Artículo

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Conductive Matter Through Material Methods

Materia Conductiva a Través de Métodos Materiales

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Abstract

This paper presents *Inert Matter* (2022), an experimental art exhibition investigating technological tactile and affective dimensions. The project is centred around the reactivation of discarded touchscreens to transform e-waste into interactive artworks using conductive threads, diodes and the embodied participation of audiences. Through a practice-led research methodology, the work challenges the assumed obsolescence of broken digital surfaces and repositions them as sites of sensory engagement and speculative intimacy. Drawing on new materialist philosophy and interaction theory, the project reframes touch as both a material encounter and a political gesture – one that resists the habitual flattening of sensory experience in digital culture. By foregrounding the electric vitality of both human and non-human matter, Inert Matter proposes alternative ways of sensing, interacting with and rethinking technological intimacy in the age of disposability.

Resumen

Este artículo presenta *Inert Matter* (2022), una exposición de arte experimental que investiga las dimensiones táctiles y afectivas de la tecnología. El proyecto se centra en la reactivación de pantallas táctiles desechadas para transformar residuos electrónicos en obras de arte interactivas, utilizando hilos conductores, diodos y la participación corporal del público. A través de una metodología de investigación basada en la práctica, la obra desafía la obsolescencia asumida de las superficies digitales rotas y las reubica como espacios de compromiso sensorial e intimidad especulativa. Basándose en la filosofía del nuevo materialismo y la teoría de la interacción, el proyecto replantea el tacto como un encuentro material y un gesto político, que resiste el aplanamiento habitual de la experiencia sensorial en la cultura digital. Al destacar la vitalidad eléctrica de la materia humana y no humana, Inert Matter propone formas alternativas de sentir, interactuar y repensar la intimidad tecnológica en la era de lo desechable.

1. Introduction

During the COVID-19 pandemic, my research interrogated touch as a primary mode of engaging with technology and experiencing physical reality, challenging the digital age's prevailing ocular-centric, vision-driven paradigm (Maurette, 2018). To frame this inquiry, I draw on the work of Roazen (2007) and Maurette (2018), who explore tactile perception as a pathway to self-awareness. In this perspective, the elaboration of epidermal sensations opens a gateway to incorporating neurophilosophy into our understanding of nervous phenomena (Damasio, 2000) and informs artistic engagements with matter (Salinas, 2023). Building upon the cultural history of touch as the 'deepest sense' (Classen, 2012), I employ art practice-led research to investigate the intra-action with discarded touchscreens through the material intervention *Inert Matter* (2022). Considering the persistent coexistence and engagement with technological surfaces, this paper aims to elucidate how tactile practices have evolved since the 19th century – when modern touch was conceptualised as an 'electric creed' (Classen, 2012). In this framework, touch is a tool to sense electricity as a vital force omnipresent in all matter. This force is examined as a carnal and epidermal phenomenon (Barrett & Bolt, 2013), facilitating the creation of electrical circuits that connect me, as the maker, with exhibition visitors and the repurposed touchscreens. Although touch once activated electric currents, the human body remained a poor conductor, a limitation that historically led to the development of electrotherapies designed to replenish bodily energy (Classen, 2012). Throughout the paper, I refer to artists like Pierre Hyughe, Jan Hopkins and Irene Posh to position the work and reflections over touch. In the context of this research, both my body and the audience become engaged in a volitional touch process, reimagining how we interact with the remnants of smartphones.

1.1. Theoretical Framework: Neurophilosophy and New Materialism

Firstly, the process of making and constructing circuits was based on the findings from a Neurobiology course (designed by Peggy Mason and distributed by the University of Chicago through Coursera) I attended during my PhD. According to Churchland (1989), I explored the responsivity of conductive threads to study the phenomena of the mind, in this case, the conductive embodied perceptions. I worked with materiality to critically consider how the touchscreen as material and surface was related to my touch and the space. I employed neurobiology and neuroscience to consider how my embodiment was explorable as materiality. This paper aligns with my material inquiry through art practice-led research by giving accessibility to consider the body and the brain as nervous conductive materialities, to acknowledge the biopower of the flesh in juxtaposition to technology materiality in the post-human context (Braidotti,1994). As part of the training, I developed a theory on the bodily functioning of distinct types of touch, volitional and emotional.

