Towards a Methodology of Phenomenological Research through Design

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Abstract

This draft offers a preliminary suggestion for Phenomenological Research through Design (PRtD), a methodological framework that integrates phenomenological principles into Research through Design (RtD) practice. Based on Merleau-Ponty's phenomenology, the framework outlines five interrelated methodological aspects: #1 Prototyping through the Lived Body, #2 Exploring the Reciprocity of Touch and Touchback, #3 Cultivating Social Interrelation, #4 Embracing Drifting as a Method, and #5 Attuning to Intercorporeality – as tools for engaging with and reflecting on design processes that are bodily, social and material. PRtD offers a grounded, yet flexible approach to designing with and through the body. The framework is proposed as a practical contribution to Soma Design, embodied interaction design, and reflective methodologies in HCI, particularly for those seeking to centre lived experience in interaction design.

Keywords

Research through Design, Phenomenology, Embodied Interaction, Soma Design, Intercorporeality, Design Methodology

1. Introduction

In Research through Design (RtD), the act of making offers a space for generating knowledge through material exploration and reflection [1, 2, 3, 4, 5]. Yet, this space often underutilises a crucial source of insight: the designer's own embodied experience. Drawing on phenomenology, particularly the work of Maurice Merleau-Ponty [6], this paper introduces a methodological framework that treats the lived body as a site of knowledge production in design.

This paper outlines a possible direction for Phenomenological Research through Design (PRtD), a methodological framework that offers an alternative lens for generating design knowledge grounded in first-person experience, bodily attunement, and relational awareness. PRtD responds to recent calls within HCI to adopt more entangled, situated, and reflective approaches that acknowledge the complexity of human–technology relations [7]. The framework has emerged through practice-based experience with interactive systems, rooted in hands-on experimentation with bodily interactive installations in collaborative design settings over the past decade. It translates phenomenological insights into perspectives for engaging with the sensory, social, and material dimensions of interaction design.

1.1. Introduction Vignette

I will begin with a detour to an example from my design practice with embodied interactive installations. Dream Forest was an installation created by the art collective illutron in 2016 for a week-long music festival in the woods. Our intention was to offer a dream-like walking experience away from the noise of the festival. Participants entered through a hole in the fence, received a headset, and suddenly, the festival sounds disappeared. Breathing slowed as ambient music filled their ears. They followed a path of illuminated trees, meeting others walking in the same quiet rhythm. The light patterns shifted gently as they passed

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by, responding to each movement with ripples of color and soft pulses of glow. At the heart of the forest, a clearing revealed aerial dancers (see figure 1), their breath visible like smoke in the heavy white light. From there, the walk continued until participants returned the headsets and stepped back into the festival, carrying the experience of the passage with them. When we work on installations in the woods, my lived body is always part of the process. Borrowing Susan Kozel's words: "I touch the world when I handle materials in the creative process, and these materials touch me back…" [8]. Yet it is never just my body at play – our collaborative bodies become entangled in the making, shaping meaning together with one another and the materials. Phenomenological Research through Design is my attempt to bring forward embodied experience as a source of knowing, offering both a conceptual anchor and a practical guide for engaging with bodily experience.

