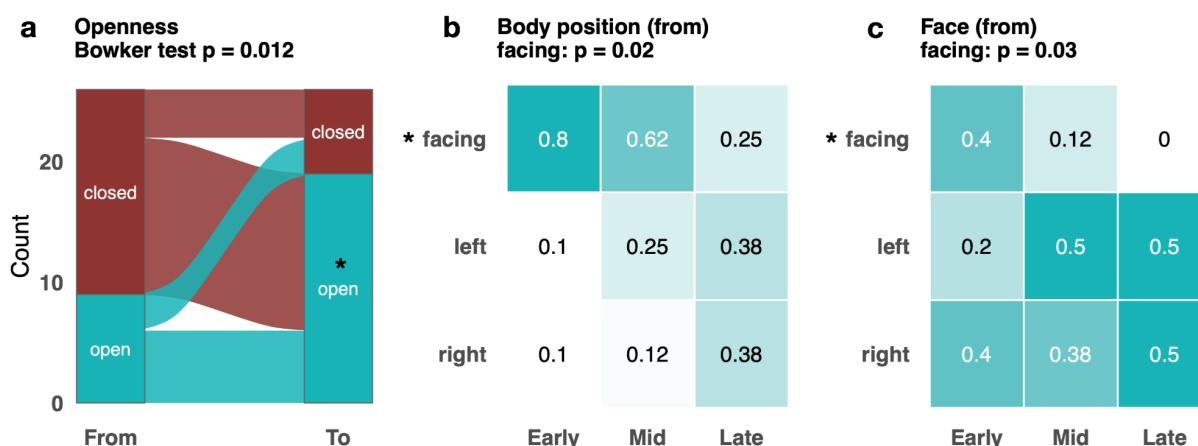


Figure 7. Shifts in body posture. a. Sankey diagram showing the number of *from* (left) and *to* poses that are closed (red, dark) vs open (cyan, light), highlighting a significant shift from closed to open poses during a session ($p=0.012$, Bowker test). b-c. Heatmaps showing the proportion of body (b) and face (c) positions that are facing towards the camera, or towards the left or right on the picture across the three stages of the project. The significant decrease in facing postures is highlighted by a star ($p=0.02$ for body, $p=0.03$ for face, Cochran–Armitage test).

We found two results. First, we observe that the Stuck practice generally started with a “closed” posture, and moved towards an “open” one (Figure 7a), a change that was deemed significant under a Bowker test for matched categorical data ($p=0.012$). This may not be very surprising since, by its very name, the Stuck practice specifically invites a first posture that is calling for a resolution, an opening. This shows, however, that this intention is reflected in the body language and can be decoded in the downstream analysis.

Second, we find that across the project duration, the starting position moved from facing the camera, both in terms of the body and the face positions, towards lateral right or left positions (Figure 7b,c). These trends were deemed significant by the Cochran–Armitage test applied to the facing vs non-facing categories ($p=0.02$ for body facing, $p=0.03$ for face facing). These results echo what was reported by the practitioners in the previous

section, from an initial sense of being observed (materially represented here by the camera), to a growing sense of being at ease with spontaneity and vulnerability.

Discussion

This work reports the use of social arts practices as part of a research project, both for the project development itself, as well as for the collaborative process. We find that these practices leverage sense-data otherwise invisible to traditional system thinking. Using a neither/nor approach (Kam & Granic, 2026), we integrate first-person, second-person, third-person and fourth-person accounts to trace the story of what these practices surfaced and how they were experienced.

A visual and tactile approach to research field sensing

Working on the broader research field, the 3D mapping allowed practitioners to contemplate and sense the influences of both the human-level actors—the stakeholders, including themselves—, and a diversity of non-human influences —concepts, research fields, but also immaterial values, such as preciousness—. Materials brought an aesthetic vocabulary manifested through various textures and processed qualities (natural vs artificial) that would enliven imaginaries and foster a creative expression of the felt relations between the parts and their influence on the system. Importantly, the practice dwelled in the “not-knowing” through the use of silence and intuitive aesthetic engagement, leveraging a sense of harmony as a guiding principle towards action. The materialized arrangement was given the opportunity to “speak” from itself, and reveal what this aesthetic intuition had brought forth. The 3D mapping could guide to the “heart” of the project, in the middle of the glass rounds that represented the research fields that the project was investigating, and generated a spatial sense of the ecosystem of stakeholders, close and far, that would be negotiated in the collaborative work to arrange the pieces.