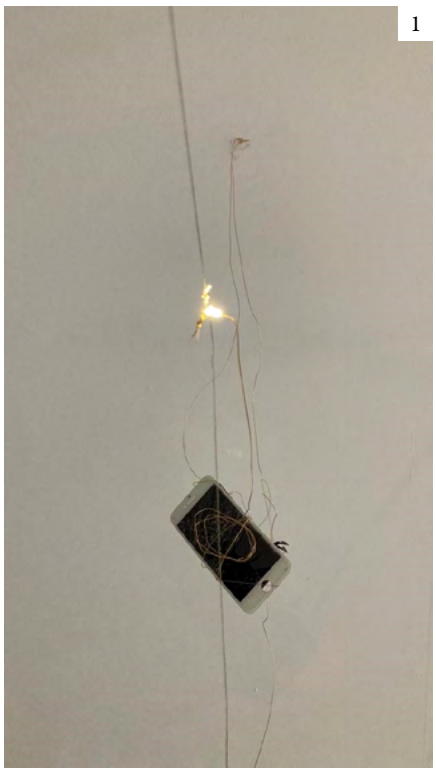

Figure 1 *Inert Matter* (2022). Touchscreen, diodes, and conductive thread.

The theoretical underpinnings of this exhibition are grounded in neurophilosophy, embodied perception, and material agency. According to Maurette (2018), touch transcends the simplicity of physical contact, embedding layers of sensorial collaboration within bodily and emotional experiences. Neuroscientists like Churchland (1989) and Damasio (2019) provide insights into how the nervous system processes touch as an external (through the skin) and internal (between organs) experience, essential to understanding how art can embody and transmit the sensation of touch.

The experimental exhibition *Inert Matter* (2022. Image 1) engages with the human relationship between touch and technology: when non-functioning is explored through the activation of circuits, the latter is re-enacted to become transmissive. Through the exhibition *Inert Matter*, I aimed to use a pathway of touchable and interactive material intervention to communicate the phenomena of electrical potential in the human body and its expression through materiality. The material qualities of the touchscreen emerge through material explorations of layering, and mutations in decay. In this process, touch becomes explorative and agential in ways that shift away from technology functionality, allowing the skin and the touchscreen to become purely surfaces (Braidotti, 1994). While functioning touchscreens were the major mode of interaction during the COVID-19 pandemic, this tactile experimental exhibition questioned how wasted and deteriorating technology might evoke new physical and emotional engagement forms. Drawing from diverse sources such as Barad (2007) and Damasio (2014), the exhibition was an experiment to merge diverse disciplines to open the exhibition to the public after the regimentations of social interaction due to the COVID-19 pandemic. Drawing on theories of embodiment and materiality (Barrett & Bolt, 2014), this study outlines how practice-led research can generate critical and reflective encounters with matter by being directly inspired by science. Importantly, due to the restrictions of the COVID-19 lockdowns, I was allowed to hold the exhibition through regulated visits, as I was allowing people to touch the work. The most insightful response was the limited number of visitors, which turned out to be only five. They all engaged with the work in safety and with curiosity, exploring the work and their own body as a conductor.

2. Touching the Screen

The progression from the body as a simple conductor to the complexities of digital touch reflects significant shifts in how technology influences our sensory experiences. In sensing and interacting with the touchscreen on an average of two to three hours a day, I started considering the unknowns of my smartphone materiality; beyond the glassy surface protected by a poly screen protector, I unpicked and unlayered the touchscreen layers to study what my sense of physical touch was working with. Paterson (in Classen, 2005) describes how digital touch mediates interactions through smooth surfaces, like glass touchscreens, which contrast with the textured variety of physical objects. In this way, digital touch substitutes physical sensations for visual and auditory feedback, fundamentally altering the sensory experience. Touch technology evolves alongside these interactions, creating a parallel narrative in which sensory engagement transforms through advancements in haptics and interaction design (Paterson, 2005).

Further exploration of digital touch is found in Jewitt and Price's (2024) examination of touch as a holistic, socially embedded sense, mainly as technology increasingly mediates it. Their work addresses innovations in robotics, wearables, virtual reality and biosensing, emphasising how these advancements expand the boundaries of tactile interaction beyond simple touchscreens. The authors highlight the influence of cultural and material environments on the development and integration of touch technologies, stressing that these technologies are not just tools but agents reshaping our sensory world (Jewitt, 2008). Lewitt and Price (2024) propose a complex vision for the future in which touch interfaces transform everyday experiences. These scenarios raise critical ethical questions about how cultural diversity in touch should be respected and how new forms of touch might redefine our understanding of sensory engagement. In this speculative landscape, the role of touch must be re-examined, demanding a perceptual system capable of adapting to these technological innovations.