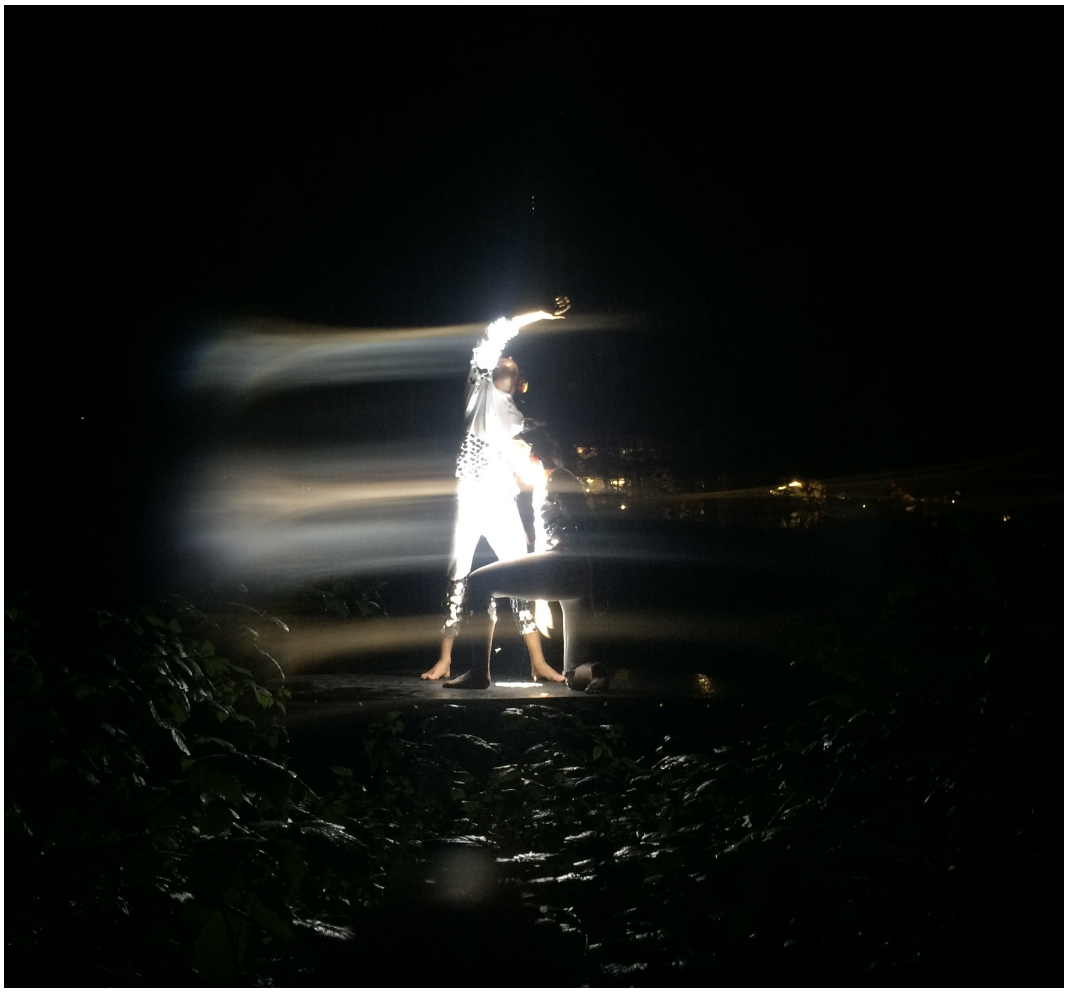

Figure 1: *Dream Forest* installation, illutron, 2016. Photo: author.

1.2. Five Interrelated Aspects

PRtD distils five interrelated methodological aspects: #1 Prototyping through the Lived Body, #2 Exploring the Reciprocity of Touch and Touchback, #3 Cultivating Social Interrelation, #4 Embracing Drifting as Method, and #5 Attuning to Intercorporeality. Each aspect offers both a conceptual entry point for engaging with the bodily and relational entanglements of design processes.

While design practice offers an array of methods, such as sketching, personas, and prototyping, many approaches continue to overlook embodied, sensorial knowledge as a legitimate and generative epistemic source. However, in domains such as Soma Design [9, 10, 11, 12, 13, 14] and embodied interaction [15, 16, 17, 18, 19], there is growing recognition that designing through the body can surface

experiential nuances not readily accessible through abstract representation or post hoc analysis.