Nature was present through the choice of materials (e.g. feathers), which would influence felt qualities (e.g. preciousness). Yet the practice did not lead to integrating Nature as a stakeholder itself, a prospect that felt missing in *ex post* reports: “we didn't have this connection to nature that we were always talking about... you're preaching something and then, actually, you're not doing it in action.”(LM). It might be interesting, in future implementations of this practice, to involve a broader view of stakeholders, by proposing in the protocol to view the possibility of having parks, rivers, trees, gardens, Earth, wind or sky as part of the makeup of the broader field.

Interestingly, the practice was reported as being regenerative, despite its ~3 hours duration. This stands in stark contrast to the mental health crisis in academia (Levy, 2025). The practice punctuated the natural life-cycle of the project, providing anchors for contemplating the seasonality of the project, including its ending. The first practice was especially important to lay foundations, while the next ones would build on this early sense-making and favor dynamics over meaning-making. Due to its representational nature and the play of working with material, the practice was felt less vulnerable than

the Stuck practice, and could be a softer entry towards collaborative research enquiries for people who are not ready for more involved somatic work.

An embodied approach to collaborative enquiry

While the 3D mapping would externalize intuition over materials to be placed in meaningful arrangements, the resonance practice, a variation over the Stuck practice, would bring the practitioners to choreograph their direct embodied experience. This is a place of vulnerability that required a strong sense of psychological safety, and would take a number of sessions to develop easefulness. The practice generated a sense of *being seen*, a notable dimension, as collective intelligence is strongly tied to social perceptivity, i.e. the capacity to “read the mind in the eye” of the other (Woolley et al. 2011). The practice might therefore provide a pathway for cultivating this sensitivity as the collaboration progresses. The end result was a buildup of trust, a quality associated with the capacity for engaging in team collaboration (Feldman & Santolini, 2025), and crucial to psychological safety itself (Edmondson 1999), thereby fostering team learning and performance. This virtuous cycle may promote engaging with more authenticity and more vulnerability, which may have been a favorable condition for the holding of sadness at the end of the project.

Beyond seeing each other, the practice was also a way to witness oneself from a different vantage point. For LM, the practice meant “stepping back and looking at what is happening from an external point of view, keeping on questioning the practice, trying to stay awake on the patterns that we reproduce without always knowing”. This illustrates how the practice developed an active inquiry: not just a check-in, but a non-judgemental opportunity to keep an eye on what structures emerge from reproducing habitual patterns in ways that may (negatively) impact the relationship.

The relationship with being observed

The study we conducted involved several layers of self-research: LM and ZLW doing the practices to inquire on how their research project and their social field would *feel*, from the inside (anchored in a fourth-person perspective on the research process), journaling their contemplations (providing first-person accounts), and engaging in resonance words (providing second-person accounts). Then, MS, LM and ZLW would engage in facilitated dialogues to recount memories, leveraging a frame closer to the second-person perspective of research action and collaborative auto-ethnographic accounts (Weitkämper et al., 2026), and attempting to generate an embodied awareness through resonance practices before verbal dialogues would take over. Finally, a cycle of third-person perspective would take place with MS providing analyses that would infuse the topics discussed – the emotional quality, the postures, the longitudinal evolution.