Amid this evolving landscape, my research situates the smartphone – an omnipresent object that dominates many hours of our daily lives – as a material subject of study. Material and embodied methods are required to understand tactile encounters in which neuroscience and art practice meet in a carnal manner (Barrett & Bolt, 2013) without shying away from decision-making dictated by sensations. By examining how this device is carried and touched, I aim to understand and relate to how others engage with their touchscreens, transcending my tactile experiences. Touch thus becomes a vital connector, offering a framework through which I can engage with participants and audiences, exploring shared and distinct tactile encounters. This approach foregrounds touch as an essential means of knowing and connecting with the world, emphasising its role beyond mere communication to encompass a richer, embodied understanding of materiality and interaction.

2.1. Touching and the Nervous Body

The study of touch within this research emphasises how tactile sensations – such as heat, pressure and texture – are perceived by the skin and processed by the nervous system. Drawing on Mason (2016), the focus is mainly on the role of the hands, which are highly sensitive and serve as primary sites for tactile exploration. The circuit and bodily process of input and output sensing form the inspiration for making choices regarding where to place the touchscreen, lengths of threads and reachability. Meanwhile, I try to unfold and sense my movements. The process begins with the skin detecting sensory input and then transmitting it to receptors that send information through synapses. These synapses are long protein fibres that transfer messages via exchanging charged molecules or ions. The signals travel through the nervous system at remarkable speeds, reaching the brain, where they are processed, leading to sensory perceptions or motor responses. This neural journey highlights complex bodily reactions and their near-instantaneous nature, challenging and isolating specific movements or responses.

Regarding Jan Hopkins' work *Black Box* (2018), in making the circuits and activating diodes, the parallelism with neuroscience materially works in considering transmissions, silver or bronze thread as synapses and the lighting as the visualisation of energies. Emotions come into play when considering the making of a frail system (Image 2), its functioning, the sharing of energy transmitting with others and the past intra-act materiality. Importantly, to touch means to be touched (Maurette, 2018), and through the processes of making and other touch, part of the challenge was to consider how the touchscreen was touched, how it touched back, and how I could work around allowing others sense and consider conductive energy transmission.

By situating touch within this neurophysiological framework, the research engages with a holistic, carnal understanding of sensing, emphasising how bodily and neural processes shape our perception of and response to materiality. Integrating these scientific insights into art practice provides a basis for exploring how tactile experiences can be deeply embodied and emotionally resonant. Damasio's (1999, 2005, 2019) work provides a deeper understanding of the emotional dimensions of touch and how these processes influence decision-making. In his research and the *Human Brains* talks, he argues that somatic state activation – bodily sensations that arise in response to environmental stimuli – plays a crucial role in shaping conscious experiences and emotional responses. The nervous system's pathways are multidirectional, facilitating the continuous transmission of information between the body, brain and various organs. The unfolding of nervous transmission creates a space where neural information is constructed and unfolds from the skin to the brain, suggesting that emotions are deeply tied to bodily interactions. This concept is integral to understanding the research's touch exploration, particularly in distinguishing between emotional and volitional touch. Emotional touch

refers to automatic, affect-driven responses, while volitional touch is characterised by deliberate, conscious engagement. This distinction is crucial for my material practice, which examines how the nervous system's inputs and outputs, governed by the Peripheral and Central Nervous Systems, inform the making process and the sensory experience of art (Esrock, 2001) in considering how the body is always involved. However, before heading to a deeper engagement with the embodiment, I need to clarify the system by which the nervous materiality of the flesh is extrapolated from neuroscientific studies and lies in the art practice to create new bridges through the humanities to contribute to exploring making, unmaking and perceptions. As discussed by Choudhury *et al.* (2009), the work of neuroscience and humanities comes into a meeting to consider further advances in considering how ethical premises and cultural considerations can support new research terrains.

3. Embodiment and Methods

Through practice-led research, I employed material and art-based methods to inquire about and observe tactile engagement with the touchscreen. Inspired by the principles of Material Thinking (Carter, 2004) and the concept of intra-action (Barad, 2007), I employed material interventions in the *Inert Matter* exhibition to explore the conductive capacities of touch and technological matter. Embodiment is explored as a moment of sensing, perceiving, making decisions and suggesting modes of engagement with the technological matter. The material interventions are placed as ways of enacting the encounter between New Materialism and Neurophilosophy by using specific materiality and methods in the gallery space to invite the viewers to engage with the material interventions. I employed *Material Methods* (Woodward, 2020) to discuss the processes involved in material selection, crafting and exhibition planning, highlighting how the decisions were made to provoke tactile awareness among participants. The methods are presented as Embodiment, Neuroscience and Reflexivity.