PRtD builds on this trajectory by placing lived, felt experience at the centre of inquiry. Rather than treating the body as an object of study, this framework conceives it as the lived body – the pre-reflective ground of perception and action, the very site where experience and meaning emerge. It is through this embodied subjectivity that design thinking and reflection-in-action take shape. The five aspects help frame the methodological contribution as follows. **#1 Prototyping through the Lived Body**; emphasises the body as an active material and sensing apparatus: through gestural sketching, physical enactment, or sensor tuning, designers use their bodily presence to probe interactions. **#2 Exploring the Reciprocity of Touch and Touchback**; highlights the dialogical nature of material engagement: touching always entails being touched back, as materials subtly resist, shape, or redirect the designer's intentions. **#3 Cultivating Social Interrelation**: attends to the affective and embodied dynamics between people in collaborative or co-design settings, where meaning emerges through mutual bodily responsiveness. **#4 Embracing Drifting as a Method**: re-frames deviation, uncertainty, and exploratory movement not as errors but as essential to bodily designs' emergent, temporal and iterative character. **#5 Attuning to Intercorporeality**: recognises the entangled, shared nature of embodied experience: even solitary design actions are informed by prior and ongoing relations with other human and more-than-human bodies.

Rather than offering a prescriptive toolkit, PRtD serves as a reflective and generative scaffold for those navigating the complexities of embodied interaction design. By foregrounding lived experience and relational materiality, this suggestive framework contributes to ongoing discussions within the HCI community, particularly those interested in somatic design, qualitative and practice-based methodologies, and more-than-human perspectives.

2. Related Domains

Research through Design (RtD) has become an established approach in HCI for generating knowledge through making, emphasising reflection on the outcomes of design processes [1, 20, 21, 22, 23, 5]. Annotated portfolios [24, 25] and other forms of reflective documentation further support this approach. The PRtD framework aligns with RtD's reflective tradition but foregrounds the role of bodily experience during designing, not just after the fact. This extends Donald Schön's concept of the "reflective practitioner" [26] by incorporating first-person phenomenological reflection-in-action.

Soma Design, particularly developed by Höök [10, 15, 27], has been foundational in shaping this perspective and has been incredibly influential, making essential contributions by foregrounding bodily awareness and somatic practices in design. Soma Design approaches encourage designers to heighten bodily awareness through techniques such as Feldenkrais or other somatic practices, and to design in partnership with those experiences. Related methods, such as bodystorming and embodied sketching [28], highlight the value of physical movement and sensation during ideation. However, these practices are sometimes characterised as informal, centred primarily on the designer's own sensibility, and less explicitly grounded in theory. As Gallagher [29] argues through the notion of *front-loaded phenomenology*, phenomenological concepts should not merely inspire but actively structure the design of research itself. From this perspective, much existing design research risks remaining only loosely phenomenological – drawing on phenomenology as a source of inspiration rather than integrating its methodological commitments into the design process. Phenomenological Research through Design (PRtD) builds on previous contributions by situating soma-inspired practices more firmly within phenomenology. Framing these practices as part of a Research through Design methodology foregrounds not only their experiential richness but also the kinds of knowledge they generate, extending the focus toward relational, social, and epistemological dimensions that offer greater clarity and resonance within embodied HCI discourse. The PRtD framework thus explores ways to anchor bodily practices within established phenomenological concepts such as *the lived body*, *reversibility*, *intersubjectivity*, *intercorporeality*, and *drift*, thereby providing conceptual and methodological depth

Other phenomenological approaches in HCI provide essential context. Work by Kozel [8, 30] and

Loke and Robertson [17] exemplifies phenomenology in somatic movement. These contributions emphasise felt experience as a valid form of knowledge. Svanæs provides valuable translations of phenomenological concepts from Merleau-Ponty to HCI [31, 32], and gestures toward a processual approach in his four phases of phenomenology-through-design: identifying a phenomenon of interest; designing an artefact that makes the familiar strange; trying out the artefact while attending inwardly to what emerges; and reflecting on the experience to formulate insights in a language that enables co-reflection with peers [33]. Svanæs' phenomenology-through-design emphasises individual experiential reflection, while PRtD builds on this legacy by exploring whether phenomenological principles can be made more broadly applicable as a research methodology. Concepts of participatory design and design anthropology, especially participatory sense making [34], further support the emphasis on social interrelation and intercorporeality. These ideas position design as a fundamentally relational act shaped by bodily presence and cultural context.