The non-linear nature of this multi-perspective approach, with its back and forth between modes of observation, can generate interpretation biases, such as the amplification of certain views pertaining to desired outcomes. It is clear that the authors

are not fully agnostic to social arts, and have found in it enough value and favorable experience to engage seriously with them. We tried to minimize biases to our best extent. In particular, LM and ZLW were aware of the ultimate intention to provide data analyses on their postures, and had to work towards not having that thought on the back of their mind: "I think at one point, we also decided not to think about the analysis of it... Because it was... introducing biases as well, when we were doing the practice... We wanted to be completely neutral and really just focus and reflect on the pose and not on the word." (LM). For the *ex post* collaborative work sessions during the writing of the article, which happened across the year after the project, memory distortions could occur that would be inflated by seeing the third-person results. In order to minimize such effects, LM and ZLW would first re-engage with the journaling notes, and the facilitation of the meetings would then give a strong attention on the embodied immediacy by scaffolding the dialogues with social arts practices and aiming to guide back towards the felt-sense, in the here-and-now, when starting to generalize and conceptualize while recounting. Having a more systematic protocol for this method would be important for future iterations, for example by using micro-phenomenological practices of Petit-Mengin et al. (2019).

What does it mean for research at large?

Having experienced and traced the journey of this practice in our setting, we now offer some thoughts with regard to how it could potentially be replicated beyond the confines of our situation.

The practices were done in dyad, therefore not having to negotiate the complex dynamics of larger groups. For LM, scaling beyond this format would need a dedicated facilitator role: "When you are two, you kind of are able to build on the same level. But with a group, you may need... someone dedicated to keeping this caring framework... you have to hold the group. It's a lot more work than holding your own body". ZLW further noted that the scale might affect the time it would take to reach ease and depth: "it wouldn't be the same... it couldn't be as deep, or reach this depth in such a short amount of time...". This signals an interesting consideration for research institutions interested in bringing embodied practices into research groups: investing in facilitators trained to hold spaces and support researchers in their collaborative inquiry.

Another interesting insight from this project was the handling of the complexity of the relationship between LM, ZLW, and MS. Indeed, LM and ZLW were collaboratively working towards their Master's end of year project - a rare allowance within such programmes, that also requires a trust in the synergistic learnings that a team work can provide. This model, emphasized in student-led challenge-based collaborative learning approaches (Mitchell et al., 2011), has critical benefits in terms of learning collaborative skills for collective intelligence. In our context, this model brought the supervisor (MS) closer to a peer support level (a position acknowledged within the 3D mapping), which was important to legitimize the very use of embodied practices. Equipping student-led collaborative research projects with non-verbal practices holds a pedagogical potential, such as increasing social sensitivity which in turns impacts collaborative skills, that has

been explored in data-rich pedagogies (Desportes et al., 2022) and could be further investigated in future research.

Conclusion

Together, these findings suggest that the aesthetic language promoted through the use of social arts provides an important access to usually underlooked sense data in the research process. Rather than focusing on learning from past *information*, it re-centers attention on sensing emerging *meanings*. This is especially important in the current over-reliance on Artificial Intelligence for a large variety of activities in scientific research, from conceptualizing to writing entire articles (Gartenberg et al., 2026). Instead, social arts move the needle the other way. As Scharmer and Pomeroy (2026) put it, “where artificial intelligence extrapolates and meshes patterns of the past, deep sensing connects us to futures that have not yet come into being but depend on us to manifest”.

The practices reported here created a scaffold to let oneself be informed by the artistic rendering of intuitive aesthetic judgements. They invited invisible qualities that could still hold causal influence over the project, such as “precious” feathers becoming actors of their own right in the materialized research field. They provided and maintained a psychological safe space within which trust could be cultivated and sadness engaged with. And importantly, they were experienced as regenerative rather than draining, an important finding that could contribute to improving well-being in academic settings.

This small prototype actualizes a vast, multi-disciplinary theoretical background calling for the integration of embodied immediacy with cognitive complexity in scientific research processes. It talks to the indigenous “Two-Eyed Seeing” concept (Wright et al. 2019), bringing together deep sensing and system thinking. Finally, it shows that frugal approaches and supportive environments can go a long way to experience the fruits of, and provide glimpses onto academic system change.

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