3.1. Embodiment and Neuroscience

The concept of embodiment is integral to the methodology, framing how I engage with materials as a practitioner-researcher. Woodward (2020) describes embodiment in material methods as a multi-sensorial cognitive approach to understanding materiality. I extend this understanding by considering the body as a material entity composed of innervated flesh and sensory organs. Drawing from the work of neuroscientists like Damasio (2014) and Mason (2016), I explore how the body perceives and responds to touch, particularly in creative practices that involve sensory and motor processes.

Barrett and Bolt (2013) emphasise that sensory and perceptual elaboration often precede language, a concept crucial to my practice. I employ embodiment not just as a cognitive mode but as a bodily method that reflects the integration of neuroscience into my material explorations. Studying the motor hierarchy and the sensory elaboration of tactile stimuli informs my understanding of how the body and brain interact with technological materials. This knowledge is acquired by utilising my body's proportions to relate to the dimensions and placement of touchscreens in the exhibition space. In *Inert Matter* (2022), I investigated how the body's electrical potential activates touch-sensitive circuits. Understanding the nervous system's structure and function taught me how the body becomes a conduit in these interactions. This understanding also extends to the textile-making process, where I draw parallels between the Central Nervous System (CNS) and Peripheral Nervous System (PNS) as a network of fibres, like the interconnected qualities of textiles. This embodied approach translates into the way I manipulate and interact with materials. By situating the body in the gallery space or the workshop, I explore the reciprocal relationship between the

body's sensory responses and the physical properties of technological objects. The neuroscientific notions were guidelines to work with the materials and guide the inner explorations of sensations, working beyond a view of the visual-centric brain (De la Bellacasa, 2017); the notion of touch and affect is decided between the softness and hardness of material construction for the circuits, for which I respond and act according to the material responses, with a focus on the circuit's frailty. The materiality of the touchscreen, for example, is an active participant in this sensory dialogue, which allows the engagement of volitional and emotional touch, which I will discuss in more detail later in the paper. The tactile duality is crucial in understanding how repeated tactile engagements with devices like smartphones condition our bodies and minds. Drawing inspiration from Pierre Huyghe's *Uumwelt* (2018), I explore how the sensory-motor system can be connected to objects that reveal our electrical potential. Huyghe's use of neuroscience to create perceptual experiences for the audience informs my practice, as I aimed to engage viewers in tactile embodied encounters with inert technological matter. The employment of touch aims to shift distances with the screen and the centric idea of the brain for a tactile transmissive one, meaning that instead of focusing on surfaces as reflective surfaces, I aimed to intrude the layers of the epidermis connecting the phenomena of touch to the expression of inner synapse transmissions.

3.2. Reflexivity

Reflexivity is employed using sensory methods. Woodward (2020) describes it as an approach that considers 'participants' sensory perceptions' alongside encounters with materials in specific locations. In this context, the explorative process of the exhibition focuses on interaction, referring to the everyday usage of smartphones, which is characterised by repetitive, time-consuming gestures accompanying screen engagement. On average, individuals spent six hours per day on screens in 2023, with three hours typically on smartphones. As recorded on 1 March 2024, my usage statistics reflect an average of two hours and 42 minutes daily, with 61 daily pickups. When reframing the interaction as Intraction (Barad,2007), the technology materials are employed to emphasise the deep entrenchment of screen interaction in daily life by literally exploring touch as an encounter and exchange of energy through conduction. According to Finlay (2002), reflexivity is 'a process through which we as researchers examine our backgrounds, values, and perspectives shaping our ways of seeing, designing, and participating in research'. It is a reflective exercise and an active, iterative process that informs my artistic decisions and methodological choices. Skukauskaite (2021) describes reflexivity as ensuring that methodological decisions align with epistemological commitments and ethical considerations. By employing a reflexive approach, I can better understand the dynamic interplay between materiality, sensory perception, and embodied experience, which enriches the depth


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Figure 2 Participant testing and trying intensity of diodes

and rigour of my artistic research. This self-awareness is documented throughout my creative process, shaping the material outcomes and the theoretical reflections accompanying them. The COVID-19 pandemic highlighted the absence of touch and altered the dynamics of tactile-surface encounters, which informed my sensory exploration of technology's materiality. I adapted a visual and sensory reflexive element to document the research process. This documentation included writing, drawing and material making (images 3 and 4), which helped me reflect on and communicate the evolving relationship between myself, the participants and the touchscreens. The method also includes the sensory perception of materials through touch by making and altering their texture, feel and consistency, which informs technique and interpretation. Writing, drawing and creating materials form the core of my research, underpinned by an awareness of sensory experience and embodiment (Pink, 2012) by disseminating materials in a gallery context to be experienced by diverse audiences.