The framework also responds to recent developments in HCI, often referred to as the fourth wave [7, 35], which foregrounds entanglement, more-than-human perspectives, and the sociomaterial nature of interaction. In this context, methodological drifting becomes crucial. The aspect of drifting acknowledges the nonlinearity and emergent nature of design work, echoing the reframing of Krogh et al. [36] of drift as a strength rather than a failure. Intercorporeality aligns with posthuman and relational epistemologies, suggesting that design knowledge emerges from embodied interaction among human and nonhuman actors.

The PRtD methodology contributes a synthesised, phenomenologically grounded perspective for RtD. It draws from and integrates existing methods, adding a philosophical foundation and an emphasis on lived, bodily experience. PRtD is not meant to replace Soma Design or other significant work that builds on phenomenology, but to complement and extend it. By situating it explicitly within phenomenology merged with Research through Design. The intention is to frame embodied practices as methodological lenses that generate knowledge, not just experiential outcomes, and to expand from the designer's own body to social, material, and more-than-human entanglements, aligned with current discussions in HCI on relational and situated methodologies. So the distinction is not competitive but complementary: PRtD can be seen as a phenomenologically grounded evolution of soma-inspired practice in RtD.

3. Unfolding the Five Methodological Aspects of PRtD

This section introduces the five methodological aspects of Phenomenological Research through Design (PRtD), each rooted in phenomenological thinking and shaped through practice. While they are interrelated and often overlap in action, articulating them individually offers a clearer foundation for reflective application. Together, these five aspects frame a method of working that is somatically attuned, materially dialogical, socially responsive, emergent, and fundamentally intersubjective. They are offered not as rigid steps but as reflective lenses that guide attention to the embodied, relational, and processual dimensions often overlooked in Research through Design.

3.1. #1. Prototyping through the Lived Body

This aspect emphasises the role of the designer's own body as a tool of inquiry. Drawing from Merleau-Ponty's [6] notion of the lived body, it foregrounds perception and sensation as central to understanding and shaping experience. This might involve enacting user gestures, wearing technologies, or dancing with a prototype to elicit bodily feedback in design practice. Prototyping with the lived body draws from bodystorming [28] but reframes it as a sustained design practice. Attention to tension, balance, resistance, or affect becomes a source of insight. This aligns with Soma Design's emphasis on heightened sensory awareness [10] and introduces Merleau-Ponty's concept of hyper-reflection: a reflexive practice where thinking emerges through embodied doing. It challenges Cartesian separations of body and mind by treating the body as a generative site for design exploration [37].

3.2. #2. Exploring the Reciprocity of Touch and Touchback

Designing is never a one-way act. This aspect foregrounds the dynamic, dialogical relationship between the body and material, which Merleau-Ponty [6] termed reversibility – the idea that to touch is also to be touched. This double sensation [8, 30] highlights how the body is both a perceiving subject and a perceived object, an interplay that Grosz [38] describes as the simultaneous experience of being both a phenomenal and an objectual body. In design practice, this manifests in the bodily negotiation with materials: a fabric that resists, a sensor that lags, a surface that invites touch. These encounters are not passive; they "speak back" through resistance, latency, or affordance, what Schön [26] called a conversation with materials, though here the conversation is distinctly bodily. Attuning to "touchback" calls for a co-creative stance, where materials are active participants in the design process [16, 39].