Figure 3 Prototyping and visual documentation

Figure 4 Material testing with screen protectors for circuits and texture

3.3. Volitional and Emotional Touch

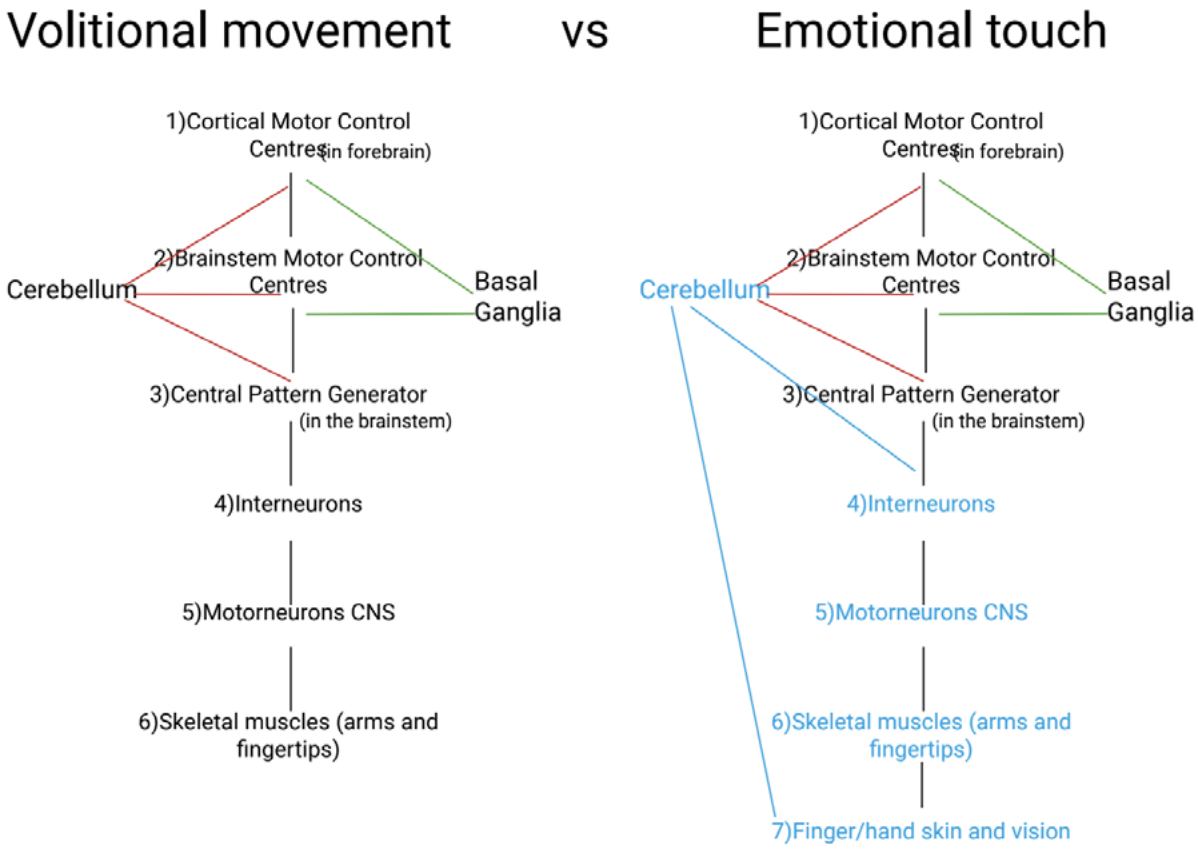
The concept of volitional touch versus emotional touch emerged as a critical framework for understanding tactile interactions that occur when engaging with technology regarding usability, perception and material interventions. This framework draws from studies in neurophilosophy and *The Neurobiology of Everyday Life*, particularly the work of Peggy Mason (2016), which explores how the nervous system processes diverse kinds of touch.

Volitional touch is informed by contemplation and a sense of purpose. When visitors touch a piece, they choose – physically and cognitively – to engage with the inert matter and complete the circuit. This action is intended and follows a motor sequence that

the brain carefully orchestrates, distinguishing it from habitual or unconscious gestures. The project emphasises volitional touch to slow down and become mindful of how we use our hands, especially in a world dominated by rapid and repetitive interactions with touchscreens. The participants had to apply varying amounts of pressure, observe the subtle changes in light intensity and adjust their touch accordingly. This reflective, volitional engagement encourages a reconsideration of the physicality of touch and its implications in a digital age.