3.3. #3. Cultivating Social Interrelation

Design rarely unfolds in isolation. This aspect foregrounds the role of embodied social dynamics – gesture, rhythm, proximity, and shared presence – in shaping collaborative design processes. Grounded in Merleau-Ponty's concept of intersubjectivity [40], it explores how mutual understanding and meaning emerge through interactions between embodied subjects. Movement becomes a form of communication: a gesture prompts a response; a group posture or rhythm shift signals a collective reframing of ideas. These relational dynamics extend beyond present collaborators to include imagined users, often accessed through role-play or situated enactments [41]. Attending to such intersubjective exchanges helps designers become more attuned to the affective, social, and communicative dimensions of co-use and shared spaces. This aligns with enactive approaches to intersubjectivity, which view meaning as arising through participatory sense-making, where bodies co-regulate and co-create understanding through interaction [34].

3.4. #4. Embracing Drifting as Method

Drifting articulates a productive openness to change – conceptually, emotionally, and bodily – during the design process. Rather than deviating from the plan, drifting is treated as an emergent responsiveness mode. Designers may shift direction based on an unanticipated material behaviour, a moment of emotional resonance, or the intuitive sense that "something is off." As Krogh et al.[36] argue, such shifts are not failures but invitations. On a micro level, drifting occurs when flow leads to surprising forms or meanings. Documenting these embodied detours helps surface experiential knowledge that resists linear explanation [21, 39]. Drifting connect to intercorporeality – for intance in collaborative contexts – when our states shift together. It relates to reversibility and hyper-reflection, as we move between thought and action, affecting materials and being affected by them. Schiphorst et al's [42] evaluative dimension of the body points to how we attune to internal and external states through embodied awareness. This resonates with drifting as a gradual, felt reorientation in response to shifting interactions and environments. Hence drifting is a way of attuning: of staying open to change and letting embodied awareness guide how the design unfolds as part of design's emergent and temporal nature.

3.5. #5. Attuning to Intercorporeality

This final aspect grounds all others by high-lighting the intercorporeal nature of experience: Merleau-Ponty's [6] notion that bodies are fundamentally interconnected, and perception and action are always co-constituted through bodily relations. Intercorporeality shifts focus from individual subjectivity to a relational field where past and present bodily encounters – social, cultural, material – are carried within and between bodies. Even when designing alone, one's body is shaped by previous entanglements with others, environments, and technologies. Atttend to intercorporeality thus expands the design lens beyond human-to-human social interaction (as in intersubjectivity), toward a broader, often nonverbal and pre-reflective register of bodily entanglement. Feminist theories [43, 44] enrich this perspective,

particularly Bardzell's [45] notion of feminist utopia, which advocates for plurality, responsiveness, and the speculative imagining of more inclusive futures. Furthermore, post-humanist theory [46] and recent design research engaging in intercorporeality [11, 47], encourage designers to consider how bodies – human and more-than-human – mutually shape and are shaped by each other in the design processes.

3.6. A Vignette of Living the Method

*I **prototype through my lived body** throughout the design process: when I test a sensor or a system in the woods, I notice how I lean, reach, or shift weight against uneven ground. My body is not only measuring outcomes – it is the medium through which design unfolds. When I handle materials, they respond: fabric stretches damp in the night air, a gesture meets resistance from tangled cables, the solder spreads too quickly, a wire refuses to bend, rain soaks the sensors – each instance revealing the **reciprocity of touch and touchback**. When I work in collaborations, the entwining of thinking and doing is never mine alone. In the lab we work side by side in silence, tuned to one another's tempo and mood; in the forest, that **social interrelation** expands to include the rhythms of the site—the sway of trees, the shifting light, the chill of wet air. **Drifting** happens as bodily states shift: hours of soldering by lamplight, or carrying equipment along muddy paths, bring fatigue and altered focus; breath and posture adjust, guiding how we continue. And always there is **intercorporeality**: designing is never solitary but entangled in a shared bodily field – shaped by my collaborators' rhythms, by imagined participants who will walk the path, by the textures of the forest, by sensors that fail under rain, and by past bodily habits carried into the space.*

4. PRtD: Desired Contributions and Implications

Phenomenological Research through Design (PRtD) offers an alternative lens for generating design knowledge, one grounded in first-person experience [48, 49, 50], bodily attunement, and relational awareness. Rather than abstracting design knowledge from external observation or generalised models, PRtD centres the lived, embodied perspective of the designer as a site of inquiry.