In contrast, emotional touch is automatic, habitual and often unconscious. It is the kind of touch associated with the cerebellum, where learned and repetitive gestures are stored and executed without much conscious thought. This form of touch is what we experience when we mindlessly scroll through social media or tap away on our smartphones, barely registering the movements. Emotional touch is driven by the need for immediate interaction, often reinforced by the addictive design of digital interfaces. In the *Inert Matter* exhibition, participants' initial, habitual interactions with the circuits brought the emotional touch into focus. At first, many visitors used rapid and casual gestures to engage with the installations as they would with a functioning smartphone, with expectations. However, the circuits were designed to resist this engagement, requiring slower, more intentional movements to activate the diodes. This resistance forced participants to transition from emotional to volitional touch, prompting them to reflect on how their nervous systems have been conditioned by technology.

Graph 1 This shows the theorising of how touch is elaborated in different moments of engagement with materials.



4. Project Description: *Inert Matter* (2022)

The *Inert Matter* exhibition was a one-day tactile event designed to resurrect the materiality of broken and inert touchscreens. It explored how these objects, often discarded and overlooked, could transmit energy through artful manipulation and audience engagement. The installation consisted of circuits from broken smartphone screens, conductive threads, and diodes. Visitors were invited to touch and interact with the materials, thus activating electrical circuits and creating a sensory dialogue between their bodies and the inert matter.

4.1. Material Methods and Experiments

Material explorations began by dissecting touchscreens to understand their layered compositions, which include glass, conductive materials and polymers. By integrating conductive threads and diodes, the project aimed to evoke the hidden electrical potential of the wasted touchscreens. Knotting, stitching, and layering techniques were used to reconnect the screens' fractured elements, creating circuits that could be activated by human touch. The Inert Matter exhibition, held in July 2022, culminated in extensive material experimentation, reflecting my engagement with the intersection of human touch and technological remnants. In a world where screens dominate daily interactions, this project challenged the conventional view of technology as purely functional by focusing on its material essence when rendered non-functional. The exhibition explored how broken smartphone screens, once the primary interface between humans and the digital realm, could be reactivated and re-contextualised to express new tactile possibilities.

4.2. Tactile Display

The exhibition space was carefully arranged to maximise tactile engagement. Circuits were placed on the walls, floor and windows, each configured to invite different forms of interaction. In dimly lit rooms, the circuits required visitors to use their sense of touch to activate diodes, creating a visual manifestation of their tactile energy. The setup (Image 5) highlighted the interplay between light, touch and different materials, encouraging participants to reflect on their role as nervous beings capable of transmitting electrical signals.

4.3. Material Explorations

The exhibition was driven by a desire to explore the latent potential of technological detritus, emphasising the hidden layers and complex materiality of broken touchscreens. Typically, the smartphone touchscreen is a site of continuous interaction, but it becomes an inert object when broken and discarded. I employed the inert matter state as a starting point, breaking down the technological artefact into its constituent parts – glass, polymers and conductive layers – and reconfiguring these elements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into something familiar and alien. Material processes included dissecting and repurposing the screens, carefully stitching and knotting conductive threads to form simple circuits that could be activated by human touch. This act of stitching was more than a technical operation; it represented an attempt to mend and reanimate, evoking a sense of care and reflection on the tactile intimacy of touch. Conductive threads became the medium through which human energy could flow, turning inert matter into a site of potential transmission. By placing diodes and batteries into the circuits, the installations allowed visitors to see the effect of their electrical potential: a gentle press or stroke would light up diodes, transforming the inert into something vibrant and alive.

Below is an example of the scheme of modes of creation for the circuits in the gallery.

Toucher—--Touchscreen—----------(+) Battery (-)

|----------Diode----------|

The installations were strategically placed to elicit distinct types of engagement:

- On walls (Image 6). Some circuits were positioned at eye level, inviting the participants to interact with them like smartphones. The placement mimicked the familiar gesture of holding and interacting with a device, but here, the interaction required a more deliberate and mindful touch to light up the diodes.

- On the floor (Image 7). Touchscreen layers were laid on the ground, signifying broken technology's discarded and fallen nature. Visitors had to crouch or bend down, breaking the typical stance of smartphone usage and changing the physical dynamics of touch. These circuits highlighted the metaphor of 'zombification' – technological objects brought back to a quasi-life through human intervention.