Table 1
The five aspects of Phenomenological Research through Design (PRtD) from a design development point of view vs. an experiential use point of view.

Aspect	Design Development POV	Experience Use POV
Prototyping through the Lived Body	Designing through one's own bodily experience, shaping form and meaning through embodied experimentation and material engagement.	Meaning unfolds through bodily movement, sensory exploration, and material engagement.
Exploring the Reciprocity of Touch and Touchback	Exploring how touching and being touched shape material response and design insight.	Sensing tactile reciprocity that heightens awareness and responsiveness.
Cultivating Social Interrelation	Designing with sensitivity to bodily and social relations among people, materials, and context.	Experiencing co-presence that reveals shared affect and relation.
Embracing Drifting as Method	Embracing temporal and affective drift to open discovery in the design process.	Moving through shifting sensations and attention over time and space.
Attuning to Intercorporeality	Co-creating through bodily resonance and attunement across human and more-than-human relations.	Sensing other bodies – human and more-than-human – through shared embodiment.

4.1. Possible Future Contributions to Design Practice

The core future contribution of PRtD lies in offering a methodology for designers to engage with embodied and social experience as legitimate sources of insight. Concepts like *drifting*, *intercorporeality*, and *touchback* give language to phenomena often felt but hard to articulate [46]. These aspects function as reflective prompts within the design process, inviting designers to attend to movement, tension, rhythm, and resonance in ways that surface experiential knowledge. In design education, these aspects might encourage students to prototype through their lived body, enact gestures, or document bodily responses in a design journal [51]. They may track moments of drift – when plans shift direction through felt insight or material surprises – and reflect on how these shifts informed their designs. PRtD thus helps legitimise inquiry modes often dismissed as too subjective, even though they are central to creative practice. Furthermore, the five aspects can be understood not only from a development perspective but also from a user experience perspective. In this way, they also serve as a framework for reflecting on the user's bodily experience (see Table 1).

4.2. Validation and Evaluation

Evaluating a methodology rooted in subjective and embodied experience presents well-known challenges [52, 53]. Further unfolding of this methodology should include practical guidance, examples in practice, and validation of the approach. Validation should be established through thick description of examples, reflective resonance, and transferability. The value of PRtD lies not in predictive outcomes but in its ability to illuminate otherwise overlooked dynamics. Its contribution is generative, not to replace other methods, but to enrich them by surfacing layers of knowing. Future work might include comparative or longitudinal studies, but the primary aim is to open new methodological ground [7].

4.3. Limitations and Considerations

PRtD is inherently time- and attention-intensive. It requires slowness, sensory awareness, and willingness to reflect, capacities not always supported in high-speed, output-driven settings. Moreover, not all designers can or want to engage somatically. Cultural norms, physical constraints, or psychological preferences may shape access to embodied modes.

4.4. Interplay with Technology

As Virtual Reality (VR), wearables, Machine Learning (ML) and Artificial Intelligence (AI) increasingly shape embodied experience, phenomenological methods become more relevant. Designing for VR, for instance, demands attention to how balance, motion, and immersion feel in the body; a phenomenon Kozel et al. [54] describe as the "weird giggle," capturing the embodied dissonance and delight when expectations misalign with perceptual experience. PRtD might offer a vocabulary and structure to support such design sensitivity. In AI and ML, where systems behave semi-autonomously, the idea of touchback extends: the machine becomes a participant in shaping user perception and social interaction. Ranten et al. [55] suggest embracing the inherent algorithmic fuzziness in ML to support embodied experience.