- Hanging from windows (Image 8). Circuits suspended in the window space cast reflections and shadows, inviting a more playful and curious form of engagement. The hanging elements swayed gently, emphasising the fragility of the materials and the delicacy required in touching them.

Figure 5 Touchscreen and silicones to express diversity and absence of conduction

The exhibition's overarching aim was to invite participants to reconsider their relationship with technology and engage with touchscreens as material entities rather than mere interfaces. Highlighting the beauty and complexity of these once-functional devices encouraged a deeper appreciation of the materiality underlying our everyday interactions with digital technology.

Figure 6 Two people activate the diodes leaning on the wall.

Figure 7 Touchscreen waste is laid on the floor with diodes.

Figure 8 The conductive thread and screen protector are hung suspended.

5. Material Encounters

The material choices around the circuit creation derive from past work with conductive threads and work inspired by Irene Posh's *Embroidered Computer* (2016). While most tactile, responsive work functions as reliant and solid circuits with batteries, diodes and computers in an organised manner, my work aimed at relying on human touch and the analogue, simple and responsive sense of touch as meetings of materiality. I employed wires to bridge the metal layers of the touchscreen with the diodes and, in other cases, the conductive threads. I considered the use of other materialities as stitching materials, such as bobbins and safety pins, to parallel the creation of matter with my textile background, but also to reconnect the gallery space with a domestic, craft-orientated space to link with the mundane space of the 'electrosphere' (Dunne, 2005). The circuits' frail, simple shapes were reconnected with the touchscreens through the mirror acrylics, which were primarily employed on the ground to refer to the reflective capacities of the touchscreen glass while mirroring the hands touching the work. My material choices were led by considering the body as a system of nervous threads connecting with matter through sweating flesh. The entire work was a space to reflect and enact tactile encounters with technology. In opposition to the *Brain without Organs: An Aporia of Care* (2022), my work is concerned with material choices to situate the organs on the skin and beyond it, in an extended sense. Materials do not interact or intra-act between themselves. In transmitting energy, they also interact intra-acting with the person.

5.1. Audience Responses

The explorations' integral part consisted of the audience's observational work. As earlier mentioned, the exhibition was meant to illicit and suggest modes of intra-action with the touchscreens. However, the concept behind building tactile distinctions and awareness around diverse types of touch is more concerned with explaining the circuits while supporting the interaction and curiosity around the installation after an initial mode of engagement linked to mundane touch. The five visitors explored the diverse circuits with delicacy due to their frail nature, which sparked reflections and verbal discussion over the capacity of the body to transmit energy according to certain specific conditions. The discussion led especially to consider the deteriorating materiality of the touchscreen while reflecting on the actual functioning of the smartphone as a capacitive screen responding to touch.

6. Findings: Interplay Between Volitional and Emotional Touch

The interplay between these two types of touch highlights the dual nature of our tactile relationship with technology. The project reveals how our hands have become extensions of digital interfaces, often moving automatically in response to habitual stimuli. The *Inert Matter* exhibition disrupted these patterns by creating installations that required conscious engagement and encouraged a shift toward more mindful, embodied interactions. The exhibition meditates on the neurological and philosophical implications of touch, exploring how repetitive, unconscious movements can be reprogrammed into deliberate, thoughtful acts. It challenges the audience to become aware of their motor hierarchies and consider how technology influences their bodies, especially their hands. This reflective process contributes to a broader understanding of how art can create a space for bodily awareness and sensory reawakening, even in the context of inert and broken technological objects. The visitors played between the two types of touch. It was explained to them how to interact and to consider their volitional sensing. However, most of their responses to touchscreens were first linked to their modes of touching and interacting with their smartphones. However, more than focusing on surface textures and materiality, most engagement was directed towards lighting up the diode and testing. At that point, it would brighten up the most.

6.1. Touch as Agency and Conduction

The Inert Matter exhibition raises significant questions about the nature of touch in the digital age. By reanimating broken technological devices, the project challenges the notion of obsolescence, suggesting that inert matter retains the potential for meaningful interaction. Considering the becoming, transforming and living in a more-than-human world, I build inter-relations as creative beings (Braidotti, 2006) with technology to understand touch as the core of sensing and embodiment. This discussion section explores the philosophical and sensory dimensions of the exhibition, considering how touch can be both a physical and emotional act. In this context, touch is more than a sensory input; it becomes a means of agency, capable of transforming and animating inert matter. Drawing from Damasio's (2019) theories of neural conduction, the exhibition invites participants to consider how their nervous systems interact with the material world. Conductive threads become metaphors for the body's electrical potential, bridging the gap between human and object. The exhibition also differentiates between volitional and emotional touch, as informed by *The Neurobiology of Everyday Life* (Mason, 2016). The tactile distinctions add a layer of complexity to the tactile experience, encouraging participants to reflect on the automaticity of their daily gestures.