Post-phenomenology also addresses interplay with technology, examining how technologies mediate human perception and action. Post-phenomenology foregrounds the relational co-constitution of humans and technological artefacts [23], which resonates with the design sensitivities proposed in PRtD.

4.5. PRtD as a Complementary Path

Soma Design is constantly growing into a larger program within HCI, making a vital contribution by showing how somatic practices can heighten bodily awareness and enrich design. This proposal for Phenomenological Research through Design (PRtD) is intended as complementary to this program

rather than oppositional. Framing this line of work explicitly in phenomenological terms can potentially provide additional conceptual and methodological clarity. Anchoring soma-inspired practices in phenomenology (e.g., Merleau-Ponty's notions of the lived body, reversibility, intersubjectivity, intercorporeality, and drift) offers a philosophical foundation that deepens the conceptual vocabulary available to designers. Moreover, PRtD extends this perspective toward relational and more-than-human fields of entanglement, situating the body within social, material, and ecological contexts. This shift also highlights the epistemological dimension: as a Research through Design methodology, PRtD foregrounds not only the experiential richness of soma-inspired practices but also potentially explores the kinds of knowledge they generate.

4.6. Closure Vignette

To fully unfold these initial thoughts into a methodology, I need to move beyond philosophical grounding and conceptual vocabulary toward clarifying procedures and demonstrating how specific methods contribute to its epistemic aims. What I offer here is not a finished framework but an evolving vocabulary – an invitation to dialogue. My hope is that it supports others in articulating what is often sensed yet difficult to name: the ways bodies, materials, and relations give rise to design knowledge. I will leave you with a question that continues to guide my own work: How do we articulate what is often sensed but hard to describe? New forms and methods will inevitably emerge, and perhaps that is precisely both the challenge and the opportunity – to keep exploring how collaborative embodied experience can be shared, taught, and built upon.

5. Towards a Conclusion

Phenomenological Research through Design (PRtD) offers an initial suggestion towards an emerging methodology for engaging embodied, first-person, and relational experience in the making of interactive systems. The five aspects – #1 Prototyping through the Lived Body, #2 Exploring the Reciprocity of Touch and Touchback, #3 Cultivating Social Interrelation, #4 Embracing Drifting as Method, and #5 Attuning to Intercorporeality – emerged through engagement in design practice. Together, they encourage a design perspective in which the body becomes the site of inquiry, materials act as co-participants, and the distinction between making and experiencing is deliberately blurred.

The framework contributes to Interaction Design and HCI by translating Merleau-Ponty's phenomenological concepts into possible actionable, practice-based guidance within a Research through Design paradigm. In doing so, it foregrounds not only the experiential richness of soma-inspired practices but also the kinds of knowledge they can generate. In this way, PRtD seeks to bridge practice and research, providing reflective lenses that make embodied and somatic approaches more legible within HCI discourses on rigour, validity, and methodological contribution.

Rather than offering a prescriptive toolkit, PRtD articulates a set of attentional shifts and possible working modes. It remains a first step – requiring further maturing, experimentation, and reflection. A natural next step would be to unfold these initial thoughts into a more fully articulated methodology: moving beyond a philosophical grounding and conceptual vocabulary towards clarifying procedural structures and specifying how particular methods can contribute to its epistemic purpose.

For now, PRtD serves as an open invitation to methodological dialogue within the HCI community, particularly for those exploring somatic, experiential, or more-than-human approaches. It is not presented as a conclusive methodology, but as a generative one – an emergent vocabulary for thinking and designing with and through the lived body. When the body is not merely considered but felt and consulted, when materials are listened to and responded to, and when social relations are designed with rather than around, interactive systems can become more responsive, intimate, and alive.

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Declaration on Generative AI

During the preparation of this work, the author used ChatGPT and Grammarly in order to: Grammar and spelling check, Paraphrase and reword. After using this tool/service, the author reviewed and edited the content as needed and takes full responsibility for the publication's content.

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