7. Conclusion

The paper starts by stating the importance of touch as a grounding composite of the phenomena of the encounter between the skin and technological matter. Initially, the work is heavily focused on neurophilosophy and electrical potential to present and point at the materiality of the body as a layered system, which metaphorically meets the layering of the broken touchscreen and its conductive capacities. Moving away from the functioning smartphone to the broken touchscreen was aimed at so as to highlight the frailties of tactile relationships in the contemporary context. By embracing new materialism, the body becomes a site of becoming and transformations, which is employed in understanding technology as the other. While initial expected outcomes aimed to investigate unexpected tactile engagement between the material explorations and the audience, the paper narrates how the material transmission, behaviours, resistance, embodied responses and sensorial elaborations were already grounds for discoveries to build layers of corporeal nervous knowledge.

The *Inert Matter* exhibition is an initial experimentation on how artistic research interrogates the intersections between touch, technology and bodily perception by transforming inert technological waste into responsive material interactions. The project invites a rethinking of our tactile relationship with the digital world through the encountering of material art practices and neurobiology to study tactile phenomena. This research contributes to ongoing discussions in art and design about materiality, embodied cognition, and the potential of art to create meaningful, sensory experiences. The value of the study resides in its development in physical isolation during the COVID-19 Pandemic, in which, as an artist, I could elaborate on the project through conversations with my advisor, Dr Vincent Giampietro, creating a novel creative ground for the project. However, further developments are possible in developing the study in person.

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Marika Grasso

I am an artist and PhD candidate at Sheffield Hallam University in Lab4Living, whose work interweaves touch, material fragilities, and social ecology, blending research, artistic practice, and teaching. My background in textiles and fashion informs my exploration of digital materiality and sensory experiences within a more-than-human world using neurobiological and feminist frameworks. My practice highlights mundane tactile sensibilities and how these interact with ecological and digital environments, aiming to foster sensory awareness and connectivity within our shared ecosystems. Drawing on New Materialist theory, I work with textile and material methods to explore the entanglement of human and non-human agents, resonating with oculocentric approaches to art. In 2023, I held a Junior Fellowship at IWM, focusing on Digital Humanism and Care, and later co-facilitated a SOMAGRID workshop with neuroscientist Erika Mondria for Ars Electronica, exploring touch as a collaborative, sensory bridge between humans and technology. My recent exhibition, Handy! at Yorkshire Art Space, examined touch and embodied interaction, encouraging viewers to consider technology part of a living ecosystem of sensory exchanges. I teach Fashion Design, focusing on speculative and caring practices and advocating for sustainable, community-centred approaches to materials and production.

Soy artista y doctoranda en la Sheffield Hallam University, en el grupo Lab4Living. Mi trabajo entrelaza el tacto, las fragilidades materiales y la ecología social, combinando investigación, práctica artística y docencia. Mi formación en textiles y moda influye en mi exploración de la materialidad digital y las experiencias sensoriales dentro de un mundo más-que-humano, utilizando marcos neurobiológicos y feministas. Mi práctica pone en valor sensibilidades táctiles cotidianas y cómo estas interactúan con entornos ecológicos y digitales, con el objetivo de fomentar la conciencia sensorial y la conexión dentro de nuestros ecosistemas compartidos. Basándome en la teoría del Nuevo Materialismo, trabajo con métodos textiles y materiales para explorar el entrelazamiento de agentes humanos y no humanos, en resonancia con enfoques oculocéntricos del arte. En 2023, fui becaria junior en el IWM, centrando mi investigación en el Humanismo Digital y los cuidados, y más tarde cofacilité un taller SOMAGRID con la neurocientífica Erika Mondria para Ars Electronica, donde exploramos el tacto como un puente sensorial colaborativo entre humanos y tecnología. Mi exposición más reciente, Handy!, en Yorkshire Art Space, examinó el tacto y la interacción corporal, animando a los espectadores a considerar la tecnología como parte de un ecosistema vivo de intercambios sensoriales. Imparto clases de Diseño de Moda, con un enfoque en prácticas especulativas y cuidadosas, promoviendo enfoques sostenibles y comunitarios hacia los materiales y la producción.